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LIST

OF

CONTRIBUTORS,

With References to the several Articles contributed by each.

ALEXANDER, THOMAS, Esq. *page*
Presentation of nineteen specimens of Stuffed Birds from Van Diemen's Land 64

BALL, R., Esq.
On the *Bradypus didactylus* 93

BALL, R., Esq.
On *Felis Melanura* 128

CADELL, —, Esq.
Donation of Skin of *Bradypus tridactylus* 167

DERBY, Right Hon. the Earl of.
Extract of a Letter from 123
Letter from, on the Parturition of *Bettongia* 163

DICKSON, E. D., Esq., and ROSS, H. J., Esq.
Letter from, accompanied by a donation of Birds' Skins . 64

DICKSON, E. D., Esq.
Letter from 153

DODD, GEORGE, Esq., M.P.
Exhibition of a fine specimen of the Wiry-haired Wolf or Deer-hound 122

ELLIOTT, WALTER, Esq.
Letter from, accompanied by a number of Skins of Animals from the Neilgherry Hills and the Carnatic 81

FALCONER, Dr., and Capt. CAUTLEY.
Communication on the *Colossochelys Atlas* 54
Conclusion of paper on the *Colossochelys Atlas* 84

FAYRER, Capt., R.N. page
Letter from, accompanied by two specimens of *Strix Nyctea* 19

FORRESTER, JOSEPH JAMES, Esq.
Letter from, with donation of specimens of Insects, Echini, &c. 164
Letter from 167

FRASER, Mr. L.
Description of three New Species of Birds 37
Exhibition of Birds' Skins presented by E. D. Dickson, Esq., H. J. Ross, Esq., and by Capt. Thomas Graves, R.N. . 64
Description of *Lophyrus Victoria* 136
On Birds from Chile, and description of *Leptopus Mitchellii* 157

GILBERT, Mr.
Letter from, describing the habits of some Mammalia and Aves of Western Australia 33

GOULD, JOHN, Esq.
Description of *Atrichia clamosa* 1
On New Species of Western Australian Birds 5
Descriptions of three New Species of *Halmaturus* and *Lagorchestes* 31
Exhibition of a series of Birds from Australia, collected by Mr. Gilbert and himself 55
Exhibition and character of a number of Animals, &c. transmitted from Australia by Mr. Gilbert 103
Description of *Podiceps Australis* 135

GULLIVER, GEORGE, Esq., F.R.S.
Additional Measurements of Blood-Corpuscles of Mammalia and Aves, &c. 7
On the Blood-Corpuscles of the *Bradypus didactylus*, &c. 95
Additional Measurements of the Blood-corpuscles of Mammalia and Aves 145

HANLEY, SYLVANUS, Esq.
Descriptions of New Species of *Mytilacea*, *Amphidesma*, and *Odostomia* 14
Descriptions of New Species of *Tellina*, collected by H. Cuming, Esq. 59
Continued 68, 140, 146, 164
Descriptions of New Species of *Cytherea* 109
Descriptions of New Species of *Cyrena*, *Venus*, and *Amphidesma* 159

HARRIS, Major.
Communication on the Natural History and Zoology of Abyssinia 3

page

HERON, Sir ROBERT.
Letters on the *Jerboas* which have produced young in his collection 123

HILL, RICHARD, Esq.
Letter, accompanied by a donation of Birds' Skins from Jamaica 1

HINDS, RICHARD BRINSLEY, Esq., R.N.
Descriptions of New Species of *Triton*, *Solarium*, and *Corbula* 21
Descriptions of *Marginellæ* collected during the voyage of H.M.S. Sulphur, and by H. Cuming, Esq. 72
Descriptions of New Species of *Ringicula* and *Neæra*, from the cabinets of Sir E. Belcher and Hugh Cuming, Esq. 96
Description of a new *Solarium* 158

LOWE, Rev. R. T.
Letter from, with specimens of Fish from Jamaica . . . 95

PERCY, Professor.
On the Management of various Species of Monkeys in confinement 81

PRICHARD, —, Esq.
On the *Crania* of the Laplanders and Finlanders . . . 129

REEVE, LOVELL, Esq.
Descriptions of seven New Species of *Glauconome* . . . 19
Descriptions of thirty-three New Species of *Arca* . . . 39
Monograph of the genus *Myadora* 91
Descriptions of New Species of *Triton*, collected chiefly by Hugh Cuming, Esq. 110
Descriptions of New Species of *Arca*, from the cabinet of Hugh Cuming, Esq. 123
Descriptions of New Species of *Ranella* 136
Descriptions of New Species of *Mitra* and *Cardium* . . 167

SOWERBY, G. B., Jun., Esq.
Descriptions of New Species of *Scalaria* collected by Hugh Cuming, Esq. 10
Continuation of descriptions of *Scalaria* 26

SOWERBY, G. B., Esq.
Descriptions of New Species of *Columbella*, from the collection of Hugh Cuming, Esq. 48
Descriptions of six New Species of *Voluta* 149

STRICKLAND, H. E., Esq., M.A.
On the evidence of the former existence of Struthious Birds distinct from the Dodo, in the Islands near the Mauritius 77
Descriptions of New Species of Birds brought from Western Africa by Mr. L. Fraser 99

TEMPLETON, Dr., Roy. Art. *page*
Communication, accompanied with drawings of *Semnopithecus Leucoprymnus Nestor*, Benn. 1
On some Varieties of the Monkeys of Ceylon, *Cercopithecus pileatus* and *Loris gracilis* 3
Description of *Megascolex cæruleus* 89

WATERHOUSE, Mr.
On various Skins of Mammalia from Chile, with notes relating to them by Mr. Thomas Bridges 153

WEAVER, Mr.
Exhibition and donation of Rare Insects 163

WHITE, ANTHONY, Esq.
Letter from, on the Dissection of *Felis Leo* 54

WILLSHIRE, WILLIAM, Esq.
Letter, accompanying a donation of an Aoudad, *Ovis Tragelaphus* 95

YARRELL, WILLIAM, Esq.
Exhibition of three specimens of *Rana esculenta*, from Foulmire, Cambridgeshire, presented to the Society by F. Bond, Esq. 109

PROCEEDINGS

OF THE

ZOOLOGICAL SOCIETY OF LONDON.

January 9, 1844.

Rev. John Barlow, M.A., F.R.S., Sec. R.I., in the Chair.

A letter was read from Richard Hill, Esq., Spanish Town, Jamaica (Corr. Memb.), accompanied by two Birds' Skins, which he presented to the Society, one of which Mr. Gould pronounced to be the European Shoveller, *Rhynchaspis*, in a peculiar state of plumage, which it only assumes for about two months in the year; the other was the *Fringilla Canariensis*.

A communication was read from Dr. Templeton, Royal Artillery, Colombo, Ceylon, Corr. Mem., accompanied by drawings of a species of Monkey which he conceived to be new. Mr. Waterhouse recognized it as the *Semnopithecus Leucoprymnus Cephalopterus*, described already by Mr. Bennet in the 'Proceedings of the Zoological Society' as *Semnopithecus Nestor*.

At the request of the Chairman, Mr. Gould called the attention of the Meeting to a new species of Bird from Western Australia, the habits of which he described thus:—The bird is an inhabitant of the close underwood of the country, never making its appearance in the open plains or woods, thus rendering it a matter of difficulty to procure a specimen; the only means of securing it being to lie concealed in the thicket until it hops in sight, within two or three yards of the observer.

The great peculiarity which distinguishes it from all others of the *Sylviadæ*, and marks it at once as a new genus and species, is the total absence of the vibrissæ or bristles at the base of the mandibles. From this fact, and its note being the loudest of all the inhabitants of the grove, Mr. Gould proposed the name of *Atrichia clamosa*.

Genus Atrichia.

Gen. Char.—*Rictus* omninò vibrissis carens. *Rostrum* æquè longum atque caput, ad latera compressum, mandibulæ superioris apice distinctè denticulato, gonyde a rictu acclivi exinde rostri lineam

sequente; culmine altè in frontem ascendente; naribus permagnis operculo tectis, et sulco, ad basim mandibulæ superioris, positis. *Alæ* breves, rotundatæ, concavæ, primariis primis tribus gradatis, quartâ, quintâ, sextâ et septimâ inter se ferè æqualibus. *Cauda* longiuscula, rotundata, rachibus rigidis, pogoniis laxis, decompositis. *Tarsi* sic et *pedes* robusti, halluce cum ungue valido; digitis externis ferè coæqualibus.

ATRICHIA CLAMOSA. *Atr. corpore superiore, alis, caudáque fuscis; singulis plumis, lunulis obscurè nigrescentibus, transversim notatis: remigum primorum pogoniis internis saturatè fuscis; caudá guttatá, non fasciatá; guld pectoreque rufescenti-albis, notá magná ad gulæ partem inferiorem; abdomine crissoque rufis.*

All the upper surface, wings and tail brown, each feather crossed by several obscure crescent-shaped bars of dark brown; the inner webs of the primaries very dark brown, without markings, and the tail freckled instead of barred; throat and chest reddish white, with a large irregular patch of black on the lower part of the throat; flanks brown; abdomen and under tail-coverts rufous; bill horn-colour; irides dark brown; feet dark brown.

Total length, $7\frac{3}{4}$ inches; bill, $\frac{7}{8}$; wing, 3; tail, 4; tarsi, 1.

Hab. Western Australia.

January 23, 1844.

William Horton Lloyd, Esq., in the Chair.

A communication was read from Major Harris, lately on an embassy to Shoa, in Southern Abyssinia, containing his observations on the natural history and zoology of that country, accompanied with an extended list of its Mammalia, Aves, Reptilia, &c., with their native names.

Dr. Templeton's memoir on some varieties of the Monkeys of Ceylon was then read:—

"The *Cercopithecus pileatus* ('Menageries,' *M. sinicus*, F. Cuv.) is the common small monkey of every part of the western and southern maritime provinces of Ceylon. It is readily distinguished from the Toque by the light tan hue of the face and the black margin of the lower lip. The male is more robust and not so playful as the female; both are easily tamed, and retain their gentleness and familiarity in old age. The figure in the 'Histoire des Mammifères' represents the animal much too stout, the tail rather short, the distinction of colour of the back and abdomen marked by a too well-defined line, and the hairs on the crown of the head not sufficiently copious, long or divergent. In other respects the figure is good. In that excellent little work the 'Menageries,' page 308, are these words: 'with the long hair of the head standing erect, like an upright crest.' This, applied to our animal, I have difficulty in comprehending; the hair on the head of the adult males and females being flattened down, strikingly divergent from a small central part, and in some instances slightly separated down the middle; but anything like an upright crest I have never yet seen. There are some slight distinctions of sex and age which it may be proper to note, remarking at the same time that the peculiarities, though obvious enough in the majority, are by no means constant, but shade into each other, especially in the domesticated animals. The adult male, as I have above remarked, has the hair of the crown flattened down, equally divergent in all directions, of the same colour and appearance as that of the back; that is, rather long, mouse-coloured close to the skin, yellowish brown, or in strong sunlight golden with a shade of chestnut, at the tips. The face is light tan-coloured, with scattered black hairs: along the eyebrows a few stiff black hairs projecting straightforwards, and above these, and beneath the crowning tuft, a dark band of hair; the space about the ears whitish, ears fuliginous; lower lip with a broad black margin; conjunctiva black. Iris reddish brown, pupil black. Anterior surface of the trunk and inner side of the limbs pale. The hands are strong, fuliginous; the dorsum thinly

covered with hairs, like those of the back. Tail thickish at the root, mouse-coloured, not diminishing to a point; apex light brown or grey; callosities tan-coloured, with the hair for about an inch surrounding them fuliginous; penis trilobed. The female has the legs and arms of a redder tint, the inside of the upper arms and broad patches of the chest and belly indigo-blue, and the band across the forehead not usually dark, but of an orange-yellow. In the immature the hair of the crown is not much flattened down or so diverging, the face more old-fashioned and exquisitely comical, the tail nearly naked, and the cheeks, palms, soles and callosities, pale pinkish. I have nothing to add to the admirable description of the habits of the genus given in 'Menageries.' This and the Toque should unquestionably be separated from all other 'Macaques.'

"The *Loris gracilis* is very common in the lower country of the south and east of Ceylon. Mr. Baird's account leaves little to be said about it, as its timorousness and nocturnal habits afford little opportunity for watching it. I have had them several times, but have never been able to keep them for more than a few months; they soon begin to pine away and die. Their food consisted of very ripe plantains, rice, and such insects as abounded in the apartment. The last I had slept nearly all day with the nose resting against the lower part of the belly, as represented in the sketch; about dusk, if the room was perfectly quiet, it ventured about, crawling along the rails of the chairs with a very gentle movement, occupying nearly one-third of a minute in closing its hands on the parts of the furniture it grasped in succession, and moving its head from side to side with much grave deliberation; but when a spider or other insect came within its reach, its clutch at it was quick as lightning, and with equal rapidity it was conveyed to the mouth, so that I could only guess at what it had seized from knowing that insects abounded in the room. It was perfectly conscious of being watched, as I have occasionally detected it moving with considerable rapidity, but instantly assuming its ordinary slow movement when my eyes were directed towards it. It would not tolerate the familiarities which are mentioned by Mr. Baird; and Capt. Geale, 90th Light Infantry, remarked to me that it seemed particularly anxious to avoid having its hinder extremities touched, which is certainly the case. I never saw it search for 'Pediculi' among its hair, nor could ever detect any on its body after death. When approached it retired along the stick placed slantingly in the corner for its use, or along the back of the chairs with the usual deliberate movement, its great goggle eyes fixed immoveably on your face, or hands if held towards it, and with every expression of extreme fear. Its mouth appears so small and so little distensible, at least when alive, that I cannot imagine it capable of biting anything except it be of very small size; yet the natives universally assert that it destroys peacocks in the jungle, seizing them by the neck, which it clutches with such tenacity that the bird soon falls exhausted to the ground off its perch, or in its sudden flight attempting to escape its persecutor; and further, that having devoured the brains it leaves the rest of the body untouched. The

sketch* is a good one, taken from life; but it must be remarked that the white streak between the eyes often extends a little backwards, gradually disappearing about the level of the ears. The hair is very singular when the animal is alive; it resembles very soft close-packed wool, somewhat curled and arranged in little tufts, as the hair on the scalp of the negro, but extremely delicate; it soon loses this appearance after death if much handled, as is always the case in removing the skin.

"There are *no other species* of *Stenopidæ* in Ceylon."

Mr. Mitchell, on the part of Mr. Gould, communicated to the Society a new species of *Psophodes*, which he described as *Psophodes nigrogularis*.

Also an additional example of the genus *Amadina*, perhaps the loveliest of the tribe yet discovered, remarkable for the great beauty and singularity of the hues with which it is adorned, the breast being crossed by a broad band of lilac, a colour so rarely found in birds, that he does not recollect any example of the same tint. Mr. Gould has hitherto seldom adopted the practice of many naturalists, of naming new species from individuals connected with science; in this instance he has been induced to depart from his usual course, in order to pay a tribute of respect to the memory of the late Mrs. Gould, who assisted him so zealously and with such talent in his ornithological pursuits. For this bird, of most graceful form and delicate colour, he proposes the name of *Amadina Gouldiæ*.

Psophodes nigrogularis. *Psoph. corpore superiore olivaceo; inferiore cinereo apud latera fuscescente, abdomine medio albo; caudâ pallidè olivaceo-fuscâ, rectricibus quatuor externis apicem versus nigro vittatis, apicibus albis; guld nigerrimâ, strigâ albâ ab angulo mandibulæ inferioris tendente modò nigro inclusâ.*

Plumage of the upper surface olive; under surface ashy, passing into brown on the flanks and white on the centre of the abdomen; primaries brown; tail light olive-brown, the four lateral feathers crossed near the extremity with a band of black, and tipped with white; throat deep black, with a stripe of white from the angle of the lower mandible, just within the black; bill dark horn-colour; irides dark brown; feet dark horn-colour.

Total length, $6\frac{1}{4}$ inches; bill, $\frac{7}{8}$; wing, $3\frac{1}{8}$; tail, $4\frac{1}{2}$; tarsi, $1\frac{1}{8}$.

Hab. Western Australia.

This bird has all the characters of the *Psophodes crepitans* in the short and concave form of its wings and the rounded form of the tail, but differs in the absence or very slight development of the crest.

Amadina Gouldiæ. *Am. fronte, loris plumis auricularibus, et guld splendidè nigris; notâ ab oculis circum occiput et per latera colli tendente, ex ærugine viridi, gradatim cum flavido-viridi corporis superioris se commiscente; fasciâ per pectus latâ, lucidè lilacino-purpureâ; corpore inferiore cerino.*

* The published figures give no idea of the animal; they all represent the snout much too long, the eyes too small, and the face not sufficiently broad and flat.

Male.—Forehead, lores, ear-coverts and throat deep velvety-black; from behind the eye, round the occiput, and down the sides of the neck, a mark of verdigris-green, gradually blending into the yellowish green of the upper surface and wings; across the breast a broad band of shining lilac-purple, below which all the under surface is shining wax-yellow; bill flesh-white at the base, tipped with blood-red at the point; feet fleshy.

Young Female.—Head grey; upper surface light olive; under surface pale buff; chin white; primaries and tail brown; irides dark brown.

Total length, $3\frac{3}{4}$ inches; bill, $\frac{3}{8}$; wing, $2\frac{1}{2}$; tail, $1\frac{1}{4}$; tarsi, $\frac{5}{8}$.

Hab. North-eastern portion of Australia.

Remarks.—The young of this species killed by Mr. Gilbert had the gape on each side ornamented with three excrescences about the size of the head of a moderate-sized pin, the upper and lower of which were of a bright indigo-blue, and the middle one of a very pale yellow, and on the roof of the mouth five small spots of purple, forming a crescent across to each angle of the gape.

February 13, 1844.

George Gulliver, Esq., in the Chair.

"Additional Measurements of Blood-corpuscles or Red Particles of Mammalia and Birds," by George Gulliver, Esq., F.R.S., No. 2*.

The measurements are expressed in vulgar fractions of an English inch, according to the practice which I have always adopted. As the numerator is invariably 1, it is omitted throughout, the denominators only being printed.

In each instance the measurements of the common-sized discs are first set down; a space is then left; the small- and large-sized discs are next noted; and lastly, the average deduced from the preceding numbers is placed beneath the line. Of the oval blood-discs, the long diameter is denoted by the letters L.D., and the short diameter by S.D. The blood was taken from adult living animals, unless stated to the contrary.

MAMMALIA.

Feræ.

Tricoloured Fox (*Canis cinereo-argenteus*, Schreb.).

3555
4000

5333
2900

3761

Blood from a prick of the tail.

Indian Fox (*Canis Bengalensis*, Shaw).

Same as the preceding.

Indian Tiger-cat (*Felis Bengalensis*, Desm.).

4600
4570

6400
3200

4419

Blood from a prick of the upper lip.

Ruminantia.

Stanley Musk Deer (*Moschus Stanleyanus*, Gray).

Measurements detailed in the Proceedings of the Zoological Society, May 9, 1843, page 66. I have since made another observation, which agrees with the former one in showing that the blood-discs of this animal resemble in minuteness those of the Napu Musk Deer.

Virginian Deer (*Cervus Virginianus*, Ray).

5450
5333
5000

7110
3555

5036

Blood from a prick of the lip.

* No. 1 will be found in the Proceedings of the Zoological Society, No. CXIX., Dec. 13, 1842, page 190.

Male Ibex (*Capra Caucasica*, Guld).

6858
7110
10666
5333
———
7045

The average is almost exactly the same as in my first measurements of the blood-discs of this animal.

Blood from a prick of the ear.

Female Cashmere Goat (*Capra Hircus*, var.).

6400
6665
8000
5333
———
6466

The average is very nearly the same as in my first measurement of the blood-discs of this animal. See Appendix to Gerber's Anatomy, p. 46.

Blood from a prick of the ear.

Female Kid, twelve days old, bred between the Ibex and Goat just mentioned.

8000
7275
6000
5333
4500
10666
4000
———
5918

Blood from a prick of the ear.

The preceding measurements confirm my former observations, published in the Proceedings of the Zoological Society, Aug. 9, 1842, p. 107,—that the blood-discs of the Ibex are slightly smaller than those of the Goat.

The Kid between these animals appears to have generally larger and more variously-sized blood-discs than either of the parents.

The observations were favourably made for comparison, because the blood of the three animals was taken and examined from the same part, on the same day and hour, and under the same circumstances.

RODENTIA.

Hackee Squirrel (*Sciurus Listeri*, Ray).

4000
3800
5333
3200
———
3948

Blood from a vein of the ear.

Quebec Marmot (*Arctomys Empetra*, Schreb.).

3600
3330
4570
2900
———
3503

Blood from a prick of the lip.

Harvest Mouse (*Mus messorius*, Shaw).

4000
4570
6400
3200
———
4268

Thus this little animal, the smallest of the British Mammalia, has blood-corpuscles larger than those of the horse, as may be seen by comparing the measurements now given with those of the blood-corpuscles of the horse, published in my Appendix to Gerber's Anatomy, p. 43; and a reference to the dimensions of the blood-cor-

puscles of numerous Rodentia detailed in the same work, p. 47–50, will show that the corpuscles of the Harvest Mouse are rather smaller than those of any animal yet examined of this order.

The blood of the Harvest Mouse was obtained from the heart, in one case about twelve, and in another twenty-six hours after death, in cool weather.

For opportunities of examining these animals, I am indebted to the kindness of Mr. Griffith and Mr. Prince.

Canada Porcupine (*Erethizon dorsatum*, F. Cuv.).

3555
3428
3200

4572
2666

3380

Blood from a prick of the skin of the nose.

Beaver (*Castor Fiber*, Linn.).

3555
3303
3200
3000

5000
2666

3325

Blood from a prick of the nose of a female about half-grown.

MARSUPIATA.

Kangaroo Rat (*Hypsiprymnus setosus*, Ogilby).

4000

5333
3200

4000

Blood from a prick of the tail.

The corpuscles are slightly smaller than those of many other animals of the same order, and resemble in size the corpuscles of the Viverrine and Mauge's Dasyure. See my measurements of the blood of discs of Marsupiata, Dublin Medical Press, Nov. 27, 1840; London and Edin. Phil. Magazine, Dec. 1st, 1840; and Proc. Zool. Soc., June 8, 1841, p. 49.

AVES.

OMNIVORÆ.

Blue Jay (*Garrulus cristatus*, Vieill.).

L.D.	S.D.
2000	3200
2900	4800
1600	3000
2041	3512

Blood from a vein of the pinion.

INSECTIVORÆ.

Rufous Mocking-bird (*Orpheus rufus*).

L.D.	S.D.
2286	3555
2900	4800
1777	3000
2231	3646

Blood from a vein of the wing.

GRANIVORÆ.

Great Titmouse (*Parus major*, Linn.).

L.D.	S.D.
2133	4000
2000	
2900	4800
1777	3200
2132	3892

Blood from a vein of the wing.

Blue Grosbeak (*Loxia cærulea*, Linn.).

L.D.	S.D.
2286	3555
2900	5333
1895	3000
2290	3740

Blood from a vein of the thigh of a female.

Whidah Bird (*Vidua paradisæa*, Cuv.).

L.D.	S.D.
2000	3555
1777	
2900	5333
1684	3000
1998	3740
Nuclei.	
3555	10666

Blood from a vein in the wing.

COLUMBÆ.

Crowned Pigeon (*Columba leucocephala*, Ray).

L.D.	S.D.
2000	3555
2900	4800
1777	3000
2132	3646

Blood from a vein of the pinion.

Moustache Pigeon (*Columba mystacea*, Temm.).

L.D.	S.D.
2000	3200
2900	4800
1714	3000
2100	3512

Blood from a vein of the pinion.

GALLINÆ.

Bonham's Partridge (*Perdix Bonhami*, Fraser).

L.D.	S.D.
2000	3200
1895	3555
2400	4000
1600	2666
1933	3282
Nuclei.	
4570	10666

Blood from a vein of the thigh of a female.

GRALLATORES.

Scarlet Ibis (*Ibis ruber*, Lacep.).

L.D.	S.D.
2000	3200
1777	
2666	4500
1600	2400
1948	3153

Blood from a vein of the wing.

Lesser Bittern (*Ardea minuta*, Linn.).

L.D.	S.D.
2000	4000
1895	
2400	5000
1777	3000
1993	3827

Blood from a vein of the wing.

"Descriptions of new species of *Scalaria*, collected by Mr. H. Cuming, to be figured in the fourth part of Thesaurus Conchyliorum," by G. B. Sowerby, Jun., Esq.

SCALARIA ALATA, Thes. Conch. part 4. pl. 32. f. 10, 11. *Scal. testâ subventricosâ, lævi, umbilicatâ; anfractibus separatis; varicibus* 8 (*anfractu ultimo* 7), *latis, distantibus, laminatis, extantibus, posticè*

propè medium, obtusè angulatis; aperturâ ovali, margine subquadrato; colore inter varices, in medio anfractuum, fulvo vel castaneo. Long. 0·95; lat. 0·50; ex. var. poll.

Hab. Catanauan, pr. Tayabas, ins. Luzon. H. Cuming legit. Found in sandy mud at eight to ten fathoms.

Scalaria fasciata, Thes. Conch. part 4. pl. 32. f. 12, 13. *Scal. testâ subventricosâ, lævi, umbilicatâ; anfractibus separatis; varicibus 7, sublatis, distantibus, laminatis, extantibus, posticè propè suturam acutè angulatis; aperturâ parvâ; colore albo, fasciâ fuscâ latâ inter varices in medio anfractuum.* Long. 0·80; lat. 0·40 poll.

Hab. Catanauan, pr. Tayabas, ins. Luzon. H. Cuming legit.

Differing from *Sc. alata* in being a somewhat more elongated shell, in having the varices narrower, and their angle more elevated and more acute. The colour is lighter and the band more distinct. Found in sandy mud at eight to ten fathoms.

Scalaria marmorata, Thes. Conch. part 4. pl. 32. f. 9. *Scal. testâ pyramidali, subventricosâ, lævi, umbilicatâ; anfractibus separatis, varicibus distantibus, laminatis, extantibus, continuis, propè medium obtusissimè angulatis; colore albo, fusco marmorato.* Long. 0·85; lat. 0·40 poll.

Hab. India.

We have no information as to the locality of this species, which differs from *Sc. alata* in having the angle of the varices very obtuse and nearer the centre of the whorl. The specimens are beautifully marbled with dull brown. Mr. Cuming's collection.

Scalaria replicata, Thes. Conch. part 4. pl. 32. f. 23, 24. *Scal. testâ brevi, subventricosâ, lævi, umbilicatâ, anfractibus separatis; varicibus 7 distantibus, laminatis, extantibus, continuis, validè replicatis, propè suturam angulatis; colore albo.* Long. 0·60; lat. 0·32 poll.

Hab. Ins. "Lord Hood's." H. Cuming legit.

Found on coral reefs; shorter than the preceding and having the varices folded backwards.

Scalaria hyalina, Thes. Conch. part 4. pl. 32. f. 21, 22. *Scal. testâ tenui, glabrâ; anfractibus latè separatis, angustis; varicibus distantibus, laqueatis, extantibus; colore albo.* Long. 0·40; lat. 0·21 poll. BM.T.

Hab. Ins. Catanauan et Batangas, ins. Luzon, Philippinarum. H. Cuming legit.

This small species has the whorls widely separated from each other and the varices few, distant, and beautifully fluted. Found in sandy mud at eight to ten fathoms.

Scalaria laxata, Thes. Conch. part 4. pl. 32. f. 8. *Scal. testâ tenui, lævi; anfractibus latè separatis, varicibus numerosis, subregularibus, laminatis, simplicibus; aperturâ ovali; colore albo.* Long. 0·76; lat. 0·37 poll.

Hab. Ins. Catanauan, pr. Tayabas, ins. Luzon, Philippinarum. H. Cuming legit.

The whorls are separated, as in *Sc. hyalina*, but the varices are numerous and simple. Found in sandy mud at eight to ten fathoms.

SCALARIA PYRAMIDALIS, Thes. Conch. part 4. pl. 32. f. 4. *Scal. testâ pyramidali, acuminatâ, lævi; anfractibus separatis; varicibus extantibus 9 subcrenulatis, propè suturam in angulum acutum productis, ad suturam junctis; aperturâ ovali; labio interno crasso; colore albo.* Long. 1·20; lat. 0·50 poll.

Hab. Ins. Caminguing, Philippinarum. H. Cuming legit.

Taken in sandy mud at thirty fathoms.

Resembling *Sc. communis*, but more pyramidal in form, more tapering towards the apex, and the somewhat more laminated and projecting varices have a sharp angle near the centre. The most perfect specimen is in the collection of the Rev. J. F. Stainforth.

SCALARIA PHILIPPINARUM, Thes. Conch. part 4. pl. 32. f. 1, 2, 3. *Scal. testâ elongatâ, acuminatâ, lævi; anfractibus numerosis, paululùm separatis; varicibus distantibus, tenuibus, obliquis, supernè vix angulatis, ad suturam junctis; colore inter varices pallidè fulvo, vel castaneo-nigricante. Variat colore albo.* Long. 0·95; lat. 0·27 poll.

Hab. Catanauan, pr. Tayabas, ins. Luzon, Philippinarum; H. Cuming legit: et Amboyna, legit R. B. Hinds.

An elongated shell, the principal variety of which is of a chestnut colour between the varices. Found in sandy mud at eight to ten fathoms.

SCALARIA ACULEATA, Thes. Conch. part 4. pl. 32. f. 35, 36, 37. *Scal. testâ pyramidali, lævi, acuminatâ; anfractibus vix separatis; varicibus laminatis, reflexis, anticè subrotundatis, propè suturam in dentem acutum productis, ad suturam plicatim junctis. Variat varicibus crassis, colore albo, vel pallidè fulvo.* Long. 0·56; lat. 0·22 poll.

Hab. Hong Kong, China, et Macassar, Malacca, Amboyna; R. B. Hinds legit: ad Bais, ins. Negros, et ad Catanauan, ins. Luzon; H. Cuming legit.

Some specimens were taken at Bais, isle of Negros, in coarse sand at six fathoms.

SCALARIA GRACILIS, Thes. Conch. part 4. pl. 32. f. 33, 34. *Scal. testâ aculeatâ simili, sed multùm graciliori.*

Hab. Dumaguete, ins. Negros, Philippinarum. H. Cuming legit.

So much narrower in proportion to its length than the preceding species as to justify the distinction, which has not been made without hesitation. Found in coarse black sand at seven fathoms.

SCALARIA MITRÆFORMIS, Thes. Conch. part 4. pl. 32. f. 30. *Scal. testâ pyramidali, lævi, tenui, acuminatâ; anfractibus vix separatis; varicibus distantibus, laminatis, extantibus, angulatis, ad angulum in dentem acutum elevatis; colore albo.*

Hab. Guacomayo, Amer. Merid. H. Cuming legit.

The only specimen we have seen is in Mr. Cuming's collection; it bears a very near resemblance to the common West Indian species named *Sc. muricata* by Kiener, from which it differs in having the angle of the varices elevated into a tooth or point. It is also a thinner shell, with the laminated varices narrower. Found in sandy mud at a depth of eleven fathoms.

Scalaria venosa, Thes. Conch. part 4. pl. 33. f. 72, 73. *Scal. testâ pyramidali, lævi, acuminatâ, imperforatâ; anfractibus prominentibus vix contiguis; varicibus* 12, *proximis, crassis, in medio validè reflexis, tumidis, posticè angulatis, propè suturam subangustatis; aperturâ rotundatâ, colore inter varices pallidè fulvo.*

Hab. Nevis, Indiâ occidentali.

Remarkable for the shape of the varices, which are turned backward and rounded, giving the appearance of tumid veins; the interstices, which are narrow, are of a delicate fawn-colour.

Scalaria Lyra, Thes. Conch. part 4. pl. 33. f. 38, 39; pl. 34. f. 81, 82. *Scal. testâ ventricosâ, acuminatâ; anfractibus prominentibus, rapidè crescentibus, propè suturam elevatis, suturâ profundâ distinctis; varicibus tenuibus, numerosissimis, obliquis; aperturâ magnâ, ovali; labio interno tenui, obliquo; umbilico parvo; colore pallidè fulvo, fasciis duabus fuscis plus minusve distinctis.*

Hab. Ins. Masbate, Philippinarum. H. Cuming legit.

A beautiful species, with ventricose whorls, which are distinguished by a very deep suture. The varices are thin, close, regular and oblique. The colour is pale brown or dull white, with two bands of deeper or paler brown. Found in sandy mud at five fathoms.

Scalaria dubia, Thes. Conch. part 4. pl. 33. f. 41. *Scal. testâ ventricosâ, acuminatâ, minutè striatâ; anfractibus subprominentibus, suturâ profundâ distinctis, rapidè crescentibus; varicibus numerosis, paululùm expansis; aperturâ magnâ, subovali; labio externo tenui, labio interno subexpanso; umbilico parvo; colore albo.*

Hab. Ticao, Philippinarum. H. Cuming legit.

The imperfect specimen in Mr. Cuming's collection is the only one which we have seen. Taken on reefs.

Scalaria irregularis, Thes. Conch. part 4. pl. 33. f. 40, 60. *Scal. testâ ventricosâ, acuminatâ, lævi; anfractibus contiguis, rotundatis, gradatim crescentibus; suturâ distinctâ; varicibus tenuibus, numerosis, inæqualibus, nonnullis magnis; aperturâ obliquè ovali; umbilico mediocri; colore albo.*

Hab. Catanauan, pr. Tayabas, ins. Luzon, Philippinarum. H. Cuming legit.

The varices of this species are rather thin and numerous, with sharp edges; some are much thicker than others. Found in sandy mud at eight to ten fathoms.

Scalaria imperialis, Thes. Conch. part 4. pl. 33. f. 56, 57.

Scal. testâ pyramidali, ventricosâ, acuminatâ, lævi; anfractibus magnis, rotundatis, contiguis, propè suturam elevatis, gradatim crescentibus, suturâ profundâ; varicibus numerosis, simplicibus, versùs apicem tenuibus, gradatim crescentibus, in ultimo anfractu crassis, nonnullis duplicatis et triplicatis; aperturâ magnâ, ovali; umbilico magno; colore inter varices pallidè fulvo, fasciis binis fuscis in medio anfractûs ultimi purpureo confusis.

Hab. Swan River.

A beautiful pyramidal shell, with numerous regular varices, which in the upper whorls are thin, but in the last whorl are thicker, some of the last being doubled. The colour between the varices is dull fawn, with two bands, which in the last whorl are blended with purple.

"Description of new species of *Mytilacea*, &c.," by Sylvanus Hanley, Esq.

Modiola Metcalfei. *Mod. testâ subtriangulari, oblongâ, ventricosâ, posticè albo-cærulescente, anticè purpureâ, obsoletè barbatâ, epidermide flavo-fuscescente indutâ; epidermide, prope marginem dorsalem, subelongatum, valdè elevatum, et ad extremitatem posticam brevem, angustam, sursùmque prominentem, nitoris experte; costâ umbonali, prope ad nates purpureas, acutas, obtusè subcarinatâ; angulo dorsali distincto, elevato; margine antico subrecto, nunquam incurvato; extremitate anticâ sublinguiformi, rotundatâ; margine ventrali in medio incurvato, posticè valdè obliquo; superficie interná anticè purpureo tinctâ.* Long. 1·70; lat. 3·0 poll.

Hab. ——? Mus. Cuming, Hanley.

The more prominent characters are the compressed and very distinct dorsal angle, the purple beaks, the elevated umbonal ridge, and the absence of all glossiness from the narrow strip of epidermis which adjoins the ligamental edge, and from that lunule-shaped portion which forms the posterior extremity and curves upwards to the beaks. I have named it in honour of one of our most scientific collectors, W. Metcalfe, Esq., of Lincoln's Inn.

Modiola striatula. *Mod. testâ elongato-oblongâ, angustâ, subarcuatâ, subcylindraceâ, epidermide olivaceâ indutâ; latere postico brevi radiatim costulato, costis paucis, distantibus; latere antico producto, tenuissimè radiatim striato, striis ad extremitatem anticam elevatis, divaricatis; areâ intermediâ lævigatâ; margine dorsali subrecto, vix elevato, marginis antici convexi longitudinem æquante; margine ventrali incurvato; angulo dorsali inconspicuo; umbonibus planulatis; superficie internâ purpureâ; cardine, ad extremitatem ligamenti, crenato.* Long. 0·60; lat. 1.40 poll.

Hab. Batangas, insularum Philippinarum. Mus. Cuming, Hanley.

Closely similar to *plicata* in shape, sculpture, and the colour of its epidermis; the rich purple of its interior, its smaller size, and the greater delicacy of its markings, at once proclaim its distinctness. It is usually rayed anteriorly with narrow interrupted black streaks.

Modiola subramosa. *Mod. testâ oblongo-angustatâ, subventri-*

cosâ, posticè lævi, anticè costatâ, epidermide flavo-rufescente indutâ; costis planulatis, radiantibus, furcatis, subramosis, distantibus; margine cardinali brevissimo, subrecto; margine antico primum incurvato et vix declivi, deindè convexo et abruptè declivi; ventrali incurvato; extremitate anticâ subbiangulatâ, valdè compressâ; carinâ umbonali conspicuâ, in junioribus acutâ; superficie internâ, anticè purpureo tinctâ; cardinis extremitatibus crenatis; angulo dorsali parùm elevato. Long. 0·55; lat. 1·30.

Hab. Cagayan, pr. Misamis, insulæ Mindanao.

Mus. Cuming, Hanley.

Closely allied to *M. sulcata* of Lamarck, but in that species the rib-like striæ are crowded and numerous. The beaks are all but terminal, acute, and incurved.

Modiola Philippinarum. *Mod. testâ ovato-oblongâ, tumidâ, lævi, anticè barbatâ; epidermide nitidâ, fulvo-castaneâ, in medio pallescente, indutâ; angulo dorsali distincto, rotundato; margine dorsali elevato, subelongato, convexiusculo; antico breviore, subrecto, subincurvato; extremitate anticâ latâ, rotundatâ; posticâ brevi, prominulâ, nitore epidermidis orbatâ; natibus angustis, conspicuis; carinâ umbonali prominente; superficie internâ, anticè atropurpureâ.* Long. 2·20; lat. 4 poll.

Hab. Zebu, Philippinarum. Mus. Cuming, Hanley.

Possessing a sort of general resemblance to *M. Modiolus*, its more elongated hinge-margin, and the greater projection of its hinder extremity, suffice to distinguish it from that species. The rich internal colouring of its anterior slope, and the peculiarity of the lunule-like posterior space, which is destitute of lustre, form the principal features of its characteristics.

Modiola biradiata. *Mod. testâ oblongo-trigonâ, lævigatâ, ventricosâ; sub epidermide sordidè fulvâ, anticè purpureo tinctâ, deindè radio albido ornatâ, areâque posticâ pallidè brunneâ et radio pallidiore ad extremitatem ejus prominulam notatâ; margine cardinali elevato, subrecto, elongato; angulo dorsali distincto; margine ventrali medio incurvato; antico subrecto, elongato, paululùm retuso; extremitate anticâ productâ, rotundatâ; carinâ umbonali prominente; superficie internâ anticè purpureâ.* Long. 1·25; lat. 2·50.

Hab. ——? Mus. Metcalfe.

The glossy epidermis, which is apparently destitute of any distinct beard, although sufficiently rough on the anterior slope to render its occasional presence not improbable, ceases entirely just before reaching the hinge-margin, leaving a long narrow strip of dull dusky purple. Its general shape closely resembles *albicosta* of Lamarck, with which briefly-described species it has doubtless been confused by the majority of collectors. That species, however (whose original type I carefully examined at Paris), differs both in other respects and by the clear fawn-colour of its epidermis.

Modiola strigata. *Mod. testâ parvâ, tenuissimâ, subdepressâ, oblongâ, virescente, strigis undulatis fusco-purpureis, irregulariter*

pictâ; latere antico radiatim striato, dilatato, anguli dorsalis experte; latere postico brevissimo, longitudinaliter costulato; margine cardinali elongato, convexo; antico arcuato; ventrali medio convexiusculo. Long. 0·25; lat. 0·50 poll.

Hab. Sibango, isle of Zebu; in ten fathoms, sandy mud. Mus. Cuming, Hanley.

For this and the succeeding species we are indebted to the researches of H. Cuming, Esq., in the Philippine Islands. The shell, though small, is far from inelegant, and unites the contour of the British *discrepans* with the zigzag markings of the African *Owenii*.

Modiola arcuatula. *Mod. testâ elongatâ, angustâ, subarcuatâ, compressâ, lævigatâ, tenuissimâ, anguli dorsalis experte; sub epidermide fulvo-viridescente, strigis undulatis, purpureo-brunneis, anticè transversim ornatâ; costâ umbonali pallidâ, prominente; margine cardinali elongato, antico brevi, valdè arcuato; ventrali incurvato; extremitate anticâ dilatatâ, rotundatâ; posticâ rotundatâ, prominente, valdè attenuatâ, costellis paucis radiatâ; superficie internâ, anticè purpureo tinctâ.* Long. 0·50; lat. 1·50.

Hab. Singapore, at low water. Mus. Cuming, Hanley.

Belonging to that division of *Modiolæ* which is destitute of any dorsal angle, it is remarkable for its narrow sickle-shaped contour, and the few narrow ribs of its posterior extremity.

Modiola sordida. *Mod. testâ oblongâ, ventricosâ, epidermide olivaceâ indutâ; areâ anticâ lamellis concentricis, membranaceis, cinereo-fulvis, vestitâ; lamellarum margine barbato; costâ umbonali prominente; angulo dorsali obtusissimo; margine cardinali breviusculo, parùm elevato; antico elongato, in adultis retuso; ventrali incurvato; extremitate posticâ brevissimâ, obtusissimâ; superficie internâ, anticè purpureo tinctâ.* Long. 1·25; lat. 2·65.

Hab. ——? Mus. Metcalfe.

The shape of this ugly species closely resembles that of *M. Modiolus*, but the colour of its epidermis and its peculiar beard will easily distinguish it. This latter appendage is composed of a dull-looking, membranaceous, ashy-coloured substance, formed of lamellæ, which near the ventral edge curl upwards towards the beaks; the edges are here and there fringed with elongated lanceolate filaments. The umbonal ridge is edged posteriorly by a paler streak, which is not sufficiently distinct however to be termed a ray.

Lithodomus canaliferus. *Lit. testâ elongato-oblongâ, subcylindraceâ, rectâ, lævigatâ, epidermide castaneâ sub tegmine calcareo indutâ; tegmine in lineis elevatis, crassis, radiantibus, supernèque opertis, anticè ordinato; sulco obliquo ex umbonibus ad marginem ventralem subrectum et leviter convexiusculum, anticè decurrente; margine cardinali subincurvato, elongato, leviter elevato; antico dorsali, subrecto; extremitate anticâ obtusissimâ, posticâ vix angustatâ.* Long. 0·65; lat. 2.

Hab. Found in rocks, isle of Zebu. Mus. Cuming, Hanley.

At once recognisable by the extraordinary arrangement of its

calcareous coating over the umbonal slope, on which are placed three oblique covered canals, formed by four radiating ridges, with another coating of calcareous matter spread above them, leaving the apertures distinctly visible at the anterior extremity.

LITHODOMUS PLUMULA. *Lit. testâ* L. canalifero *simillimâ, sed extremitate anticâ minus obtusâ; tegmine calcareo antico, crassiore, atque in parietibus confertis, subparallelis ordinato; parietibus corrugatis et (plumulæ haud dissimilibus) versus marginem ventralem et marginem anticum utroque latere radiantibus.* Long. 0·75; lat. 2·35.

Hab. Panama, in *Spondyli.* Mus. Cuming, Hanley.

Were it not for the calcareous coating of the umbonal ridge, this curious shell could scarcely be discriminated from the preceding species. This coating is of a cellular structure, and is composed of numerous rather elevated narrow ridges, which slope forward, and so radiate on either side from the middle as to remind us of a ruffled feather.

MYTILUS GRANULATUS. *Myt. testâ parvâ, ovali-triangulari, tumidâ, crassâ, radiatim costulatâ; costis distinctis, angustioribus, rotundatis, granulatis, plerumque bifurcatis; epidermide ochraceo-flavescente; margine cardinali brevi, convexo; antico valdè arcuato, dilatato; ventrali subincurvato; natibus maximè incumbentibus divaricatis; angulo dorsali rotundato; latere postico planulato, valdè tumido; superficie internâ albâ, submargaritaceâ; margine interno crenulis dentato.* Long. 0·50; lat. 0·75.

Hab. Valparaiso, under stones at low water. Mus. Cuming, Metcalfe, Hanley.

A species easily to be distinguished by its narrow granulated ribs (which become still narrower on the flattened posterior slope) and by the peculiarity of its beaks, which slope so greatly back as to cause the shell to appear blunt and almost truncated at that part. The hinge, as in most of this genus, is provided with two teeth in one valve, and one in the other.

"A description of new species of recent Shells," chiefly from the collection of W. Metcalfe, Esq.

AMPHIDESMA SCABRUM. *Amph. testâ obovatâ, convexâ, solidâ, subæquilaterali, albâ, lineis rubro-castaneis radiatâ, concentricè lamelliferâ; lamellis brevibus, tenuibus confertis, interstitiis minutissimè longitudinaliter striatis; latere antico subangulato, postico rotundato; margine ventrali arcuato, anticè sinuato; intùs pallidè aurantiâ, lunulâ, foveâque ligamentali rubro-purpureâ.* Long. 0·2; lat. $2\frac{1}{8}$ poll.

Hab. Boljoon, insula Zebu. Mus. Cuming, Metcalfe.

AMPHIDESMA ZEBUENSE. *Amph. testâ obliquè ovatâ, solidâ, valdè inæquilaterali, convexiusculâ, albidâ, radiis pallidè rubris ornatâ, concentricè lamelliferâ; lamellis brevibus confertis, interstitiis striâ elevatâ concentricâ, plerumque notatâ; latere antico brevi,*

rotundato; margine postico incurvato, ventrali valdè arcuato; intùs albâ, ad umbones rubro biradiatâ. Long. $1\frac{3}{4}$; lat. 2.

Hab. Zebu, Philippinarum. Mus. Metcalfe, Cuming.

This elegant shell bears some resemblance to the preceding, but its shape alone would be sufficient to distinguish it. The colouring matter seems to be deposited only on the lamellæ. The lunule is rather large for this genus.

Glauconome virens; Solen virens, Linn. Syst., p. 1115. *Gl. testâ oblongo-elongatâ, subtenui, valdè inæquilaterali, ad umbones tumidâ, albidâ; epidermide tenui, viridi, vix nitidâ, obsoletè longitudinaliter rugosâ, vestitâ; latere postico rotundato; antico producto, acuminato, subrostrato, transversim rugoso; margine ventrali vix arcuato, leviter in medio incurvo; intùs albidâ.* Long. 1; lat. $2\frac{1}{4}$ poll.

Hab. Java and China?

This extremely rare shell, concerning which Mr. Dillwyn remarks that no subsequent author has recognized it, still exists in Linnæus' cabinet, and with the exception of a few young shells in the collection at the Chinese Exhibition, I have never met with any specimens elsewhere.

Odostomia eulimoides. *Od. testâ oblongo-turritâ, niveâ, lævi, politâ, subpellucidâ; anfractibus quinque, convexiusculis, ultimo spiram æquante; suturâ distinctâ; aperturâ oblongâ, lævi, plicâ dentiformi labii interioris in medio; labio exteriore ad basim subeffuso, margine vix convexo.* Long. 0·18; lat. 0·08 poll.

Hab. Guernsey.

Odostomia Rissoides. *Od. testâ oblongo-conicâ, albâ, lævi, nitidâ; anfractibus quinque, convexiusculis, ultimo spiram æquante; suturâ distinctâ; aperturâ duplicem quintam partem totius longitudinis æquante, plicâ columellari pænè obsoletâ; labio exteriore intùs lævi.* Long. 0·18; lat. 0·09 poll.

Hab. Guernsey.

Allied to the last, but the mouth is far smaller in proportion to the length of the spire. The plait lies so far back on the columella as not to be discerned by the careless observer.

Odostomia turrita. *Od. testâ turritâ, niveâ, lævi, nitidâ; anfractibus quinque, convexiusculis; suturâ obliquâ; aperturâ subreniformi, quartam partem totius longitudinis æquante; plicâ dentiformi e parte superiore columellæ prominente.* Long. 0·12; lat. 0·04.

Hab. Guernsey.

The delineations of these last three species will appear in the 'British Marine Conchology.' The shells are from the cabinet of W. Metcalfe, Esq., and were procured by him on one of the islets near the coast of Guernsey.

February 27, 1844.

Professor Owen in the Chair.

The Secretary read communications from G. W. A. Drummond Hay, Her Majesty's Consul-General at Tangier, and Capt. Fayrer, H.M.S. 'Tenedos,' Bermuda (both Corresponding Members); the latter was accompanied by two specimens of the *Strix Nyctea*, which Capt. Fayrer presented to the Society.

Mr. Lovell Reeve described seven new species of *Glauconome*, a genus of fluvio-marine Mollusks of the family *Solenacea*.

The genus *Glauconome* was introduced some years since by Mr. J. E. Gray in his 'Spicielegia Zoologica,' with the description of a single species collected by John Reeves, Esq. in China. Another species appears to have been described by the great author of the 'Systema Naturæ' under the title of *Solen virens*, the original examples of which are still preserved in the collection of the Linnæan Society; and I have now the pleasure of exhibiting seven new species, which by their characters and habits add materially to the generic importance of the group.

The Glauconomes are of a light semi-perlaceous structure, covered with a thin light green horny epidermis, which in some species is very peculiarly wrinkled or shrivelled, and inflected over the margin, and their hinge is composed of three irregular forked teeth in each valve, some of which are generally bifid. They live in brackish water (in the mud) in the mouths of rivers at their confluence with the sea, and have only been found as yet in the Eastern hemisphere. Out of nine species with which we are now acquainted, the localities of eight are known to be as follows: one inhabits the rivers of China; one the Ganges and probably other rivers of India; three inhabit certain rivers running into the bay of Manila; and three, certain small rivers in the islands of Zebu, Negros and Luzon, of the Philippines; the last six having been collected in those particular localities by H. Cuming, Esq.

The place selected by Mr. Gray for the genus *Glauconome* in the natural system was in his family of the *Veneridæ*; it appears to me, however, to exhibit a much stronger affinity with the *Solenacea*; in my arrangement in the 'Conchologia Systematica,' I referred it to that family, and I am happy to say that the propriety of this removal has been subsequently confirmed.

The following are descriptions of the seven new species:—

1. Glauconome rugosa. *Glauc. testâ elongato-oblongâ, rugosâ, circiter umbones plus minusve erosâ, lateribus rotundatis; epidermide peculiariter corrugatâ, latere postico subobsoletè angulato.* Conch. Icon. pl. 1. f. 4. *a* and *b*.

Hab. The mouths of rivers running into the bay of Manila.

This species, which is by far the largest of the genus, presents a very peculiar arrangement of the epidermis. Over about one-third of the length of the shell from the posterior extremity, the epidermis lies in narrow ridges parallel with the lines of growth; these ridges are then suddenly directed towards the umbones, and become dispersed over the remaining portion of the shell in the form of shrivelled wrinkles scattered in the contrary direction.

2. Glauconome straminea. *Glauc. testâ subelongato-ovatâ, circiter umbones erosâ, latere antico rotundato, postico subattenuato, leviter angulato, rotundato; epidermide nitidâ, viridescente-stramineâ, angulum super corrugatâ.*

Conch. Icon. pl. 1. f. 2.

Hab. Mouths of rivers running into the bay of Manila.

A light delicate straw-coloured shell, slightly angulated on the posterior side, with the epidermis lying on the angle in wrinkles.

3. Glauconome radiata. *Glauc. testâ oblongo-ovatâ, compressiusculâ, corneâ; purpureo-radiatâ; epidermide viridescente prope marginem indutâ, lateribus rotundatis, postico subacuminato.*

Conch. Icon. pl. 1. f. 3.

Hab. Mouth of a small river at San Nicolas, island of Zebu, Philippines.

This is a very pretty species, vividly rayed inside and outside with violet-purple.

4. Glauconome corrugata. *Glauc. testâ elongato-ovatâ, subtilissimè striatâ, circiter umbones erosâ, lateribus rotundatis, postico acuminato-angulato; epidermide angulum super corrugatâ, intùs vividè purpureo-radiatâ.*

Conch. Icon. pl. 1. f. 6.

Hab. Mouths of rivers running into the bay of Manila.

The posterior side of this species is more elongately angled than that of any other; the epidermis is wrinkled over the posterior half of the shell, and the interior is vividly rayed with purple.

5. Glauconome angulata. *Glauc. testâ elongato-oblongâ, striatâ, circiter umbones plus minusve erosâ, latere antico rotundato, postico angulato, cariná obtusâ ab umbonibus ad marginem decurrente.*

Conch. Icon. pl. 1. f. 5.

Hab. Mouth of a small river at Jinigaran, island of Negros, Philippines. Rather a dingy, short, angulated species.

6. Glauconome curta. *Glauc. testâ ovatâ, curtâ, tenui, subtilissimè striatâ, ad umbones paululùm erosâ, lateribus rotundatis, intùs cæruleo-carneo tinctâ.*

Conch. Icon. pl. 1. f. 7.

Hab. Mouth of a river in Agoo, province of Pangasinan, island of Luzon, Philippines.

A very delicate species, with a fine smooth silken epidermis, short,

and but very faintly angulated on the posterior side. Interior rich purple.

7. Glauconome cerea. *Glauc. testâ oblongo-ovatâ, pallidè stramineâ, subtilissimè striatâ, lateribus rotundatis, postico subangulato-attenuato.*

Conch. Icon. pl. 1. f. 8.

Hab. Mouth of the Ganges.

A very delicate pale straw-coloured shell, with a smooth silken epidermis.

"Description of new species of Shells, by Mr. Hinds."

Six species of *Triton*, from the collection of Sir Edward Belcher, C.B.

Triton, Montfort.

1. Triton vestitus. *Tr. testâ ovatâ, solidâ, fuscâ; anfractibus rotundatis, transversim striatis, lineis longitudinalibus decussantibus præcipuè spiræ nodulosis, ultimo albo fasciato; aperturâ elongatè ovali; labro incrassato, intùs dentibus geminis albis, undiquè purpurascentibus; columellâ purpurascente vel nigrâ, plicis albis varicosâ; fauce albâ; epidermide valdè lamellosâ, pilis nigris numerosis indutâ.* Axis 27 lin.

Hab. Realejo, gulf of Nicoya, and bay of Honda, west coast of America.

2. Triton bracteatus. *Tr. testâ ovatâ, elongatâ, longitrorsum costatâ, transversim striatâ, maculis parvis nigris seriatim dispositis ornatâ; spirâ aperturam superante; aperturâ parvâ, albâ, denticulatâ; canali breviusculo.* Axis 8 lin.

Hab. Marquesas; New Ireland; Straits of Malacca: on the shores and in seventeen fathoms, mud.

3. Triton truncatus. *Tr. testâ solidâ, fulvâ, fusco nebulosâ, truncatâ, longitrorsum costatâ, striis decussantibus; costis rotundatis, confertis, anfractu ultimo pallidè fasciato; aperturâ albâ, denticulatâ; canali breviusculo.* Axis 6 lin.

Hab. New Ireland; among the coarse sand of the shore.

4. Triton antiquatus. *Tr. testâ elongatâ, turritâ, subcylindraceâ, lineis decussantibus textili, costis propè suturam evanidis; spirâ aperturam duplò vel triplò superante; apice eroso; aperturâ parvâ, subquadratâ, pallidâ; labio interno anticè valdè producto.* Axis 10 lin.

Hab. New Ireland; with the preceding.

5. Triton fictilis. *Tr. testâ ovatâ, solidulâ, cinereâ; anfractibus senis rotundatis, longitrorsum obliquè plico-costatis, transversim tenuiter striatis; spirâ aperturam vix superante; aperturâ callosâ, contractatâ, politâ, intùs lævigatâ.* Axis 7 lin.

Hab. Lagulhas Bank, Cape of Good Hope; in between fifty and sixty fathoms.

6. Triton anomalus. *Tr. testâ ovatâ, fuscâ, longitrorsum costatâ, lineis transversis elevatis cancellatâ; spirâ aperturam æquante; suturâ validâ; evaricosâ; aperturâ ovali, pallidâ; canali breviusculo.* Axis 7 lin.

Hab. Island of Quibo, Veragua; on the sandy shore at low water.

Solarium, Lamarck.

At the sale of the collection of shells of Mr. Imwood, several lots of *Solarium* came into my possession; and as it was a favourite group with this gentleman, he, as might naturally be supposed, had assembled together many very interesting specimens. The full suites of some of the species have enabled me better to draw a line of distinction between them, and has afforded grounds for regarding several of the following as perfectly distinct and hitherto undescribed species. In addition to the above, I have had before me the collections of Sir Edward Belcher and Mr. Cuming, both rich in novelty, but more particularly in the careful and accurate detail of localities and circumstances of habitation. The whole permits me to record fourteen new species in a genus which previously seemed to contain about fifteen recent and forty-nine fossil species.

1. Solarium formosum. *Sol. testâ orbiculato-conicâ, politâ, fasciatâ; anfractibus subtumidis, supernè sulco unico divisis, inferioribus lævigatis, spiræ plico-striatis, supernè fusco, albo, et atrofusco deinceps fasciatis, mediò subcorneis; ad basin planulatâ, aperturâ quadratâ; umbilico patulo, crenis rectis, subacutis, fuscatis; areâ umbilicali latâ, sublævigatâ.* Diam. 18, umbilic. $3\frac{1}{2}$ lin.

Chemnitz, vol. v. t. 172. f. 1693.

Hab. Amboina. Cab. Hinds.

This fine shell has hitherto, most probably, been considered only as a variety of the well-known species *S. perspectivum*; it is however sufficiently distinct. In shape it is considerably more elevated and conical, and it is ornamented with rich fasciations of brown and white. Near the upper part of each whorl a narrow sulcus separates a narrow portion. The base is flattened and polished; umbilicus moderately dilated, being less so than in *S. perspectivum*, and armed on the margin with a row of straight sharp crenules, on their right faces of a darker brown colour. The umbilical area, or the space between the spirally twisted row of crenules, is smooth, except for the arched striæ of growth.

2. Solarium placentale. *Sol. testâ discoideâ, pallidè fulvâ, lævigatâ; spirâ valdè depressâ; anfractibus planulatis, ordinatè spiraliter striatis; ad peripheriam obtusè unicarinatâ, subtùs striatâ; carinâ crenulatâ; ad basin subtumidâ; aperturâ triangulari; umbilico valdè patulo, crenis tuberculatis subdistantibus armato.*

Hab. Bay of Magdalena, California; in seven fathoms, sand.

Cab. Belcher.

3. Solarium perdix. *Sol. testâ conoideâ, tenui, lævigatâ, pallidâ; anfractibus subtumidis, supernè cingulo unico divisis, spiræ minutè*

plico-striatis; ad peripheriam angulatâ tricarinatâ, carinâ mediâ prominente, majore, creniferâ; cingulo et carinis maculis rufis subquadratis ornatis; umbilico patulo, crenulis parvis albis cincto. Alt. 6, diam. 14 lin.

Hab. Ceylon; north-west coast of Australia.

Cab. Cuming and Hinds.

Possesses the general contour of *S. perspectivum*, but is thinner; the whorls are slightly tumid, and furnished above with a flat smooth girdle, ornamented with somewhat distant rufous spots. The most prominent keel is characteristically covered with small tubercular crenulations. When placed on its base the apex is much inclined, and the general direction oblique. The umbilicus is somewhat less patulous than in *S. perspectivum*, and neatly encircled with numerous white and smaller crenations. The umbilical space is destitute of ribs, folds, or keels, bearing alone the marks of the striæ of growth and a thin horny epidermis.

4. Solarium quadriceps. *Sol. testâ orbiculato-discoideâ; anfractibus quadriseriatim cingulatis; cingulis tuberculis quadratis, planulatis, approximatis instructis, inferiore majore, et cum superiore rufo picto; ad basin tumidâ, areâ medianâ radiatim plicatâ; umbilico patulo, crenis magnis fuscis cincto; areâ umbilicali lævi.* Alt. 5, diam. 11 lin.

Hab. Bay of Panama; in five fathoms, among mud.

Cab. Belcher.

Very closely allied to *S. granulatum*, from which it will be found to differ in the character and relative proportion of the granular girdles. A single and perhaps rather small specimen was alone obtained, which is somewhat more discoid than the above species; four girdles traverse each whorl, of which the inferior is the largest, and the tubercles closely set, flattened, and obliquely square; the umbilicus is rather more expanded, and the marginal tubercles are of a similar size, but coloured of a reddish brown. *S. quadriceps* is an American shell, and *S. granulatum* an Asiatic.

5. Solarium asperum. *Sol. testâ discoideâ; spirâ retusâ; anfractibus supernè planulatis, infernè rotundatis, ubiquè cingulis parvis numerosis instructis; cingulis tuberculis parvis asperatis; umbilico valdè patulo; areâ angustâ, lævi.* Alt. $1\frac{1}{2}$, diam. $4\frac{1}{2}$ lin.

Hab. Straits of Macassar; in eleven fathoms, coarse sand.

Cab. Belcher.

A single dead specimen only was obtained, destitute of colour and choked with sand. It is remarkable from its rounded base and its very expanded umbilicus, which is proportionately larger than in any other species. In *S. perspectivum* the umbilicus is equal to a third of the diameter, but in the present species it is two-fifths.

6. Solarium dorsuosum. *Sol. testâ conoideâ, lævigatâ, solidâ, fuscâ, albo confusè nebulosâ; anfractibus planulatis, spiraliter seriatim sulcatis, spiræ leviter striatis; ad peripheriam sulcis geminis instructâ; basi sulcatâ, versùs centrum subtuberculatâ; umbilico*

patulo, crenis magnis cincto; areâ umbilicali unicostatâ; aperturâ subrotundatâ, internè bisulcatâ. Alt. 4, diam. $6\frac{1}{2}$ lin.

Hab. Puerto Galero, island of Mindoro, Philippines; in seven fathoms, sandy mud.

Cab. Cuming.

7. Solarium dealbatum. *Sol. testâ conico-trochiformi, albâ; anfractibus planulatis, quadriseriatim granulato-costatis; cingulo ultimo paulò majore, prominulo; umbilico coarctato, crenis parvis instructo; areâ umbilicali multicostatâ; aperturâ rotundatâ.* Alt. 7, diam. 6 lin.

Hab. Manila. Cab. Hinds.

This species may be readily distinguished from *S. variegatum* by its uniform colour and by the several ribs which cross the umbilical space, all of which are of equal size; from *S. cylindraceum* by its decided conical shape, and the characters detailed above observable in the inferior girdle.

It is unquestionable that a sound division of the genus may be effected, by taking *S. variegatum* as the type of a new group; and this opinion rests on the conformation of the foot of the animal, decidedly sessile eyes, and very peculiar operculum of this species. But in trying to effect this I have met with the following genera, all of which have been advanced for sections of the genus as left by Lamarck:—*Omalaxis*, Deshayes; *Bifrontia*, Deshayes; *Helicites*, Schlotheim; *Cirrus*, Sowerby; *Euomphalus*, Sowerby; *Schizostoma*, Bronn; *Solariella*, Searles Wood; *Torinia*, Gray; and not having before me the materials for deciding their respective merits, and being averse to treating the difficulty as a gordian knot by the erection of another genus, I am compelled to leave the subject as I found it.

8. Solarium fragile. *Sol. testâ orbiculato-discoideâ; anfractibus quadriseriatim tuberculato-cingulatis; cingulo supremo et ultimo fusco pictis, medianis margaritaceis; ad peripheriam angulatâ, crenulatâ; basi tumido; umbilico patulo, crenis parvis albis acutis cincto; areâ umbilicali lævi; aperturâ triangulari.* Alt. 1, diam. 3 lin.

Hab. North coast of New Guinea; in seven fathoms, sand.

Cab. Belcher.

9. Solarium fulvum. *Sol. testâ orbiculato-discoideâ, solidulâ, fulvâ; spirâ retusâ, anfractibus multiseriatim granuloso-cingulatis, medianis minoribus; ad peripheriam obtusâ, carinis duabus, tertiâ minore intermediâ; basi rotundatâ, seriatim granulatâ; umbilico mediocri, crenis concoloribus cincto; areâ umbilicali leviter unicostatâ; aperturâ subquadratâ.* Alt. $1\frac{1}{2}$, diam. $3\frac{1}{2}$ lin.

Hab. New Guinea. Cab. Belcher and Hinds.

10. Solarium virgatum. *Sol. testâ orbiculato-discoideâ, spirâ retusâ; anfractibus quadriseriatim granulatis, cingulo supremo et ultimo rufis, medianis albis; ad peripheriam obtusis, duabus carinis crenulatis; basi rotundatâ, seriatim granulatâ; umbilico mediocri,*

crenis albis cincto, extùs cingulo rufo tuberculato; aperturâ angulatâ. Alt. 1, diam. 2 lin.

Hab. New Guinea. Cab. Belcher.

11. Solarium fenestratum. *Sol. testâ orbiculato-discoideâ, spirâ retusâ; anfractibus multiseriatim granulatis, longitrorsum striatis; suturâ canaliculatâ; ad peripheriam rotundatâ, carinis tribus subæqualibus; basi rotundatâ, seriatim granulatâ; umbilico subpatulo, crenis parvis numerosis cincto; areâ umbilicali carinis duabus parvis; aperturâ rotundatâ.* Alt. $1\frac{2}{3}$, diam. $3\frac{1}{2}$ lin.

Hab. New Guinea. Cab. Belcher.

As the only specimen obtained was without the animal, deprived of colour, and had evidently been some time lying in the mud, the cancellation is perhaps considerably more distinct than in the recent state. It is one of those which approach very closely to the unarmed species of *Delphinula*.

12. Solarium cælatum. *Sol. testâ parvâ, valdè discoideâ, nitidâ, fuscâ; spirâ nullâ; anfractibus propè suturam uniseriatim tuberculatis, mediò eleganter radiatim plico-striatis; ad peripheriam carinis duabus obtusis tuberculatis; ad basin rotundatâ; aperturâ subrotundâ; umbilico valdè patulo, crenis parvis numerosis armato.* Diam. 2, umbilic. 1 lin.

Hab. Straits of Macassar; in ten fathoms, among coarse sand. Cab. Belcher.

13. Solarium trochleare. *Sol. testâ orbiculato-conoideâ, depressiusculâ; anfractibus subtumidis, spiræ longitudinaliter plicatis, ultimo lævigato, supernè sulco unico divisis, areâ supremâ atro-fusco fasciatâ, infrà maculis quadratis atro-fuscis cinctâ; ad peripheriam carinatâ, maculis albis et atro-fuscis articulatè ornatâ; ad basin paulisper tumidâ; umbilico magno, patulo; crenis subacutis fuscis.* Diam. 29, umbilic. 8 lin.

Hab. Indian Seas. Cab. Cuming and Hinds.

In general appearance it very closely resembles *S. perspectivum*, with which it has no doubt been long associated. In comparing the adult shells of both species, this will be found somewhat smaller, thinner, and more depressed; the whorls are somewhat more tumid, those of the spire obliquely longitudinally folded, but the last and penultimate are smooth, or very nearly so; above they are divided by a single groove, between which and the suture is a continuous dark band, beneath a series of square approximating spots, which towards the spire usually become continuous; the base is also somewhat tumid; the umbilicus is large, expanded, and perspective, and surrounded by chestnut-brown angular crenations; and the aperture is rhomboidal. It is no doubt an Indian species, but the locality is not known.

14. Solarium purpuratum. *Sol. testâ conico-orbiculatâ; anfractibus subtumidis, spiræ longitudinaliter obliquè plicatis, supernè sulcis duabus cinctis, maculis rufo-fuscis subgeminis ornatis, areâ*

medianâ pallidè cinereâ; ad peripheriam carinatâ articulatè maculatâ; ad basin strigis rufo-fuscis radiatim dispositis; umbilico subpatulo, crenis parvis albidis. Diam. 15, umbilic. 4 lin.

Hab. ——? Cab. Hinds.

The base is distinctively ornamented with reddish-brown rays, and the square spots on the whorls are somewhat twin in their distribution, since they occupy corresponding situations in the two upper narrow areas.

CORBULA, Bruguières.

1. CORBULA CRISPA. *Corb. testâ ovatâ, solidâ, albidâ, anticè rotundatâ, posticè truncatâ, ab umbonibus obtusè carinatâ; valvis rotundatis, dextrâ eburneâ sulcatâ, sinistrâ ferè lævigatâ; umbonibus politis, eburneis.* Long. $4\frac{2}{3}$; lat. $2\frac{1}{2}$; alt. 3 lin.

Hab. Island of Burias, Philippines. Cab. Cuming.

2. CORBULA ADUSTA. *Corb. testâ suboblique trigonâ, lævigatâ, fuscâ, subtumidâ, anticè rotundatâ, posticè subacuminatâ, ab umbonibus angulatâ; valvarum marginibus ventralibus acutis, productis; umbonibus erosis.* Long. 6; lat. $2\frac{2}{3}$; alt. 5 lin.

Hab. New Zealand. Cab. Cuming.

3. CORBULA PROCERA. *Corb. testâ ovatâ, lævigatâ, fuscâ, anticè rotundatâ, posticè elongatâ, subnasutâ; valvarum marginibus ventralibus acutis, productis; umbonibus erosis.* Long. 7; lat. 3; alt. 5 lin.

Hab. ——? Cab. Cuming.

These two species closely resemble each other, and both are probably estuary shells.

4. CORBULA CARNOSA. *Corb. testâ ovatâ, solidâ, subæquilaterali, pallidâ, carnoso-roseo radiatâ; valvis ambabus sulcatis, marginibus ventralibus inclausis; anticè rotundatâ, posticè subnasutè breviter attenuatâ; umbonibus lævigatis, ad angulos albidis.* Long. $4\frac{1}{2}$; lat. 2; alt. 3 lin.

Hab. ——? Cab. Cuming.

2nd

"Continuation of Mr. G. B. Sowerby's description of *Scalaria*."

SCALARIA AURITA, Thes. Conch. part 4. pl. 33. f. 62. *Scal. testâ elongatâ, lævi, umbilicatâ; anfractibus rotundatis, contiguis; varicibus lævibus, decumbentibus, subnumerosis, propè suturam subarcuatis, nonnullis crassis, pluribus tenuibus; aperturâ magnâ, auriformi; colore inter varices fulvo, fasciis tribus fuscis.*

In general form resembling *Sc. lineata* of Say, but wanting the keel on the lower whorl, and having a large open umbilicus. In Mr. Cuming's collection; from the coast of Coromandel.

SCALARIA IMMACULATA, Thes. Conch. part 4. pl. 33. f. 58. *Scal. testâ pyramidali, acuminatâ, transversè minutissimè striatâ; anfractibus numerosis, rotundatis, suturâ distinctâ; varicibus simplicibus, plerumque tenuissimis, nonnullis crassiusculis; aperturâ ovali, pos-*

ticè acuminatâ, labio interno anticè subincrassato; umbilico mediocri; colore albo.

Very much like *Sc. vestalis* of Hinds, lately described in the 'Zoological Proceedings,' but more elongated, with a larger umbilicus and with the varices near the suture simple, whereas in *Sc. vestalis* they are acuminated.

Collected by Mr. Cuming in sandy mud at eight or ten fathoms, at Catanauan, province of Tayabas, isle of Luzon.

Scalaria Catanauensis, Thes. Conch. part 4. pl. 34. f. 93 & 94. *Scal. testâ pyramidali, acuminatâ, minutissimè striatâ; anfractibus rotundatis, rapidè crescentibus, varicibus plerumque obsoletis, nonnullis rariùs crassis; aperturâ ovali, subauriformi; umbilico parvo; colore validè griseo, in medio anfractuum fasciâ fuscâ, latâ, obscurâ.*

It is much shorter than *Sc. Martinii*, with the thickened costæ still more rare; the aperture is less oval and less auriform. There is a broad band of pale brown in the centre of the whorls.

Brought from Catanauan, isle of Luzon, Philippines, by Mr. Cuming, and found in sandy mud at a depth of eight or ten fathoms.

Scalaria similis, Thes. Conch. part 4. pl. 34. f. 90. *Scal. testâ subovali, spiraliter minutissimè striatâ; anfractibus paucis, varicibus tenuissimis, plerumque numerosis, nonnullis crassiusculis; aperturâ ovali, posticè subangulatâ, labio interno vix incrassato et expanso; umbilico parvo; colore pallidissimè fulvo.*

The whorls are much less prominent, the minute varices more numerous, and the umbilicus considerably smaller than in *Sc. Catanauensis.*

Collected by Mr. Cuming in Puerto Galero, isle of Mindoro, in sandy mud at four or five fathoms.

Scalaria bullata, Thes. Conch. part 4. pl. 34. f. 87. *Scal. testâ ventricosissimâ, brevi, lævi, anfractibus paucis, rapidè crescentibus, varicibus subnumerosis, irregularibus, decumbentibus, plerumque tenuissimis, nonnullis crassioribus, ad suturam paululùm elevatis et reflexis; aperturâ magnâ; umbilico parvo; colore albo.*

We have only one specimen of this extremely ventricose shell, in a very imperfect state, from the island of Capul, Philippines, taken on the coral reefs by Mr. Cuming.

Scalaria friabilis, Thes. Conch. part 4. pl. 33. f. 74. *Scal. testâ pyramidali, acuminatâ, tenui, imperforatâ; varicibus tenuissimis, valdè numerosis, laminatis, extantibus, propè suturam acutè angulatis; aperturâ magnâ, labio interno subincrassato; colore albo.*

A thin pyramidal species, with extremely numerous thin laminar varices, which project in an acute angle close to the suture.

In Mr. Cuming's collection; brought from Swan River by Lieut. Collie, R.N.

Scalaria indistincta, Thes. Conch. part 4. pl. 35. f. 141. *Scal. testâ elongatâ, imperforatâ, minutè spiraliter striatâ; anfractibus*

numerosis, gradatim crescentibus, suturâ distinctâ; varicibus numerosis, inæqualibus, rotundatis, decumbentibus, simplicibus; aperturâ parvâ, labio interno anticè subincrassato; colore albo.

In Mr. Cuming's collection; brought from St. Blas, Gulf of California, by the Hon. Mr. Harris.

Scalaria subtilis, Thes. Conch. part 4. pl. 35. f. 137. *Scal. testâ elongatâ, angustatâ, spiraliter minutè striatâ; anfractibus numerosis, gradatim crescentibus, propè suturam elevatis; varicibus numerosissimis, laminatis, crenulatis, supernè angulatis; aperturâ parvâ; colore inter varices obscurè fusco.*

A small elongated turreted shell, to the beauty of which neither the description nor the figure can do justice: the varices are numerous, laminated, and regularly crenulated.

Collected by Mr. Cuming at the isle of Camiguing, in coarse sand at thirty fathoms; and at the isle of Corregidor, in sandy mud at thirty fathoms.

Scalaria concinna, Thes. Conch. part 4. pl. 33. p. 63. *Scal. testâ subovali, lævi, imperforatâ, obtusâ; anfractibus subprominentibus; varicibus numerosis, regularibus, obliquè in spiram continuis, subrotundatis; aperturâ ovali, labio interno tenui; colore pallidissimè fulvo.*

The whorls in this species are more prominent, the ribs more numerous, and the inner edge of the aperture thinner than in *Sc. multicostata.*

Found by Mr. Cuming in sandy mud at sixty fathoms, at Loay, isle of Bohol, Philippines.

Scalaria multicostata, Thes. Conch. part 4. pl. 34. f. 96. *Scal. testâ subovali, lævi, imperforatâ, obtusâ; varicibus subnumerosis, regularibus, obliquè in spiram continuis, subrotundatis; aperturâ ovali; labio interno anticè expanso et incrassato; colore pallidissimè fulvo.*

Rather oval and obtuse, with numerous regular, prominent, rounded varices; the anterior part of the inner lip is thickened and spread over the columella.

Brought by Mr. Cuming from Corregidor, Philippines.

Scalaria connexa, Thes. Conch. part 4. pl. 34. f. 98. *Scal. testâ ovali, subelongatâ, lævi, imperforatâ; suturâ profundâ; varicibus numerosis, laminatis, prominentibus, in spiram obliquè continuis; aperturâ ovali; colore inter varices obscurè fulvo.*

The numerous varices of this small species are laminar, prominent, and continued from whorl to whorl on the spire, as in the *Sc. Clathrus* of Linnæus, from which it differs essentially in not having the spiral rib at the lower part of the last whorl.

Brought from Sual, province of Pangasinan, isle of Luzon, by Mr. Cuming; found in sandy mud at seven fathoms.

Scalaria pulcherrima, Thes. Conch. part 4. pl. 34. f. 92. *Scal. testâ pyramidali, subventricosâ, spiraliter minutè striatâ, imper-*

foratâ; anfractibus rotundatis, suturâ profundâ; varicibus subnumerosis, laminatis, extantibus, prominentibus, supernè in angulum acutum productis; aperturâ ovali, posticè acutangulatâ, anticè subquadratâ, labio interno subexpanso; colore inter varices fusco-purpurascente.

Pyramidal, acute, rather ventricose, spirally striated, with a deep suture and with rather broad laminar varices, which are expanded into an acute angle near the suture.

Found by Mr. Cuming in black sand at a depth of four fathoms, at Dumaguete, isle of Negros.

Scalaria ovalis, Thes. Conch. part 4. pl. 34. f. 104. *Scal. testâ subovali, lævi; anfractibus paucis, ultimâ magnâ; varicibus novem, crassis, rotundatis; aperturâ ovali, margine incrassato, labio interno incrassato, expanso; colore inter varices pallidè cæruleo.*

The whorls of this very small shell are few in number, the last disproportionately large, with about nine very thick rounded varices; the aperture is oval, with a very thick edge, and the inner lip expanded.

Collected by Mr. Cuming in sandy mud at twenty to thirty fathoms, at Cagayan, province of Misamis, island of Mindinao.

Scalaria hexagona, Thes. Conch. part 4. pl. 33. f. 67. *Scal. testâ brevi, lævi, imperforatâ; anfractibus contiguis, varicibus sex, crassis, prominentibus, ad apicem obliquè continuis; aperturâ rotundatâ; colore albo.*

A short, imperforate, white species, with whorls closely united and strong varices, forming about six oblique continuous lines along the spire.

In the cabinet of Mr. Cuming: brought by Col. Moffat from Acapulco; found in the sands.

Scalaria Elenensis, Thes. Conch. part 4. pl. 34. f. 102. *Scal. testâ pyramidali, lævi, imperforatâ; anfractibus contiguis; varicibus sex; ad suturam subplicatis, irregulariter continuis; aperturâ ovali; colore albo.*

Resembling *Sc. unifasciata*, but without any band, and having the varices straighter and not so regularly continuous.

Collected by Mr. Cuming at Punta St. Elena, West Columbia; in sandy mud at six fathoms.

Scalaria obtusa, Thes. Conch. part 4. pl. 33. f. 54. *Scal. testâ ventricosâ, pyramidali, imperforatâ, lævi; anfractibus contiguis; varicibus numerosis, crassis, rotundatis, continuis, supernè subangulatis; aperturâ rotundatâ, anticè subemarginatâ; labio interno spiraliter recurvo; colore albo.*

Rather short and thick, white, with numerous varices, which continue on the spire from whorl to whorl, and are slightly angular above; the inner lip of the aperture is spirally twisted, and forms an undulated notch at its juncture with the outer lip.

Collected by Mr. Cuming at Punta St. Elena, West Columbia; in sandy mud at six fathoms.

Scalaria Mindorensis, Thes. Conch. part 4. pl. 34. f. 91. *Scal. testâ pyramidali, lævi, imperforatâ, tenui; anfractibus vix separatis; varicibus numerosis, simplicibus, ad suturam subirregulariter junctis; colore albo.*

A small, white, thin shell, slightly resembling *Sc. obliqua*, but less oblique, and with more numerous and prominent varices; the whorls are contingent.

Found by Mr. Cuming on the sands at Puerto Galero, island of Mindoro.

Scalaria polita, Thes. Conch. part 4. pl. 34. f. 99. *Scal. testâ tenui, elongatâ, lævi, imperforatâ; anfractibus numerosis, vix prominentibus; varicibus subnumerosis, tenuibus, in medio anfractuum obsoletis; colore pallidè griseo.*

The whorls are numerous and not very prominent; the varices appear as if worn away in the middle of the whorls.

Collected by Mr. Cuming at Xipixapi, West Columbia; in sandy mud at ten fathoms.

Scalaria statuminata, Thes. Conch. part 4. pl. 35. f. 127. *Scal. testâ parvâ, crassâ, brevi, lævigatâ, imperforatâ; anfractibus contiguis, vix prominentibus, anticè lineâ elevatâ cinctis; varicibus quinque, prominentibus, ad apicem continuis; anticè crassis, posticè in angulum elevatum expansis; aperturâ subrotundâ, labio externo anticè tenui; colore inter varices cæruleo.*

A small, short, thick species, with very prominent ribs, which are elevated and expanded into a broad angle at the upper part of the whorls and very thick at the lower; they are united with each other so as to form five oblique prominent ridges up the spire.

Collected by Mr. Cuming at Payti, Peru; in black sand at seven fathoms.

Scalaria bicarinata, Thes. Conch. part 4. pl. 35. f. 113, 114. *Scal. testâ subcylindricâ, elongatâ, imperforatâ, minutè cancellatâ; anfractibus sex, latis, ad laterâ planis, ad suturam crenulatis, ultimo carinis binis in medio cincto; aperturâ ovali, margine crasso, minutè crenulato; colore ferè albo.*

A very curious little shell, with crenulated suture and two prominent keels in the centre of the last whorl; the edge of the aperture is much thickened.

Found by Mr. Cuming in coarse black sand at seven fathoms, at Dumaguete, isle of Negros.

Scalaria fusca, Thes. Conch. part 4. pl. 35. f. 138. *Scal. testâ elongatâ, imperforatâ, spiraliter minutissimè striatâ; anfractibus 12, subprominentibus, ultimo carinâ lineari anticè cinctâ; varicibus tenuissimis, obliquis, ad suturam flexuosis; aperturâ subovali, margine tenui; colore obscurè fulvo, flammulis fuscis obliquis inter varices seriatim picto.*

An elongated species, with a very narrow but distinct keel on the lower part of the last whorl: the varices are very thin, and bent in near the suture. The shell is finely striated and prettily marked

with flame-like patches of dark colour between the varices. There are two specimens in Mr. Cuming's collection, which were found on sand at Sierra Leone.

Scalaria acuminata, Thes. Conch. part 4. pl. 35. f. 130. *Scal. testâ elongatâ, imperforatâ, acuminatâ; anfractibus* 15, *vix prominentibus, anticè carinâ tenui cinctis; varicibus creberrimis, numerosis, tenuibus, curvilineatis; aperturâ ovali, margine tenui, labio interno tortuoso; colore pallidè fulvo, fasciis duabus, unâ prope suturam pallidâ, unâ in medio anfractuum latâ, distinctâ.*

Elongated, keeled, with numerous whorls, and very numerous close-set curvilinear varices.

Found by Mr. Cuming in sandy mud at seven fathoms at Malacca.

Mr. Gould laid before the Meeting specimens of three new species of Mammalia, which he described as

Halmaturus Houtmannii. *Hal.* Mas *facie canescenti-cinereâ, fronte rufescente, spatio inter aures auribusque externè nigrescenti-cinereis; lineâ nuchali nigrescenti-fuscâ; dorso saturatè fusco griseo irrorato, colli corporisque lateribus, artubus anticis et posticis rufis, gutture et pectore fulvescenti-albis, abdomine cinereo; caudâ canescente, supernè et ad apicem nigrescente.*

Fœmina *mari assimilis, coloribus pallidioribus. Juniores nigrescenti-cinerei, colore apud dorsum saturatiore.*

Adult Male.—Face dark grizled grey, stained with rufous on the forehead; external surface of the ear and the space between the ears dark blackish grey; sides of the neck, shoulders, fore-arms, flanks and hind-legs rufous, which colour is palest on the flanks; a line of obscure blackish brown passes down the back of the neck, and spreads into the dark grizled brown of the back; throat and chest buffy white; under surface of body grey; tail grizled grey, deepening into black on the upper side and the extremity; the fur is somewhat short, coarse and adpressed; the base bluish grey, succeeded by rufous, then white, and the extreme tip black. Weight 12½ lbs.

Adult Female.—Is similar in colour to the male, but of a more uniform tint, in consequence of the rufous colouring of the shoulders and flanks being paler, and the grizled appearance of the back not so bright. Weight 8 lbs.

The young is dark grizled grey, approaching to black, particularly along the back. Weight 5 lbs.

	Adult Male.		Female.	
	Ft.	In.	Ft.	In.
Length from the nose to the tip of the tail ..	3	6	3	4
——— of tail	1	2¼	1	2
——— of tarsus and toes, including the nail ..	0	5¾	0	5⅜
——— of arm and hand, including the nails ..	0	6	0	4
——— of face from the tip of the nose to the base of the ear	0	4¼	0	4
——— of ear	0	2¼	0	2⅛

HALMATURUS DAMA. *Hal. vellere fusco, canescente, rubescente ad nucham, ad dorsum imum, et per artus anticos; facie cinereâ rufo lavatâ; fronte spatio inter aures, auribusque externè nigrescenti-cinereis; artubus posticis pallidè fuscis; caudâ canescente, corpore inferiore pallidè cinereo.*

General colour of the fur grizled brown, becoming of a reddish tint on the back of the neck, arms and rump; face grey, washed with rufous on the forehead; outside of the ears and the space between blackish grey; hinder legs light brown; tail grizled grey; under surface of the body pale grey.

	Ft.	In.
Length from the nose to the extremity of the tail....	2	11
——— of tail	1	$2\frac{1}{2}$
——— of tarsus and toes, including the nail	0	$5\frac{3}{4}$
——— of arm and hand, including the nails	0	$4\frac{1}{4}$
——— of face from the tip of the nose to base of ear .	0	4
——— of ear	0	$2\frac{1}{2}$

This animal is closely allied to and is nearly the same size as *H. Thetidis*, but has much larger ears, and the fur much more dense and lengthened; the base of the fur is bluish grey, to which succeeds reddish brown, then silvery white, the extreme tips being black.

The above is the description of a female; the male will doubtless prove to be of larger size.

It is very numerous on the islands of the Houtmann's Abrolhos, and also inhabits Western Australia, where it is called 'Dama' by the aborigines.

LAGORCHESTES HIRSUTUS. *Lag. arenaceo-fulvus, dorso griseo irrorato; spatio circumoculari conspicuè rubescenti-fulvo; auribus mediocribus, externè cinereo-fuscis, intùs pilis albidis obsitis, pedibus flavescenti-fulvis.*

General colour of the fur, particularly on the hind quarters and under surface, rich sandy buff; that of the head and back having a grizled appearance, occasioned by each hair having a mark of greyish white near the tip; the fur, which is exceedingly soft, is blackish brown at the base, then rufous, the whole beset with numerous hairs, which gradually increase in length towards the lower part of the body, where they exceed the general length of the fur by nearly two inches, and being of a rich rufous tint, give the animal a very conspicuous appearance; broad space round the eye reddish buff; ears moderately large, greyish brown externally, and clothed with whitish hairs within; feet nearly uniform yellowish buff.

	Ft.	In.
Length from tip of nose to tip of tail	2	$3\frac{1}{2}$
——— of tail	0	$10\frac{1}{2}$
——— of tarsus and toes, including nail	0	$5\frac{1}{4}$
——— of arm and hand, including nails	0	$2\frac{3}{4}$
——— of face from tip of nose to base of ear	0	$3\frac{3}{8}$
——— of ear	0	$1\frac{3}{4}$

The above is the description of a male, from the York district of Western Australia, where it is called by the aborigines 'Woo-rup.'

It is a very beautiful and well-marked species, distinguished from every other member of its genus by the long reddish hairs of the rump. The extreme tip of the tail is white, but whether this character is constant or not is at present unknown.

At the request of the Chairman, Mr. Gould read the following extracts from a letter he had received from Mr. Gilbert, describing the habits, &c. of some Mammalia and Aves of Western Australia:—

"With respect to the Kangaroos, I have heard of the little silver-haired Lagorchestes (*Lagorchestes albipilis*), and have tried hard to procure a specimen; it is a species well known to the natives of Moore's river, by whom it is called 'Nar-nine,' and is only to be found in densely thick scrub on flats, and on the edges of swamps where the small brush Melaleuca grows so thickly that it is almost impossible for a man to force his way through; its runs being under this, the animal escapes even the quick eye of a native. The only possible means of obtaining it is by having a number of natives to clear the spot, and two or three with guns and dogs to watch for it.

"This beautiful little animal makes no nest, but squats precisely like a hare, as I have been assured by Mr. Johnson Drummond. Of the other species with white behind the ears I can learn very little: are you satisfied it is not a variety? I have seen many with white spots about different parts of the head, which is said by all the hunters to be a common occurrence; the only character which appears to me to approach a specific difference is the redness of colouring, which has been often observed by hunters; the woolly nature of the fur is only the winter covering common to all of them.

"The grey kangaroo, *Macropus Ocydromus*, Gould, of which I have a very interesting series, has very thin hair in summer, while in winter the coat is thick and woolly.

"The male is called *Yoon-gur* and the female *Work* by the aborigines. This large kangaroo is tolerably abundant over the whole colony of Western Australia, from King George's Sound, south, to forty miles north of Moore's river, the farthest point I have reached; it does not appear to confine itself to any peculiar description of country, being as often seen in the gum-forests, among hills, as on the open plains and clear grassy hillocks; it is however more numerous in the open parts of the country, where it is not so liable to surprise. In travelling from Guilford to York, from two to four or five may occasionally be met with; but farther in the interior, particularly at Gwangum plains, herds of thirty to fifty may often be met with: further south, beyond Kojenup, they are still more numerous; in fact, I have never seen in any part of Australia so large a herd as the one I met with on the Gordon plains in 1840; at the most moderate calculation there could not have been less than five hundred kangaroos; several of the party, in their astonishment, considered there were even a greater number than I have stated.

"The large full-grown male is termed a Buck or Boomer, and attains a great size, when he becomes a most formidable opponent to the best dogs in the country, few of which will ever run a large

Boomer; this may in some degree account for the few instances of very large ones being killed. It is not by their greater speed that they are enabled to escape; on the contrary, their great weight in some measure incapacitates them for running fast, or to any great distance, so that almost any dog may overtake them; instead, therefore, of running away, the Boomer invariably turns round and faces his pursuers, erecting himself to his full height, if possible with his back against a tree, and thus awaits the rush of the dogs, endeavouring to strike them with his powerful hind-toe, or catching them in his fore-arms, and while thus holding them, inflicting dreadful and often fatal wounds with his foot. Old dogs well broken in, and accustomed to hunting the Boomer, will keep him at bay by their barking till the hunter comes up, who is generally furnished with a short heavy stick, and with a blow or two on the head brings the animal down. Even the hunter often runs a hazard, for a Boomer will frequently, on the approach of man, leave the dogs and attack his new opponent most fiercely; and at times it is no easy matter to avoid being severely cut in attempting to kill it. When closely pursued it takes to the water, and as the dogs approach, catches them in its arms and holds them under him till drowned. If the water be too shallow for drowning them, it has been known to catch one dog and place it beneath its feet, while courageously waiting the approach of a second. The swiftest runner is the female of the first year before having young, and of the second year with her first young; at this age her speed is so great that she is termed the 'Flying Doe': if she obtains anything like a fair start, she will give the fleetest dogs a long and severe run, and will frequently succeed in outstripping them; upon finding herself too closely pressed she attempts to evade the dogs by making a sudden leap, almost at a right angle with her course, and the dogs, not unfrequently when very close to her, and at full speed, bound past her to such a distance, that by the time they regain the track the kangaroo has gained so much ground as to get fairly away; but this stratagem often accelerates her death, for in turning off so suddenly the whole weight is thrown upon one limb; the leg is consequently broken, the animal falls, and the next moment becomes an easy prey. Even large bucks are sometimes taken in this way: in their flight and anxiety to escape the dogs, they often run against a stump or a tree with such violence as to be killed on the spot.

"It would scarcely be supposed, from seeing this animal in confinement, where it appears so quiet and harmless, that it can be excited to rage and ferocity; yet such is the case in a state of nature. Upon finding itself without a chance of escape, it summons up all its energies for a last struggle, and would often come off victor if it had dogs alone to contend with: the moment it sees the approach of man, it appears to know instinctively that he is its most formidable opponent; its lips are then curved and contracted; its eyes sparkle with rage, and seem ready to start from their sockets; its ears are in rapid and constant motion, and it utters its peculiar though not loud voice—a sort of smothered grunt, half hiss or hard

breathing; its attention is totally withdrawn from the dogs to its new enemy; regardless of their rush, it loses its former advantage; and the dogs having once fairly got hold, the animal is easily brought down.

"If a female with a tolerably large young one in the pouch be pursued, she will often, by a sudden jerk, throw the little creature out: whether this is done for her own protection, or for the purpose of misleading the dogs, has been debated by hunters; I am inclined to think the former is the case, for I have observed that the dogs pass on without noticing the young one, which in general crouches in a tuft of grass, or hides itself among the scrub without attempting to run or make its escape: the mother, if she eludes her pursuers, doubtless returns for her offspring.

"The kangaroos inhabiting the forests are invariably much darker and have a thicker coat than those of the plains; the young are at first of a very light fawn-colour, and get darker until two years old; from this age they again become lighter in colour, and the old males become of a very light grey; the coat, as already mentioned, being in the summer thin and hairy, and in the winter of a more woolly character. It is no unusual occurrence to find them with white marks on the head, particularly a white spot between the eyes or on the forehead; in one instance I observed the whole of the throat, cheeks, and upper part of the head spotted with yellowish white. Albinoes have been frequently met with. The largest and heaviest kangaroo of this species, of which I have any authentic account, was killed at the Murray, and weighed 160 lbs.*"

"*Halmaturus manicatus*:—Brush and Blue Kangaroo of colonists; *Goorh-a*, aborigines of Perth; *Quarra*, aborigines of the interior.

"This is by far the swiftest and most difficult kangaroo to procure with dogs, not only from its fleetness, but also from the zigzag manner of its successive leaps and the thick brush which it inhabits; it is very rarely seen in the open country, dwelling in scrubby districts, and the facility with which it bounds off and rounds the clumps of bushes, enables it to make its escape with comparative ease: during the heat of the day it may be seen under the shade of a tree or thick clump of bushes, and may be often approached within a few yards before it bounds from its cover, thus affording a tolerably easy shot. Weight from 17 to 21 lbs."

"*Anous stolidus*.—The Noddy and its allied species are the most numerous of all the inhabitants of the Houtmann's Abrolhos, breeding in prodigious numbers; the bird lays in November and December, forming a nest of sea-weed about six inches in diameter, and varying in height from four to eight inches, but without anything like regularity of form; the top is nearly flat, there being but a very slight hollow to prevent the egg rolling off; for, like others of the *Sternidæ*, they never lay but a single egg. The nests are so completely plastered with their excrement, that at first sight it appears to be almost the only material; they are either placed on the ground, in a clear open

* The head, feet and fore-arms were exhibited.

space, or on the tops of the thick scrub, over the *Sterna fuliginosa*: these two species incubate together in the utmost harmony, the bushes to an immense extent wearing a mottled appearance, from the great mass of birds of both species perched on the top; the male *Sterna fuliginosa* sitting quite close to the nest of the Noddy, while its mate is beneath, performing her arduous duties of incubation. On walking among these birds' nests, I was surprised to observe the extreme tenacity with which they kept their post; in fact they would not remove off the egg or young, but suffered themselves to be fairly trod upon, or taken off by the hand; and so thickly were these nests placed, that it was no easy matter to avoid crushing either birds or eggs at every step. In the middle of January I found the eggs very nearly ready to hatch, and but few young birds; in numerous instances the bird would suffer me to take it by the wing and throw it off the nest, but would immediately return, although I was still standing close to the spot. There would be an overwhelming increase of this species yearly but for one check which nature has provided against it in the presence of a lizard, which is extremely abundant about their breeding-places, and which finds an easy prey in this and *S. fuliginosa.* I am satisfied, from constant observation, that on an average, not more than one out of every twenty birds hatched ever reach maturity, or live long enough to take wing; besides this, great numbers of the old birds are constantly killed: these lizards do not eat the whole bird, but merely extract the brains and vertebral marrow; the remainder however is soon cleared off by the *Dermestes lardarius*, which is here in amazing numbers, and gave me a great deal of uneasiness and constant trouble to preserve my collection from their repeated attacks. I did not observe the Noddy inhabiting any other but South Island; they do not appear to go far out to sea to feed, finding an abundance of food immediately outside the outer reef; nor did I in any one instance observe it feeding in the smooth quiet water between the outer reef and the islands. Their food consists of small fish, small mollusca, medusæ, cuttle-fish, &c. Irides brown, bill and legs blackish grey; flight somewhat heavy and very irregular."

"*Anous* —— ? (Lesser Noddy).—This, although an allied species to the Noddy, is totally different in its habits of incubation, and is even much more numerous than the former; it builds a nest of sea-weed on the branches of the mangrove, from four to ten feet above the ground; like the Noddy, however, it is truly gregarious, arranging their nests as closely as possible; the sea-weed is merely thrown across the branch without any regard to form, till they have a heap varying from two to four inches in height, the long pieces of sea-weed in many instances hanging beneath the branch, which makes it appear a much larger structure: their nests and the branches of the trees are completely white from their excrement, throwing out a most disagreeable and sickly odour, which is perceptible at a considerable distance. Although there are large groves of mangroves on other islands, this bird only inhabits those of South Island. I have seen many vast flocks of birds, but I must con-

fess I was not at all prepared for the surprise I experienced in witnessing the amazing clouds (literally speaking) which these birds present when congregating in the evening; while they had their young to feed, their departure and return with food during the day in one direction had a most singular appearance. From their breeding-place, across the smooth water to seaward, beyond the outer reef, is a distance of about four miles, and this entire distance, in their one and regular track, wore the appearance of one continuous dark line, from their prodigious numbers: after the young were enabled to accompany the parent birds, I observed they all left the breeding or roosting-place in the morning and did not again return till evening, apparently the first comers waiting the arrival of the last before finally roosting for the night; it is when thus assembling that the amazing number is seen to perfection: even Audubon, who has been so accustomed to see such vast flocks of the passenger pigeon, could hardly avoid expressing surprise if he had an opportunity of seeing these birds at sunset, moving in one immense mass over and around their roosting-place; while the noise of the old birds' quack and the piping whistle of the young ones is almost deafening. This bird, like its congener, lays but a single egg; it commences incubating in December, and appears to be the exclusive inhabitant of the mangroves; and while sitting on its egg or tending its young is as easily caught as the Noddy, suffering itself to be taken off its nest rather than leave it. As an article of food it was the favourite, several hundreds being killed almost daily during our stay on the island. From the circumstance of this bird inhabiting the upper branches may be attributed its numbers being greater than any other of the numerous birds which inhabit the islands, the lizards being unable to climb the branches with the facility necessary for capturing their prey, and it thus escapes their repeated attacks, to which the others must at all times be subject on the ground."

Mr. L. Fraser laid upon the table three new species of Birds, which he described as

LAGOPUS FERRUGINEUS. *Lag. dorso, humeris, et uropygio, nitidè ferrugineis; singulis plumis in medio fusco notatis; capite et collo fuscis; plumarum radicibus albis; primariis cinereis; caudâ supernè cinereâ, ferrugineo marginatâ et ad apicem albâ; femoribus tarsisque ferrugineis nigro atque albo, vix distinctè fasciatis; rostro et unguibus nigris, ceromate et digitis flavis.*

Upper surface dark brown, mottled slightly with white on the head and neck; tail above the basal half white, terminal brown, totally white beneath, the feathers on the breast having brown quills and those on the sides and thighs spotted with brown.

Total length $23\frac{1}{2}$ in.; wings, 17; tail, 10; gape, $1\frac{7}{8}$; tarsi, 3.

Hab. Mexico.

Mus. Zool. Soc. Lond.

There are three specimens of this bird in different stages of plumage in the Society's collection, all from Mexico; one was presented by John Taylor, Esq., another by N. A. Vigors, Esq.

Psittacus Timneh. *Ps. saturatè cinereus, uropygio, abdomine imo, crisso, et femoribus pallidè cinereis, caudâ saturatè ferrugineo-rubrâ, rectricibus singulis acutis.*

Hab. Timneh country, Sierra Leone.

Le Perroquet cendre noir; Le Vaillant, Hist. Nat. des Perroquets, pl. 102.

Mus. Zool. Soc. Lond.

This bird is confined to that part of Western Africa near Sierra Leone; it is never seen so low down as Cape Coast, which is the locality of the *Psittacus erithacus*, from which it differs in its much darker tints of colouring, and the tail-feathers terminating in a point.

Plyctolophus citrino-cristatus. *Pl. albus, cristâ citrinâ, plumis auricularibus sulphureo leviter tinctis.*

In vivario, Zool. Soc. Lond.

About the size of *Pl. sulphureus.*

A letter from George Roberts, Esq., of Lyme Regis, was communicated by Mr. Yarrell. It announced the appearance of large shoals of Sprats off Lyme Regis, from the 14th to the 20th of December last. So numerous were these shoals, that at the distance of only fifty yards from the shore, at high water, the fishermen dipped the sprats out with their shrimp-nets; and so great was the quantity taken, that the price at one time was as low as 3*d.* per bushel. The oldest fishermen do not remember any such occurrence at Lyme. After a short cessation shoals again made their appearance about the 23rd of January, the fish being even more numerous than before, giving full employment to about seventy-five fishermen.

Many of the sprats were observed to be infested with the long slender parasite figured by Mr. Sowerby in his 'British Miscellany,' plate 68. It is also described by Pennant in the fourth volume of his 'British Zoology,' page 113, edition 1812, under the name of *Lernea sprattæ.* It is the *Lerneonema monillaris* of M. Milne Edwards, 'Hist. Nat. des Crustacés,' tome iii. p. 525, planche 41, fig. 5, and is generally found adhering by its arrow-shaped head to the soft parts about the eye of the fish, or along the line of the abdomen. A specimen and a drawing of the fish and its parasite were exhibited in illustration.

March 12, 1844.

William Yarrell, Esq., Vice-President, in the Chair.

Mr. Lovell Reeve described thirty-three new species of *Arca* :—

ARCA PILULA. *Arca testâ orbiculari, valdè gibbosâ, subinæquivalvi, vix inæquilaterali, lateribus supernè angulatis, infrà rotundatis; albidâ, fuscescente pallidè tinctâ, epidermide fuscâ, inter costas setosâ, indutâ; radiatim costatâ, costis quinque vel sex et viginti, angustis, valvæ sinistralis omnibus, valvæ dextralis anticis tantum, subtiliter nodulosis; umbonibus subremotis, ligamenti areâ elongato-rhomboideâ.*

Conch. Icon. *Arca*, pl. 2. f. 8.

Hab. Island of Burias, Philippines (found in sandy mud at the depth of six fathoms); Cuming.

This species is so exceedingly gibbous that the shell is as wide as it is high, and it is the same in all stages and varieties of growth.

ARCA ANOMALA. *Arca testâ quadrato-ovatâ, subcompressâ, inæquivalvi, latere antico rotundato, postico subangulato-rotundato; albâ, viridescente pallidè tinctâ, epidermide corneâ inter costas sparsim indutâ; radiatim costatâ, costis octo et viginti, valvæ dextralis lævibus, planulatis, sinistralis convexis, nodulosis; ligamenti areâ angustâ.*

Conch. Icon. *Arca*, pl. 2. f. 9.

Hab. ——?

It seems rather anomalous that the ribs in one valve of this shell should be convex and nodulous, whilst in the other they are flat and smooth; but it is an interesting fact that the larger valve of the inequivalve species of *Arca* exhibits a much more elaborate style of sculpture than the smaller. The *Arca pilula* just described shows this remarkable peculiarity very distinctly, but not so prominently as the species under consideration; and it now remains to be determined whether this difference arises from any superiority of organization in the left lobe of the mantle of the animal inhabitant.

ARCA HOLOSERICA. *Arca testâ obliquè quadratâ, æquivalvi, lateribus supernè angulatis, antico infrà rotundato, postico angulato-extenso; albidâ, epidermide holosericâ obtectâ; radiatim costatâ, costis duabus vel tribus et triginta, creberrimis, planulatis, umbones versus minutissimè pertuso-cancellatis; umbonibus subobliquis; ligamenti areâ latiusculâ.*

Conch. Icon. *Arca*, pl. 2. f. 11.

Hab. Island of Samar, Philippines (found in coarse sand and gravel at the depth of four fathoms); Cuming.

This is a very fine species, remarkable not only on account of its

general form and velvety epidermis, but for the minute cancellated sculpture of the umbones.

Arca gubernaculum. *Arca testâ subelongato-ovatâ, compressiusculâ, inæquivalvi, lateribus supernè angulatis, latere antico valdè breviore, postico compresso-expanso; viridescente, epidermide inter costas squamosâ indutâ; radiatim costatâ, costis duabus vel tribus et triginta, planulatis, leviter noduloso-serratis; ligamenti areâ angustâ.*

Conch. Icon. *Arca*, pl. 3. f. 11.

Hab. Basey, island of Samar, Philippines (found in coarse sand and amongst shells at the depth of four fathoms); Cuming.

This shell may be recognised by the compressly expanded character of the posterior side.

Arca cornea. *Arca testâ subquadratâ, gibbosiusculâ, inæquivalvi, lateribus supernè angulatis, infrà rotundatis, latere antico breviore; albâ, corio tenui, corneo, viridescente, epidermide inter costas squamosâ indutâ; radiatim costatâ, costis ad novem et viginti, valvæ dextralis planis, sinistralis noduloso-crenatis; ligamenti areâ mediocri.*

Conch. Icon. *Arca*, pl 3. f. 16.

Hab. Basey, island of Samar, Philippines (found in sandy mud at low water); Cuming.

The horny covering of this species is of an unusually transparent character.

Arca gibbosa. *Arca testâ rotundato-ovatâ, gibbosissimâ, æquivalvi, lateribus subangulatis, infrà rotundatis, latere antico breviore; albidâ, epidermide fuscâ indutâ; radiatim costatâ, costis sex vel septem et viginti, rotundatis, angustis, leviter nodulosis; ligamenti areâ mediocri.*

Conch. Icon. *Arca*, pl. 4. f. 20.

Hab. ——?

This shell is almost as round as the *Arca pilula*, from which it differs however essentially in having the umbones obliquely turned to the anterior, and the ribs rounded.

Arca maculosa. *Arca testâ obliquè ovatâ, æquivalvi, lateribus supernè subattenuato-angulatis, infrà rotundatis, antico brevissimo, postico obliquè extenso; albidâ, fuscescente tinctâ, latere postico maculis perpaucis fuscis ornato, epidermide tenui, corneâ, inter costas setosâ, obtectâ; radiatim costatâ, costis ad sex et triginta, planulatis, confertis, marginibus serratis, posticis leviter nodulosis, anticis prope marginem sulco divisis; umbonibus pallidè rufescentibus; ligamenti areâ mediocri, declivi.*

Conch. Icon. *Arca*, pl. 4. f. 24.

Hab. North coast of New Holland.

It is scarcely possible to conceive two species more immediately allied than this and the *Arca scapha*, though perfectly distinguished by the number and arrangement of the ribs, which in the former are

divided by a narrow cut rather than a groove; the scattered brown spots, though few in number, are also peculiar to the *Arca maculosa*.

ARCA COMPACTA. *Arca testâ subelongato-quadratâ, inæquivalvi, gibbosâ, lateribus supernè angulatis, antico breviore, postico leviter angulato-extenso; albidâ, epidermide fuscâ partim indutâ; radiatim costatâ, costis tricenis, valvæ dextralis subangustis, planulatis, sinistralis latioribus, rotundatis, interstitiis cancellatis; ligamenti areâ subangustâ, declivi.*

Conch. Icon. *Arca*, pl. 5. f. 27.

Hab. ——?

This is a short compact shell of rather solid growth.

ARCA PERTUSA. *Arca testâ subobliquè quadratâ, vix æquivalvi, lateribus supernè angulatis, infrà rotundatis; albidâ, viridescente tinctâ, epidermide fuscâ sparsim indutâ; radiatim costatâ, costis duabus vel tribus et triginta, confertis, plano-convexis, subtilissimè pertusis; ligamenti areâ latiusculâ, umbonibus subcentralibus.*

Conch. Icon. *Arca*, pl. 5. f. 28.

Hab. Mouth of the Gambia, Africa.

The ribs of this shell are very finely pricked or indented, a character which I do not remember to have observed in any other species.

ARCA CISTULA. *Arca testâ subquadratâ, inæquivalvi, lateribus supernè angulatis, antico infrà rotundato, postico quadrato; albâ, epidermide tenui fuscescente, inter costas squamosâ, indutâ; radiatim costatâ, costis angustis, numerosis, septem vel octo et triginta, valvæ sinistralis umbones versus subtilissimè nodulosis; ligamenti areâ mediocri; umbonibus subacutis, prope extremitatem anticam dispositis.*

Conch. Icon. *Arca*, pl. 5. f. 29.

Hab. ——?

An interesting species, remarkable for the neatness and regularity of the ribs, as well as for the very anterior situation of the umbones.

ARCA INFLATA. *Arca testâ obliquè ovatâ, tenui, inflatâ, vix æquivalvi, lateribus supernè leviter angulatis, infrà rotundatis; albidâ, epidermide corneâ fuscâ, inter costas squamosâ, indutâ; radiatim costatâ, costis numerosis, quadragenis, planulatis, lævibus; ligamenti areâ subangustâ, declivi; umbonibus tumidis, paululùm approximatis.*

Conch. Icon. *Arca*, pl. 5. f. 30.

Hab. Ilo Ilo, isle of Panay, Philippines (found in soft mud at the depth of six fathoms); Cuming.

This is a light inflated shell of rather large size, at present unique in the collection of Mr. Cuming.

ARCA CYMBÆFORMIS. *Arca testâ elongato-ovatâ, tumidiusculâ, inæquivalvi, posticè attenuatâ; albidâ, epidermide corneâ viridescente, inter costas squamosâ, indutâ; radiatim costatâ, costis duabus et triginta, valvæ sinistralis rotundatis, tuberculato-crenatis, valvæ dextralis planulatis, anticis tantum crenatis; ligamenti areâ parvâ, declivi.*

Conch. Icon. *Arca*, pl. 5. f. 31.
Hab. ——?
This is a shell of very peculiar growth, inasmuch as the posterior side is smaller and more attenuated than the anterior, a condition reverse to that usually presented.

Arca Japonica. *Arca testâ elongato-ovatâ, tenuiculâ, valdè inæquivalvi, lateribus rotundatis, postico latiore, antico brevissimo; albâ, epidermide corneâ fuscescente, inter costas squamosâ, indutâ; radiatim costatâ, costis quinque et triginta, angustis, lævibus, planulatis, anticis subobsoletè nodulosis; ligamenti areâ angustissimâ.*
Conch. Icon. *Arca*, pl. 5. f. 32.
Hab. Coast of Japan (found in sandy mud); Dr. Siebald.
The lateral extremities of this shell are peculiarly rounded.

Arca vellicata. *Arca testâ trapeziformi, subcompressâ, in medio leviter contractâ, vix æquivalvi, lateribus supernè angulatis, antico infrà rotundato, postico angulato-expanso; albidâ, epidermide, inter costas squamosâ, partim indutâ; radiatim costatâ, costis angustis, numerosissimis, quinquagenis aut pluribus, anticis sulco divisis; ligamenti areâ angustâ; umbonibus latis, peculiariter depresso-vellicatis.*
Conch. Icon. *Arca*, pl. 5. f. 33.
Hab. ——?
This is a very remarkable shell, both on account of the large number of ribs, and of the peculiar compression of the umbones.

Arca Gambiensis. *Arca testâ elongato-quadratâ, tenuiculâ, valdè compressâ, in medio coarctatâ, æquivalvi, lateribus rotundatis, postico subangulato extenso; albidâ, epidermide tenui olivaceâ, sparsim setigerâ, indutâ; radiatim costatâ, costis duabus vel tribus et viginti, lævigatis, plano-expansis, lirâ exili intercurrente; ligamenti areâ parvâ, angustâ; umbonibus angulato-mucronatis.*
Conch. Icon. *Arca*, pl. 6. f. 36.
Hab. Mouth of the Gambia, Africa (found in sandy mud in deep water).
The ribs of this shell become peculiarly flattened and spread out towards the margin, and there is a fine ridge running down the centre of the intermediate grooves. This is the only species in which I have as yet observed any kind of fine interribbing.

Arca cuneata. *Arca testâ obliquè ovatâ, æquivalvi, marginem versus coarctatâ, lateribus supernè angulatis, infrà obliquè rotundatis; albidâ, radiatim costatâ, costis ad vicenas, rotundatis, irregulariter nodosis; ligamenti areâ latissimâ, declivi; umbonibus parvis, distantibus.*
Conch. Icon. *Arca*, pl. 6. f. 37.
Hab. Zanzibar.
The great width of the ligamentary area, separating the umbones asunder to a considerable extent, imparts a wedge-like form to this shell, by which it may be easily recognised.

Arca secticostata. *Arca testâ elongato-ovatâ, gibbosissimâ, tenuiculâ, lateribus supernè angulatis, infrà subobliquè rotundatis; albidâ, fuscescente partim tinctâ; radiatim costatâ, costis numerosis, angustis, ad quadragenas, quamplurimis sulco subprofundo divisis; ligamenti areâ elongatâ, latiusculâ; umbonibus tumidis.*

Conch. Icon. *Arca*, pl. 6. f. 38.

Hab. —— ?

This shell is probably one of those that have been confounded with the *Arca antiquata*; it differs in having a much greater number of ribs, and a larger proportion of them more distinctly grooved.

Arca ferruginea. *Arca testâ ovato-oblongâ, æquivalvi, lateribus rotundatis; albidâ, epidermide ferrugineo-fuscâ indutâ; radiatim costatâ, costis ad septem et viginti, angustis, compressis, subtilissimè nodulosis; ligamenti areâ subangustâ; umbonibus obliquè incurvis.*

Conch. Icon. *Arca*, pl. 6. f. 39.

Hab. —— ?

The ribs of this species are unusually narrow, and being finely nodulous, present a kind of beaded appearance.

Arca radiata. *Arca testâ ovato-oblongâ, æquivalvi, lateribus rotundatis; albidâ, fuscescente ad umbones tinctâ, epidermide sparsim indutâ; radiatim costatâ, costis ad tricenas, angustissimis, obsoletè nodulosis, interstitiis clathratis; ligamenti areâ mediocri.*

Conch. Icon. *Arca*, pl. 6. f. 40.

Hab. —— ?

The ribs are much less prominently developed than in the preceding species; they are also narrower, more numerous, and less strongly noduled.

Arca obliqua. *Arca testâ ovatâ, valdè obliquâ, æquivalvi, lateribus supernè angulatis, infrà rotundatis, antico brevissimo, postico obliquè expanso; albâ, epidermide fuscescente sericâ, inter costas setosâ, indutâ; radiatim costatâ, costis quinque vel sex et triginta, planulatis, confertis, interstitiis subtilissimè striatis, anticis posticisque leviter crenatis, anticis sulco divisis; ligamenti areâ subangustâ, declivi; umbonibus approximatis.*

Conch. Icon. *Arca*, pl. 6. f. 41.

Hab. West coast of Africa.

This is a very interesting species, and altogether one of very distinct character.

Arca myristica. *Arca testâ subquadrato-ovatâ, gibbosiusculâ, inæquivalvi, lateribus angulato-rotundatis; albâ, epidermide tenui rubido-fuscescente indutâ; radiatim costatâ, costis tribus vel quatuor et viginti, valvæ sinistralis omnibus nodulosis, dextralis anticis tantum; ligamenti areâ subangustâ.*

Conch. Icon. *Arca*, pl. 7. f. 42.

Hab. Jimamailan, island of Negros, Philippines (found in sandy mud at the depth of three fathoms); Cuming.

In this species there is no trace of that peculiar green colour which is so prominent in the following.

Arca chalcanthum. *Arca testá oblongo-quadratá, subcompressá, inæquivalvi, lateribus supernè angulatis, latere antico brevissimo, postico latiore, compressá; albidá, corio corneo viridi, epidermide fuscá, indutá; radiatim costatá, costis octo et viginti, angustis, valvæ sinistralis leviter nodulosis; ligamenti areá subangustá.*

Conch. Icon. *Arca*, pl. 7. f. 43.

Hab. San Nicolas, island of Zebu, Philippines (found in sandy mud at the depth of six fathoms); Cuming.

The peculiar colour of this shell gives it the appearance of having been stained with green copperas.

Arca Luzonica. *Arca testá elongato-quadratá, gibbosiusculá, æquivalvi, lateribus supernè angulatis, infrà rotundatis, latere antico brevi; albidá, corio corneo viridescente, epidermide fuscá, indutá; radiatim costatá, costis octo et viginti, latiusculis, valvæ sinistralis subobsoletè nodulosis; ligamenti areá subangustá, declivi.*

Conch. Icon. *Arca*, pl. 7. f. 44.

Hab. Island of Luzon, Philippines (found in sandy mud at low water); Cuming.

This is a stouter shell than the preceding species; it is more gibbous, and the ribs are broader.

Arca rotundicostata. *Arca testá ovatá, gibbosá, æquivalvi, lateribus supernè angulatis, antico brevi, rotundato, postico subangulato-extenso; albá, umbones versus fuscescente tinctá; radiatim costatá, costis ad vicenas, subdistantibus, elevatis, rotundatis, crenatis, valvæ sinistralis potiùs latioribus; ligamenti areá latá, paululùm concavo-declivi.*

Conch. Icon. *Arca*, pl. 7. f. 46.

Hab. ——?

A species in which the ribs are peculiarly rounded.

Arca clathrata. *Arca testá subquadrato-ovatá, æquivalvi, lateribus leviter compressis, supernè angulatis, infrà rotundatis; albidá, epidermide tenui fuscescente, inter costas exilissimè setosá, indutá; radiatim costatá, costis leviter crenatis, interstitiis profundis, lineis elevatis clathratis; ligamenti areá subelongatá.*

Conch. Icon. *Arca*, pl. 7. f. 48.

Hab. Islands of Burias and Ticao, Philippines (found at the depth of about six fathoms); Cuming.

A small species, in which the interstices between the ribs, which are very deeply engraved, are distinctly latticed with raised lines.

Arca ovata. *Arca testá subelongato-ovatá, tenui, valdè inæquivalvi, lateribus supernè angulato-rotundatis, postico breviore, subtùs angulato-extenso, antico attenuato-rotundato; albidá, rufescente-fusco tinctá, epidermide tenuissimá; radiatim costatá, costis ad tricenas, anticis nodulosis, posticis minus distinctioribus, planulatis, lævibus, costis valvæ sinistralis valdè latioribus; ligamenti areá parvá, latiusculâ.*

Conch. Icon. *Arca*, pl. 8. f. 49.

Hab. St. Elena, South America (found in sandy mud at the depth of from six to eight fathoms); Cuming.

This shell partakes of the characters of the *Arcæ Brasiliana* and *incongrua*; it is however more elongated than either, and the ribs are narrower and more in number.

Arca crenata. *Arca testâ subelongato-quadratâ, subcompressâ, solidiusculâ, vix æquivalvi, lateribus angulato-rotundatis; albidâ, epidermide tenui fuscâ indutâ; radiatim costatâ, costis septem vel octo et triginta, valvarum ambarum omnibus noduloso-crenatis; ligamenti areâ subangustâ, declivi, umbonibus depresso-approximatis.*

Conch. Icon. *Arca*, pl. 8. f. 51.

Hab. ——?

This species may be distinguished by its multiplicity of ribs, coupled with the manner in which the whole of them in both valves are crenated.

Arca globosa. *Arca testâ globosâ, tumidâ, subæquivalvi, lateribus supernè subangulatis, antico breviore; albidâ, epidermide corneâ fuscâ indutâ; radiatim costatâ, costis duabus vel tribus et triginta, lævibus, planulatis; ligamenti areâ mediocri, umbonibus latiusculis, subapproximatis.*

Conch. Icon. *Arca*, pl. 8. f. 52.

Hab. Catbalonga, island of Samar, Philippines (found in coarse sand and gravel at the depth of four fathoms); Cuming.

Chiefly characterized by its globular form and the smooth horny nature of the epidermis.

Arca rufescens. *Arca testâ elongato-ovatâ, valdè inæquivalvi, lateribus supernè leviter angulatis, infrà rotundatis, postico subelongato-extenso; albidâ, rufescente tinctâ, epidermide inter costas partim indutâ; radiatim costatâ, costis numerosis, quadragenis, confertis, lævibus; ligamenti areâ mediocri, umbonibus subtruncatis.*

Conch. Icon. *Arca*, pl. 8. f. 53.

Hab. ——?

This shell is of a more solid structure than the *Arca inæquivalvis*; the ribs are much more numerous and close-set, and independent of the difference of colour, there is a truncated peculiarity in the umbones.

Arca contraria. *Arca testâ obliquè ovatâ, solidâ, turgidâ, æquivalvi, lateribus rotundatis, postico brevi, antico elongato-extenso; albidâ, epidermide sericâ fuscâ crassâ partim indutâ; radiatim costatâ, costis tricenis, lævibus; ligamenti areâ latiusculâ, declivi; umbonibus contrariè contortis.*

Conch. Icon. *Arca*, pl. 8. f. 55.

Hab. ——?

This is another contrary or reversed species, and a very remarkable one, the shell being completely reversed, whilst the position of

the ligamentary area remains the same. This and the *Arca reversa*, Gray, are the only species of the genus I have as yet seen exhibiting this peculiarity of growth.

ARCA ANGICOSTATA. *Arca testâ subquadrato-ovatâ, subæquivalvi, lateribus supernè angulatis, infrà rotundatis, antico brevi; albidâ, fuscescente partim tinctâ, epidermide fuscâ, inter costas squamosâ, indutâ; radiatim costatâ, costis ad tricenas, anticis angustis, subdistantibus, leviter crenulatis, posticis latioribus, expansioribus; ligamenti areâ latiusculâ.*

Conch. Icon. *Arca*, pl. 9. f. 57.

Hab. ——?

There is a very unusual disproportion in the width of the ribs of this species, the anterior ribs being exceedingly narrow, whilst the posterior are wider and spread out as it were.

ARCA LORICATA. *Arca testâ subquadratâ, gibbosâ, lateribus supernè attenuato-angulatis, antico brevi, rotundato, postico angulato-extenso; albidâ, corio corneo cæruleo-viridescente loricatâ, epidermide tenui, fuscâ, inter costas squamosâ, indutâ; radiatim costatâ costis septem vel octo et viginti, planiusculis, acutangulis; umbonibus subapproximatis; ligamenti areâ leviter declivi.*

Conch. Icon. *Arca*, pl. 9. f. 58.

Hab. ——?

This shell is covered with a peculiarly strong horny cuticle, and differs from any previously described species in the arrangement and formation of the ribs.

ARCA DISPARILIS. *Arca testâ ovatâ, tenui, subcompressâ, valdè inæquivalvi, lateribus angulato-rotundatis, latere postico subcompresso-expanso; albidâ, corio corneo tenui cæruleo-viridescente, epidermide fuscâ indutâ; radiatim costatâ, costis sex vel septem et triginta, planiusculis, umbones versus obsoletè crenulatis; umbonibus subapproximatis; ligamenti areâ angustâ, declivi.*

Conch. Icon. *Arca*, pl. 9. f. 59.

Hab. ——?

The nearest approach to the *Arca inæquivalvis*, but a shell of more compressed growth; the valves exhibit a still greater disparity of size, and the ribs are rather more numerous.

ARCA CREBRICOSTATA. *Arca testâ elongato-quadratâ, æquivalvi, lateribus supernè angulatis, antico infrà rotundato, postico elongato-extenso, subattenuato; albâ, epidermide fuscâ holosericâ indutâ; radiatim costatâ, costis numerosissimis, tribus vel quatuor et quadraginta, planis, latiusculis, creberrimis, anterioribus sulco divisis, subtilissimè crenulatis; umbonibus latis, subapproximatis; ligamenti areâ angustâ, declivi.*

Conch. Icon. *Arca*, pl. 9. f. 61.

Hab. ——?

The ribs of this species are very characteristic, being comparatively broad, flat, very close-set, and more in number than in any other of the genus.

Arca hians. *Arca testâ elongato-ovatâ, æquivalvi, anticè hiante, lateribus rotundatis, postico attenuato-extenso; albidâ, fuscescente pallidè tinctâ, epidermide fuscâ, inter costas squamosâ, indutâ; radiatim costatâ, costis duabus vel tribus et triginta, latiusculis, planulatis, anticis subobsoletè crenulatis, sulco latissimo divisis; umbonibus subapproximatis; ligamenti areâ angustâ, profundè declivi.*

Conch. Icon. *Arca*, pl. 9. f. 62.

Hab. ——?

The shape of the *Arca hians* approaches somewhat to that of the *Arca cymbæformis*, but the species differ most essentially from each other on examination. In the *Arca hians* the valves are equal, the anterior ribs are divided by an unusually broad groove, and the shell gapes at the anterior end to the extent of about three-sixteenths of an inch, a peculiarity of which I have not observed the slightest indication in any other species of this division of the *Arcæ*.

Arca occlusa. *Arca testâ subquadratâ, valdè gibbosâ, inæquivalvi, lateribus supernè attenuato-angulatis; albâ; radiatim costatâ, costis septem vel octo et viginti, subdistantibus, valvæ dextralis lævibus, sinistralis nodulosis; umbonibus prominentibus, peculiariter approximatis; ligamenti areâ subdeclivi.*

Conch. Icon. *Arca*, pl. 10. f. 64.

Hab. ——?

The umbones of this shell are so closely approximated over the ligamentary area, as to prevent the valves from opening beyond the extent of about a quarter of an inch.

Arca ambigua. *Arca testâ subquadratâ, tenuiculâ, inæquivalvi, lateribus subattenuato-angulatis, antico infrà rotundato, postico angulato; albidâ, epidermide fuscâ, inter costas squamosâ, indutâ; radiatim costatâ, costis tribus vel quatuor et triginta, angustis, rotundatis, anticis subtilissimè rotundatis; ligamenti areâ subangustâ.*

Conch. Icon. *Arca*, pl. 10. f. 65.

Hab. ——?

The *Arca cistula* is the nearest allied species to this.

Arca cepoides. *Arca testâ subquadrato-ovatâ, tenui, ventricosâ, inæquivalvi, lateribus angulato-rotundatis; albidâ, fuscescente pallidè tinctâ, corio corneo cærulescente, epidermide fuscâ, inter costas squamosâ, indutâ; radiatim costatâ, costis duabus et triginta, lævibus, planulatis, costis valvæ sinistralis sublatioribus; umbonibus tumidis; ligamenti areâ latiusculâ, valdè declivi.*

Conch. Icon. *Arca*, pl. 10. f. 66.

Hab. San Miguel, South America (found in sandy mud); Cuming.

This is a fine bold species, but it does not exhibit any very striking peculiarity of character.

Arca Hankeyana. *Arca testâ obliquè ovatâ, crassiusculâ, valdè gibbosâ, tumidâ, æquivalvi, lateribus rotundatis, supernè attenuatis, latere antico brevissimo, postico obliquè extenso; albâ, epidermide*

tenui, inter costas hirsutâ, sparsim indutâ; radiatim costatâ, costis duabus vel tribus et triginta, planulatis, confertis, quadriliratis; umbonibus parvis, distantibus; ligamenti areâ brevi, latâ, declivi.

Conch. Icon. *Arca*, pl. 10. f. 68.

Hab. Harbour of Mozambique (found in a mass of white coral on the reefs at low water, spring tide); Hankey.

I close this division of the genus with a new species, which exhibits a peculiarity in the structure of the ribs of great novelty and interest, each of them being composed of four distinctly separated ridges.

I have great pleasure in naming this important species after the gentleman to whom I am indebted for it, Lieut. Hankey, R.N., a zealous conchologist, whose researches on the coast of Africa have greatly contributed to science.

The following description of some new species of *Columbella*, in the collection of H. Cuming, Esq., by Mr. G. B. Sowerby, was then read:—

Columbella Duclosiana, nob., Thes. Conch. part 4. pl. 36. f. 15, 16. *Col. testâ ovatâ, utrinquè acuminatâ, longitudinaliter costellatâ, saturatè fuscâ, zonis binis pallidioribus; spirâ acuminatâ, anfractibus 5, costatis, ultimâ magnâ parte ventrali longitudinaliter costatâ, interstitiis costarum transversim striatis, dorsali lævigatâ, anticè transversim striatâ; aperturâ latiusculâ, flexuosâ, nigricante; labio externo crasso, intùs denticulis 8–9, posticis majoribus; interno posticè callifero; canali breviter acuminato, subreflexo; epidermide crassiusculâ.*

Epidermis coarse and rough. Found under stones on the coast of Malacca by H. Cuming; also from Java.

Columbella chlorostoma, nob., Thes. Conch. pl. 36. f. 17, 18. *Col. testâ ovatâ, longitudinaliter costatâ, lævi, albâ, nigro-maculatâ; spirâ mediocri, anfractibus 5, subventricosis, costatis, ultimo anticè transversim striato, parte dorsali anticâ costis obsoletis; aperturâ oblongâ, latiusculâ, peritremate fulvescente; labio externo posticè angulato.*

A single specimen is in the collection of M. Petit de la Saussaye, which he has obligingly communicated. It is not *Buccinum chlorostoma* of Wood.

Columbella rudis, nob., Thes. Conch. pl. 36. f. 33, 34, 35. *Col. testâ oblongâ, rudi, plerumquè albidâ, punctis strigisque irregulariter ornatâ; spirâ longiusculâ, acutiusculâ, anfractibus 7, transversim crassè granuloso striatis, posticè anguliferis, ultimo magno; aperturâ subflexuosâ, albâ, peritremate posticè angulifero; canali subreflexâ.*

From Nevis: in Mr. Cuming's and other collections.

Columbella pœcila, nob., Thes. Conch. pl. 37. f. 51, 52. *Col. testâ ovatâ, utrinquè subacuminatâ, transversim striatâ, fulvâ, lineis 2–3 transversis castaneis, maculisque albis variegatâ; an-*

fractibus 5–6, posticè subcoronatis, ultimo magno, subtrigonali; aperturâ latiusculâ, flexuosâ, labii externo medio subcoarctato.

Two specimens only were brought from Matnog by H. Cuming.

Columbella venusta, nob., Thes. Conch. pl. 37. f. 53, 54. *Col. testâ oblongâ, lævigatâ, pallescente, strigis maculisque castaneis, undatis, punctisve albis ornatâ; spiræ apice nigricante; anfractibus 6, ultimo magno, anticè transversim striato; aperturâ latiusculâ, labio externo extùs striato, interno denticulis externis 8–9, internis 2–3; canali latiusculo.*

A very graceful species, brought lately from the Swan River Settlement.

Columbella splendidula, nob., Thes. Conch. pl. 37. f. 65, 66. *Col. testâ oblongâ, lævi, aurantiacâ, maculis albis castaneisque variegatâ; spirâ breviusculâ, subacuminatâ; anfractibus 7–8, brevibus, ultimo magno, anticè transversim striato; aperturâ subflexuosâ, albâ; labio externo extùs varicoso, margine tenuiusculo; labio interno anticè laminâ levatâ columellari instructo; canali brevi, subreflexo.*

Found in coarse sand at a depth of seven fathoms, near the island of Corregidor, bay of Manila, by H. Cuming.

Columbella obscura, nob., Thes. Conch. pl. 37. f. 70, 71. *Col. testâ oblongâ, lævi, obscurè fulvâ, strigis longitudinalibus nigris; spirâ subacuminatâ, anfractibus 7, posticè albo nigroque articulatis, ultimo anticè transversim sulcato; labio interno subincrassato, margine acutiusculo, intùs medianè dentibus 3–4 obsoletis; interno anticè laminam levatam columellarem efformante; canali brevi, subreflexo.*

North-west coast of New Holland; Mr. Cuming's collection.

Columbella coniformis, nob., Thes. Conch. pl. 37. f. 77, 78. *Col. testâ ovato-turbinatâ, lævi, pallidâ, coloribus variis pictâ; spirâ breviter conicâ, anfractibus 7, primis sex medio obtusè angulato, marginibus propè suturam levatiusculis; ultimo anfractu magno, elongato-conico, anticè transversim striato; labio externo tenuiusculo, intùs denticulis plurimis; canali subreflexo.*

In Mr. Cuming's collection.

Columbella aspersa, nob., Thes. Conch. pl. 37. f. 79, 80. *Col. testâ oblongo-ovatâ, lævi, albâ, castaneo-reticulatâ et maculatâ; spirâ subacuminatâ, apice obtuso, anfractibus 6, posticè rotundatis, ultimo anticè transversè obsoletè striato; aperturâ latiusculâ, flexuosâ, labio externo intùs medianè tuberculato denticulis obsoletis, margine lævigato; canali latiusculo, brevi.*

Two specimens are in Mr. Cuming's and one in Lady Harvey's collection: locality unknown.

Columbella Ligula, Ducl., Thes. Conch. pl. 38. f. 83, 84, 85. *Col. testâ oblongâ, acuminatâ, lævi, albidâ, coloribus variis fasciatim pictâ; spirâ elongatâ, turritâ, anfractibus 8–9, subventricosis, nitidis ultimo magno; labio externo extùs crassiusculo, variciformi,*

intùs denticulato; labio interno anticè laminam levatam columellarem efformante, intùs denticulis, rugosiusculo.

Found by Mr. Cuming at Ticao.

Columbella Fabula, nob., Thes. Conch. pl. 38. f. 86, 87; *C. Sadonosta*, Ducl. *Col. testâ ovatâ, lævi, pallidâ, coloribus obscuris variis pictâ; spirâ acuminatâ, conicâ, apice acuto; anfractibus* 6–7, *margine suturarum levatiusculo; ultimo magno, anticè transversim striato; aperturâ latâ, labio externo tenuiusculo, posticè subemarginato, intùs in mediam subtumido, denticulato; canaliculato.*

A variety has been found under stones in the bay of Muerte, island of Corregidor, by Mr. Cuming.

Columbella vulpecula, nob., Thes. Conch. pl. 38. f. 93. *Col. testâ ovatâ, crassâ, lævi, albidâ, ferrugineo-marmoratâ; spirâ subacuminatâ, anfractibus* 6–7, *ultimo magno, leviter transversim striato, anticè striis validioribus; labio externo crasso, extùs transversim striato, intùs in mediam tumido, denticulato; aperturâ flexuosâ; canali lato, brevi.*

Columbella miser, nob., Thes. Conch. pl. 38. f. 111. *Col. testâ ovato-oblongâ, albicante vel lutescente; spirâ pyramidali, anfractibus* 6, *convexiusculis, anticè castaneo-maculatis, posticis quinque longitudinaliter costatis, antico costato, sed costis dorsalibus anticè evanidis; aperturâ latiusculâ, subrhomboidali, dentibus internis labii externi paucis, parvulis.*

There is a variety with nearly obsolete ribs. Locality unknown. In Mr. Bean's collection and in my own.

Columbella dichroa, nob., Thes. Conch. pl. 40. f. 168, 169. *Col. testâ oblongo-subpyramidali, lævigatâ, albâ, castaneo-sphacelatâ; apice obtuso; anfractibus quinque; aperturâ latâ.*

St. Vincent's; Rev. L. Guilding. In my own collection.

Columbella guttata, nob., Thes. Conch. pl. 39. f. 124. *Col. testâ oblongâ, lævi, castaneâ, albo-guttatâ, apice obtuso, violaceo; spirâ longiusculâ, anfractibus* 5, *subplanulatis, ultimo magno; aperturâ magnâ, latâ, dentibus internis labii externi irregularibus, labio columellari dente unico postico.*

In Mr. Norris's and Mr. Stainforth's collections.

Columbella jaspidea, nob., Thes. Conch. pl. 39. f. 125. *Col. testâ oblongâ, pyramidali, lævigatâ, albicante, fulvo-marmoratâ, apice acuminato, roseo; anfractibus* 7, *costellatis, tenuissimè decussatim striatis, costellis ultimi anfractûs anticè obsoletis; aperturâ latiusculâ; labio externo extùs incrassato, intùs denticulis nonnullis munito, dente unico anticè propè canalem admoto, labio columellari anticè tubercularum oblongè instructo.*

Found under stones at low water on the island of Ticao, by Mr. Cuming.

Columbella achatina, nob., Thes. Conch. pl. 39. f. 126. *Col. testâ oblongo-turritâ, lævi, pallidè brunneo-marmoratâ, apice de-*

collato; anfractibus 6, *convexiusculis, ultimo majori, anticè sulcato, sulcis paucis, inconspicuis; aperturâ brevi, latiusculâ, intùs violascente, labio externo anticè effuso.*

In Mr. Cuming's collection; from Swan River.

Columbella impolita, nob., Thes. Conch. pl. 39. f. 127. *Col. testâ oblongâ, subturritâ, lævi, obscurâ, fulvescente, fasciâ spirali unicâ albidâ; anfractibus* 7, *subplanulatis; aperturâ breviusculâ, sinuosâ, denticulis internis labii externi paucis, prominentibus, labio columellari anticè paululùm levato.*

In Mr. Cuming's collection.

Columbella rugulosa, nob., Thes. Conch. pl. 39. f. 131. *Col. testâ obovatâ, rugulosâ, crassâ, violaceo-nigricante, fasciâ anticâ maculisque parvis albidis ornatâ; anfractibus* 5, *longitudinaliter costatis, tenuiter decussatim striatis, striis anticis fortioribus; aperturâ latiusculâ, dentibus internis labii externi paucis majusculis.*

Gallapagos Islands; H. Cuming.

Columbella atramentaria, nob., Thes. Conch. pl. 40. f. 174. *Col. testâ ovato-acuminatâ, crassâ, medio ventricoso, transversim striatâ, nigrâ; anfractibus* 5–6, *tenuiter longitudinaliter costatis; aperturâ latâ, labio externo incrassato, interne denticulis subinconspicuis.*

Chatham Island, Gallapagos; G. B. Sowerby's collection.

Columbella Ticaonis, nob., Thes. Conch. pl. 39. f. 142. *Col. testâ oblongâ, utrâque acuminatâ, medio turgido, pallescente, castaneo-sphacelatâ; anfractibus* 6, *transversim striatis, suturis levatiusculis; aperturâ oblongâ, labio externo extùs incrassato, margine tenui, denticulis internis paucis, parvulis.*

Found at a depth of seven fathoms in sandy mud, at the island of Ticao, by H. Cuming.

Columbella decussata, nob., Thes. Conch. pl. 39. f. 133. *Col. testâ oblongâ, crassâ, albâ, fusco-marmoratâ; anfractibus* 5, *turgidiusculis, decussatim costatâ; aperturâ oblongâ, subsinuosâ, labio externo albo, crasso, posticè extùs obtusè angulato, margine externo crenato.*

Australia; G. Humphrey.

Columbella blanda, Sol., Thes. Conch. pl. 39. f. 145, 146. *Col. testâ ovato-pyramidali, pallidâ, apice acuto; anfractibus* 8, *lævibus, longitudinaliter undulatim fusco-lineatis, lineis propè suturam dorsalem ultimi anfractûs fortioribus; aperturâ latâ, posticè acuminatâ, labio externo tenuiusculo, extùs turgido, intùs denticulis parvis instructo; canali latiusculo.*

Africa; on the shore. Solander.

Columbella nivea, nob., Thes Conch. pl. 39. f. 151. *Col. testâ ovato-pyramidali, crassiusculâ, lævi, niveâ, apice acuminato; anfractibus* 8, *primis* 6 *lævigatis, penultimo longitudinaliter costellato,*

ultimo costato, ad partem dorsalem anticam lævi; apertura subangusta, subsinuosa, labio externo crasso, intùs subdenticulato, labio columellari anticè levato.

In Mr. Cuming's collection.

Columbella subulata, nob., Thes. Conch. pl. 40. f. 158, 159. *Col. testâ turrito-pyramidali, lævigatâ, albidâ, epidermide tenui, corneâ, pallescente indutâ; spirâ subulatâ, anfractibus decem, convexiusculis, primis octo lævibus, tribus ultimis posticè transversim striatis, ultimo striato, posticè tumido; apertura sinuosâ, albâ, labio externo extùs incrassato, intùs medianè incrassato, denticulato; labio interno incrassato, levato; canali brevi, reflexo.*

In Mr. Norris's collection: locality unknown.

Columbella Puella, nob., Thes. Conch. pl. 40. f. 160, 161. *Col. testâ ovato-pyramidali, spirâ acuminatâ, acutâ, pallidè castaneâ vel brunneâ variegatâ, anfractibus 9, longitudinaliter costellatis, lævibus, ultimo anticè transversim striato; suturâ crenulatâ, albâ; canali distincto, extùs transversim sulcato; apertura oblongâ, subrhomboideâ, labio columellari uniplicato.*

From Burias; H. Cuming. A variety nearly free from the longitudinal ribs occurs at Catbalonga.

Columbella suffusa, nob., Thes. Conch. pl. 40. f. 166, 167. *Col. testâ oblongâ, crassiusculâ, albicante, maculis liturisque fuscis ornatâ; spirâ acuminatâ, conoidali; anfractibus 6–7, longitudinaliter costatis, interstitiis costarum tenuiter transversim striatis; apertura latiusculâ.*

Pacific Ocean; Cuming.

Columbella parva, nob., Thes. Conch. pl. 40. f. 170. *Col. testâ oblongâ, pallidâ, fasciâ spirali castaneâ unicâ ornatâ, apice acuminato; anfractibus 6, longitudinaliter costatis, decussatim striatis, ultimo anticè propè labium externum variciformatum lævigato, supra canalem transversim striato; apertura breviusculâ, subsinuosâ, labio columellari levato.*

Found under stones at Monte Christi, West Columbia; H. Cuming.

Columbella catenata, nob., Thes. Conch. pl. 40. f. 171. *Col. testâ oblongâ, crassâ, pallidâ, undulatim castaneo-marmoratâ, apice acuminato, obtusiusculo; anfractibus 6, longitudinaliter costatis, interstitiis lævibus, ultimo anticè transversim striato; apertura latiusculâ, denticulis parvis 4, labii columellaris obtusis.*

Locality unknown; Mr. Cuming's collection.

Columbella nigricans, nob., Thes. Conch. pl. 40. f. 172. *Col. testâ oblongâ, nigricante, apice acuminato, anfractibus 6, longitudinaliter costatis, interstitiis costarum tenuiter transversim striatis; suturâ distinctâ, crenulatâ, albicante, margine labii externi pallido.*

Gallapagos Islands; Mr. Cuming's collection.

Columbella Dormitor, nob., Thes. Conch. pl. 40. f. 173. *Col. testâ ovato-conoideâ, pallescente, spirâ conicâ, breviusculâ; anfrac-*

tibus 6, transversim sulcatis; aperturâ lævigatâ, margine interno labii externi crenulato.

St. Vincent's; Rev. L. Guilding. In Mr. Gray's collection.

Columbella Guildingii, nob., Thes. Conch. pl. 40. f. 175, 176. *Col. testâ oblongo-pyramidali, pallescente, brunneo-variegatâ, apice acuminato-subturritâ; anfractibus 6, longitudinaliter costatis et transversim striatis; aperturâ longiusculâ, sinuosâ, canali subelongato, extùs transversim sulcato.*

In the British Museum; found at St. Vincent's by the late Rev. Lansdowne Guilding.

Columbella Broderipii, nob., Thes. Conch. pl. 40. f. 178, 179. *Col. testâ oblongo-turritâ, lævi, castaneâ, variè albo-maculatâ et guttatâ; anfractibus 5, subventricosis, oblongâ, latiusculâ, labio externo intùs denticulis 2–3 obsoletis instructo; anfractu ultimo anticè transversim striato.*

Alboran Island; W. J. Broderip, Esq. In the British Museum.

Columbella Kraussii, nob., Thes. Conch. pl. 40. f. 180, 181. *Col. testâ ovato-oblongâ, lævi, albicante, lineis castaneis undulatis signatâ; anfractibus 5–6, subventricosis, longitudinaliter costellatis, costellis distantibus, interstitiis lævibus; aperturâ latâ; canali brevissimo.*

In the British Museum; found at Natal by Dr. Krauss.

Columbella monilifera, nob., Thes. Conch. pl. 40. f. 177. *Col. testâ turritâ, albâ, maculis irregularibus brunneis pictâ, spirâ acuminatâ; anfractibus 7, longitudinaliter costatis et transversim sulcatis, series tres posticas et seriem unicam costellarum granuliferarum anticam efformantibus; aperturâ brevi, latiusculâ.*

From the West Indies; the late G. Humphrey.

Columbella pusilla, nob., Thes. Conch. pl. 40. f. 182, 183. *Col. testâ ovatâ, lævi, albicante, lineis pallidè brunneis pictâ; spirâ subacuminatâ; anfractibus 5–6, subventricosis; aperturâ latiusculâ, labio externo crassiusculo, intùs obsoletè denticulato; labio interno intùs tuberculo obtuso instructo; canali brevi.*

St. Vincent's; the late Rev. L. Guilding.

Columbella atomella, Ducl., Thes. Conch. pl. 40. f. 184, 185. *Col. testâ oblongâ, albicante, nonnunquàm pallidè castaneo-unifasciatâ, spirâ acuminatâ; anfractibus 6, longitudinaliter costatis; suturâ crenatâ; ultimo anfractu anticè lævi, supra canalem transversim sulcato; aperturâ angustâ.*

West Indies; Rev. L. Guilding.

March 26, 1844.

The Right Hon. William Sturges Bourne in the Chair.

A letter was read from Anthony White, Esq., describing the morbid appearances which presented themselves on examining the body of the Lion (*Felis Leo*) which died in the Society's Gardens on the 15th inst.

A communication was made by Dr. Falconer, conveying the substance of a paper by Capt. Cautley and himself on the osteological characters and palæontological history of the *Colossochelys Atlas*, a fossil tortoise of enormous size, from the tertiary strata of the Sewalik hills in the north of India—a tertiary chain apparently formed by the detritus of the Himalaya mountains.

A great number of huge fragments, derived from all parts of the skeleton except the neck and tail, were exhibited on the table, illustrative of a diagram by Mr. Scharf of the animal restored to the natural size.

The communication opened with a reference to the reptilian forms discovered in the fossil slate, among which colossal representatives have been found of all the known tribes, such as the *Iguanodon*, *Megalosaurus*, *Labyrinthodon*, &c., besides numerous forms of which no living analogues exist, such as the *Enaliosaurian* reptiles and *Pterodactyles*. No fossil *Testudinata* remarkable either for size or deviation from existing forms, have hitherto been found in the fossil state. The *Colossochelys* supplies the blank in the first respect, while it differs so little from the land-tortoises in the general construction of its osseous frame, as hardly to constitute more than a subgenus of *Testudo*.

The plastron or sternal portion of the shell affords the chief distinctive character. The episternal portion in the adult is six and a half inches thick, and contracted into a diameter of eight inches, bifid at the apex, and supplied with a thick cuneiform keel on its inferior side: this keel constitutes one of the principal features in the fossil. The entosternal portion exhibits exactly the form of *Testudo*, the same being the case with the xiphiosternal or posterior portion. The plastron in the adult animal was estimated to be nine feet four inches long.

The carapace or buckler of the shell coincides exactly with the general form of the large land-tortoises, of which it exhibits only a magnified representation, flattened at the top and vertical at the sides, with the same outline and recurved margin. The shell was estimated to have been twelve feet three inches long, eight feet in diameter, and six feet high.

The extremities were described as constructed exactly as in the land-tortoises, in which the form of the femur and humerus is marked by peculiar characters. These bones in the fossil were of a huge size, corresponding to the dimensions of the shell. The ungueal bones indicated a foot as large as that of the largest Rhinoceros. The humerus was more curved, and the articulating head more globular and deeper in the fossil, from which it was inferred that it had a stronger articulation, greater rotation, and that the *Colossochelys* was enabled to bring its anterior extremities more under its weight than is the case with existing tortoises.

The affinities with *Testudo* shown in the shell and extremities were found to hold equally good in the construction of the head, of which a comparatively small-sized specimen, inferred to have belonged to a young or half-grown *Colossochelys*, was exhibited. The head of the adult to correspond with the dimensions of the shell, and according to the proportions furnished by a large *Testudo Indica*, was deduced to have been two feet long.

There were no ascertained cervical vertebræ to afford direct evidence as to the length of the neck, which was constructed in the diagram relatively to the proportions of *Testudo Indica*. The entire length of the *Colossochelys Atlas* was inferred to have been about eighteen feet, and that it stood upwards of seven feet high.

The generic name given by the discoverers has reference to the colossal size of the fossil (κολοσσὸς et χέλυς), and the specific one to its fitting representation of the mythological tortoise that sustained the world, according to the systems of Indian cosmogony.

The anatomical details occupied so much of the evening, that space was not left for Dr. Falconer to enter on general points connected with the fossil, such as its possible connexion with the mythological fables of the Hindoos and the æra of its extinction, which will form the subject of another communication.

The results of a chemical analysis of the bones by Mr. Middleton were communicated, showing that they contained a very large quantity of fluorine. Some rough sketches of the *Colossochelys* were exhibited, etched on glass by means of the fluorine yielded by its own bones. The analysis indicated the presence of 11 per cent. of fluoride of calcium.

Mr. Gould exhibited a series of Birds from Australia, collected partly by himself and partly by Mr. Gilbert, viz.:—

Fam. Columbidæ.

Geopelia placida. *Geop. facie et gutture cinereis; occipite, dorso alisque e cinereo-fuscis; singulis plumis ad apicem nigerrimo fasciatis, alulis spuriis primariisque saturatè fuscis, humeris subtùs castaneis, pectore, lateribus, et nuchâ cinereis lineis angustis nigris crebrè fasciatis, et lateribus vinaceis.*

Face and throat grey; occiput, back and wings ashy brown; each feather with a band of deep velvety black at the extremity; spurious wings and primaries dark brown; under surface of the shoulders

chestnut; chest, sides and back of the neck grey, crossed by numerous narrow bands of black; abdomen and flanks vinous; four centre tail-feathers ashy brown, the remainder black, largely tipped with white; irides light ash-grey; bill and orbits bright greyish blue, becoming much paler before and behind the eye; frontal scales of tarsi and feet dark greenish grey; remainder of the legs and feet reddish flesh-colour.

Total length, $7\frac{3}{8}$ inches; bill, $\frac{5}{8}$; wing, $3\frac{7}{8}$; tail, $3\frac{5}{8}$; tarsi, $\frac{5}{8}$.

Hab. Port Essington.

This and the next species are very nearly allied, but on comparison of numerous individuals I find that size invariably points out the locality from which they have been procured; the larger birds (*G. tranquilla*) being an inhabitant of the interior of New South Wales, and the smaller (*G. placida*) of the north coast; besides which, the bands crossing the chest are broader and more distinct in the latter than in the former.

Geopelia tranquilla. *Geop. facie et gutture pallidè cinereis, occipite dorso alisque e cinereo-fuscis, singulis plumis ad apicem angustè nigerrimo fasciatis; alulis spuriis, primariisque saturatè fuscis, pectore, lateribus, et nuchâ pallidè cinereis, lineis angustis nigris crebrè notatis, abdomine et lateribus pallidè vinaceis, abdomine medio crissoque albis; humeris subtùs castaneis.*

Face and throat pale grey; occiput, back and wings ashy brown, each feather bounded at the end with a narrow band of deep velvety black; spurious wing and primaries dark brown; chest, sides and back of the neck pale grey, crossed by numerous narrow, irregular bands of black; abdomen and flanks pale vinous; centre of the abdomen and under tail-coverts white; under surface of the shoulder deep chestnut; four centre tail-feathers greyish brown, passing into black at the tip; the lateral tail-feathers black, largely tipped with white; irides transparent bluish white; base of bill and nostrils light blue; tip of the bill bluish black; naked skin of the orbits deeply wrinkled and of a beautiful light greenish blue; frontal scales of the tarsi and toes dark purple; hind part of the legs flesh-colour.

Total length, $8\frac{3}{4}$ inches; bill, $\frac{5}{8}$; wing, 4; tail, $4\frac{3}{4}$; tarsi, $\frac{5}{8}$.

Hab. Liverpool plains and banks of the Namoi, interior of New South Wales.

Family Rallidæ.

Genus Eulabeornis.

Gen. char.—*Rostrum* capite longius, ferè rectum, et leviter incurvum, lateraliter compressum; naribus elongatis, apertis, singulis in sinu per mandibulæ tres ferè partes a basi excurrente positis. *Alæ* paulò breves atque debiles, valdè rotundatæ; tertiariis elongatis, ferè ad apicem alæ. *Tarsi* paulò longi, et robustiores quàm in genere 'Rallus;' digitis attamen brevioribus. *Cauda* longa, cuneiformis, pogoniis laxis et effusis.

Eulabeornis castaneoventris. *Eul. capite et collo cinereis;*

corpore superiore in toto olivaceo; pectore et corpore inferiore e cinereo-castaneis.

Head and neck ash-grey; all the upper surface, wings and tail olive; breast and all the under surface greyish chestnut; bill yellow at the base, horn-colour at the tip; legs and feet brown.

Total length, 19 inches; bill, $2\frac{1}{4}$; wing, $9\frac{1}{2}$; tail, 6; tarsi, $2\frac{1}{2}$.

Hab. North coast of Australia.

The "*Morduggera*" of the aborigines at Port Essington.

Family Procellaridæ.

Puffinus carneipes. *Puff. castaneo-niger; rostro e carneo albo, culmine apiceque fuscis; pedibus flavescenti-carneis.*

All the plumage chocolate-black; bill fleshy white; culmen and tips of the mandibles brown; legs, feet and membranes yellowish flesh-colour.

Total length, 15 inches; bill, $1\frac{3}{4}$; wing, 12; tail, 5; tarsi, 2; middle toe and nail, $2\frac{1}{2}$.

Procellaria Solandri. *Proc. capite, nuchâ, humeris, primariis et caudâ saturatè fuscis; dorso, alarum caudæque tectricibus e plumbeo-cinereis, plumis fusco marginatis; facie, corporeque subtùs fuscis, abdomine cinereo lavato.*

Head, back of the neck, shoulders, primaries and tail dark brown; back, wing-coverts and upper tail-coverts slate-grey, each feather margined with dark brown; face and all the under surface brown, washed with grey on the abdomen; bill, tarsi and membranes black.

Total length, 16 inches; bill, $1\frac{3}{4}$; wing, 12; tail, $5\frac{1}{2}$; tarsi, $\frac{3}{4}$; middle toe and nail, $2\frac{3}{8}$.

Procellaria leucoptera. *Proc. vertice, corpore superiore, alisque e plumbeo nigris; caudâ e plumbeo-cinereâ; facie, gutture, corpore inferiore, rectricum pogoniis internis ad basim, lineâque humerali albis; tarsis, et membranis interdigitalibus per dimidium basale e carneo-albis.*

Crown of the head, all the upper surface and wings dark slaty black; tail slate-grey; greater wing-coverts slightly fringed with white; face, throat, all the under surface, the base of the inner webs of the primaries and secondaries, and a line along the inner edge of the shoulder, pure white; bill black; tarsi and basal half of the interdigital membrane fleshy white; remainder of the toes and interdigital membrane black.

Total length, 13 inches; bill, 1; wing, $8\frac{1}{2}$; tail, 4; tarsi, $1\frac{1}{8}$; middle toe and nail, $1\frac{3}{8}$.

Aptenodytes undina. *Apt. corpore superiore, lateribus, alisque supernè nitidè cærulescentibus, per plumas singulas lineâ nigrâ longitudinali (latiore in plumis dorsalibus); corpore inferiore alisque subtùs et ad marginem, rectricumque pogoniis internis albis.*

The whole of the upper surface, flanks and upper surface of the wings glossy light blue, with a narrow stripe of black down the centre of each feather, the black mark being broadest and most con-

spicuous on the back; all the under surface of the body, under side, and the inner margin of the upper side of the wing and inner webs of the tail-feathers silky white; bill reddish brown beneath, black above; feet yellowish white.

Total length, $13\frac{1}{2}$ inches; bill, $1\frac{1}{4}$; tarsi, $\frac{3}{4}$.

Hab. Van Diemen's Land.

This is less than *Ap. minor,* to which it is nearly allied.

For the fine specimen here described I am indebted to Ronald C. Gunn, Esq., who procured it at Circular Head, Van Diemen's Land.

April 9, 1844.

William Yarrell, Esq., Vice-President, in the Chair.

A paper by Mr. Sylvanus Hanley was read, containing the following descriptions of new species of the genus *Tellina*, chiefly collected by H. Cuming, Esq. in the Philippine Islands and Central America :—

Tellina Cumingii*. *Tel. testâ elongato-oblongâ, subæquilaterali, solidâ, compressiusculâ, vix nitidâ, albidâ aut flavescente, maculis aut strigis lineisve brunneis aut fusco-purpurascentibus radiatâ, concentricè sulcatâ; sulcis anticè confertis, subimbricatis, posticè sublamellosis remotiusculis; margine ventrali convexo, utrinque sursùm acclinante; dorsali utrinque subdeclivi, anticè convexiusculo, posticè subrecto, subincurvato, subdentato; latere postico attenuato, rostrato, paululùm breviore, ad extremitatem biangulato; costâ umbonali valdè prominente; ligamento inconspicuo; superficie internâ albidâ aut flavidâ; dentibus lateralibus validis, subæquidistantibus.* Long. 0·95; lat. 2·40 poll.

Hab. Guacomayo, Central America; in coral sand.

Intermediate between *Spengleri* and *Mexicana*.

Tellina Rastellum. *Tel. testâ elongatâ, convexiusculâ, æquilaterali, solidâ, flavidâ, pallidè roseo radiatâ, anticè sulcatâ, posticè squamosâ; squamis erectis, lamellosis, in iisdem seriebus cum sulcis concentricis, ordinatis; margine ventrali vix convexiusculo; dorsali utrinque paululùm declivi, anticè vix convexiusculo, posticè recto aut subincurvato; latere postico attenuato, subrostrato, ad extremitatem obliquè biangulato; extremitate anticâ rotundatâ; ligamento, et costâ umbonali, conspicuis; superficie internâ albidâ, umbones versùs aurantio utrinque fucatâ; dentibus lateralibus validis, subæquidistantibus.* Long. 1·61; lat. 3·61 poll.

Hab. Zanzibar. Mus. Cuming, Stainforth, &c.

A species frequently confused with *pulcherrima*, but much more elongated, the sulci stronger, and the scales entirely absent from the anterior side.

Tellina asperrima. *Tel. testâ oblongo-ellipticâ, convexiusculâ, solidiusculâ, flavidâ aut incarnatâ, roseo-radiatâ, totâ superficie externâ, squamis asperrimâ; squamis anticè semilunatis, posticè (et præsertim supra costam umbonalem distinctam) spinosis; margine ventrali medio subrecto flexurâ distinctâ; dorsali utrinque subde-*

* In my former papers I have used the terms posterior and anterior in the Lamarckian sense of the words; but as I find this is contrary to the practice of the other writers in these Proceedings, for the sake of uniformity I now conform to *their* phraseology.

clivi et paululùm convexiusculo; latere antico breviore; extremitate posticâ subbiangulatâ, attenuatâ; dentibus lateralibus magnis, antico approximato. Long. 1·0; lat. 1·85 poll.

An unique specimen, in the cabinet of Mr. Cuming; found by him at Sual, province of Pangasinan, isle of Luzon (sandy mud, six fathoms). Allied to *pulcherrima*.

TELLINA JUBAR. *Tel. testâ* T. virgatæ *affinis, sed magis triangulari, altiore, minus elongatâ; rubro-purpureâ, radiis albis aut albidis ornatâ; margine ventrali subarcuato; dorsali utrinque declivior; superficie internâ albidâ, aut coloribus externis fucatâ.* Long. 1·65; lat. 2·50 poll.

Hab. ——? Mus. Cuming, Sowerby, &c.

TELLINA VERRUCOSA. *Tel. testâ oblongo-elongatâ, solidâ, compressâ; aut flavidâ, rubro-purpureo radiatâ, aut pallidè roseâ, radiis subalbidis angustis, zonisque saturatioribus, ornatâ; valvulâ alterâ, undique (natibus excipiendis) verrucosâ; alterâ, mediò concentricè sulcatâ, lateribus solùm verrucosâ; verrucis ellipticis, aut semilunatis, in seriebus vix interruptis, concentricè ordinatis; margine ventrali anticè subarcuato, posticè sursùm acclinante; dorsali anticè convexiusculo et vix subdeclivi, posticè subrecto, subdeclivi; latere antico longiore, rotundato; extremitate posticâ attenuatâ, subrostratâ, obliquè subbiangulatâ; ligamento haud prominente; flexurâ ventrali costâque umbonali, conspicuis; dentibus lateralibus magnis, æquidistantibus.* Long. 0·75; lat. 1·50 poll.

Hab. Corregidor, bay of Manila.

General shape of *T. crucigera*, but in sculpture quite distinct.

Two specimens only of this rare Tellen are as yet known, and both of them in the cabinet of H. Cuming, Esq.

TELLINA GUILDINGII. *Tel. testâ oblongâ, tenui, compressâ, subæquilaterali, albidâ, radiis aurantio-roseis, zonisque albido-roseis, ornatâ; sulcis exilibus, confertis, concentricè exaratâ; margine ventrali subrecto, mediò subretuso; dorsali utrinque declivi, et vix convexiusculo; latere postico paululùm breviore, attenuato; extremitate posticâ infernè angulatâ, anticâ rotundatâ; natibus acutis; costâ umbonali et flexurâ ventrali inconspicuis; ligamento prominente; dentibus lateralibus magnis, æquidistantibus.* Long. 0·70; lat. 1·30 poll.

Hab. West Indies. Mus. Metcalfe, Walton.

Possesses the general appearance of a *Psammobia*, and belongs to that section of *Tellinæ* of which *virgata* is the type.

TELLINA RUBESCENS. *Tel. testâ* T. striatæ *et* T. puniceæ *simillimâ; ab hâc autem differt, testâ tenuiore anticæ emarginationis experte; ab illâ, natibus obtusioribus, et extremitate posticâ minus attenuatâ; ab utroque, superficie nitidissimâ, ligamento infosso, margineque ventrali convexiore et utrinque subæqualiter declivi; sulcis in utrâque valvulâ posticè obsoletis; dentibus ut in* T. puniceâ, *sed minimis, inconspicuis.* Long. 1·25; lat. 1·75.

Hab. Panama and Tumbez; in sandy mud.

TELLINA REGIA. *Tel. testâ oblongâ, tenui, compressiusculâ, subinæquivalvi, subæquilaterali, nitidissimâ, pellucidâ, intus extusque roseo-purpurascente, concentricè sulcatâ; sulcis remotis, alterâ in valvulâ posticè evanescentibus; margine ventrali subrecto, mediò subretuso; dorsali utrinque subæqualiter declivi, posticè subrecto; latere antico paululùm breviore, ad extremitatem obtusè rotundato; extremitate posticâ supernè angulatâ, attenuatâ; costâ umbonali et flexurâ ventrali obsoletis; ligamento prominulo; dentibus ut in* T. puniceâ. Long. 1·0; lat. 1·80 poll.

Hab. Real Llejos, Central America; in coarse sandy mud, seven fathoms.

This species forms one of that group of which *punicea* is the type. Though closely allied to that species, its transparency, the more distant sulci, and its deep purplish-red colouring suffice to distinguish it.

TELLINA EBURNEA. *Tel. testâ oblongâ, opacâ, solidâ, inæquivalvi, convexâ, nitidâ, albidâ, inæquilaterali, concentricè sulcatâ; sulcis profundis, remotis (alterâ in valvulâ, nonnunquam posticè evanescentibus); margine ventrali convexiusculo, anticè sursùm acclinante; dorsali anticè subrecto, leviterque declivi, posticè recto subitòque declivi; latere postico multùm breviore, subcuneiformi; lineis erectis obliquis, aream nymphalem et analem rugantibus; ligamento brevi, prominente; flexurâ ventrali costâque umbonali subobsoletis; superficie internâ candidâ; dentibus lateralibus, ut in* T. puniceâ. Long. 0·90; lat. 1·50 poll.

Hab. Tumbez, Peru; in soft sandy mud, five fathoms.

Allied to *punicea*, but easily distinguished from that and any other allied species by the peculiar elevated sulci on the dorsal areas.

TELLINA PRORA. *Tel. testâ subtrigonâ, ovali, solidâ, convexiusculâ, subæquilaterali, nitidâ, extus intusque pallidè roseâ, aut sublævigatâ, aut concentricè et tenuissimè striatâ; margine ventrali convexo; dorsali utrinque valdè et subæqualiter declivi, subrecto; extremitate posticâ acuminatâ; flexurâ ventrali costâque umbonali subobsoletis; ligamento prominulo; dentibus lateralibus magnis, antico approximato.* Long. 1·20; lat. 1·80 poll.

Hab. Porto St. Elena, West Columbia; sandy mud, six fathoms; and Salango, West Columbia, sandy mud, nine fathoms.

Its extremely delicate concentric striæ and acuminated extremity separate it from most of the allied species. It belongs to that group which contains *punicea*.

TELLINA LACERIDENS. *Tel. testâ oblongo-subtrigonâ, solidâ, opacâ, subæquilaterali, nitidissimâ, convexiusculâ, albâ (intus candidâ), supernè lævigatâ, infernè concentricè et confertim striatâ; margine ventrali convexiusculo; dorsali utrinque convexiusculo, et subæqualiter declivi; extremitate anticâ rotundatâ (plerumque subattenuatâ), posticâ rotundato-acuminatâ; costâ umbonali et flexurâ ventrali inconspicuis; ligamento magno, elongato, prominente; dentibus primariis laceratis, antico laterali subapproximato, postico laterali, minore, remoto.* Long. 1·50; lat. 2·50 poll.

Hab. Tumbez, Peru; soft sandy mud, five fathoms.

Var. *Testâ magis trigonâ, sulcis confertis, undiquè exaratâ.* Long. 1·20; lat. 1·80 poll.

Hab. Chiriqui, West Columbia; sandy mud, three fathoms.

The ragged primary teeth, the large and elongated ligament, and the either smooth or *closely* sulcated surface, distinguish it from any of the allied species.

TELLINA PRINCEPS. *Tel. testâ oblongo-ellipticâ, æquilaterali, solidâ, compressâ, nitidiusculâ, intus extusque roseo-purpurascente, concentricè sulcatâ; striis exilibus, profundis, radiantibus, sulcos confertos utrinque (et alterâ in valvulâ undique) decussantibus; margine ventrali subrecto, dorsali utrinque leviter et æqualiter subdeclivi; extremitate posticâ, obtusissimè angulatâ; flexurâ ventrali costâque umbonali obsoletis; ligamento prominente; dente laterali antico approximato, postico parvo, remoto, inconspicuo.* Long. 2; lat. 3·50 poll.

Hab. Tumbez, Peru; soft sandy mud, five fathoms.

Although not easily confused with any of that section (with two lateral teeth) to which it belongs, it closely resembles *Tellinides purpurascens.*

TELLINA SOWERBII. *Tel. testâ subellipticâ, subinæquivalvi, tenui, compressâ, lævigatâ, politâ, candidâ; margine ventrali arcuato, posticè sursùm acclinante; dorsali anticè vix paululùm declivi, convexiusculo, posticè paululùm declivi, propè nates subincurvato, deindè convexo; latere antico longiore, subproducto, postico rotundato-acuminato; ligamento parvo, angustissimo, infosso; flexurâ ventrali costâque umbonali subinconspicuis; superficie internâ albidâ, plerumque aurantio tinctâ; dentibus lateralibus tenuibus, subæquidistantibus.* Long. 2; lat. 3·30.

Hab. ——? Mus. Sowerby, Hanley.

Bears a slight resemblance to the *acuta* of Wood.

TELLINA PUDICA. *Tel. testâ parvâ, solidâ, ovato-subtrigonâ, subæquilaterali, nitidâ, candidâ, sublævigatâ, tenuissimè concentricè striatâ; margine ventrali anticè arcuato, posticè subitò sursùm acclinante; dorsali utrinque valdè declivi, anticè convexo, posticè elongato, subrecto; latere antico paululùm breviore, subventricoso, rotundato; postico compresso, rostrato; extremitate posticâ subacuminatâ; natibus prominentibus; flexurâ ventrali costâque umbonali subinconspicuis; ligamento minimo, infosso; superficie internâ politâ; dentibus lateralibus distinctis, subapproximatis, subæquidistantibus.* Long. 0·30; lat. 0·40 poll.

Hab. Catbalonga, isle of Samar; ten fathoms, soft mud.

A stout little shell, possessing the general contour of a *Neæra*, and not easily to be confused with any species of this genus.

TELLINA NUX. *Tel. testâ obovali, subinæquivalvi, subæquilaterali, tenui, convexâ aut subventricosâ, nitidâ, sublævigatâ aut infernè concentricè substriatâ, intus extusque albidâ, umbonibus hyalinis et fulvis; margine ventrali subarcuato, dorsali utrinque convexo, satis*

et æqualiter declivi; extremitate posticâ obtusâ, attenuatâ; ligamento angustissimo, infosso; natibus obtusis; flexurâ distinctâ; costâ umbonali inconspicuâ; dentibus lateralibus distinctis, antico paululùm propinquiore. Long. 0·50; lat. 0·75 poll.

Hab. St. Nicholas, Zebu; sandy mud, four fathoms.

More oval than the three succeeding closely allied species.

TELLINA PINGUIS. *Tel. testâ parvâ, rotundato-ovali, tenui, subinæquivalvi, subæquilaterali, nitidâ, convexâ aut subventricosâ, intus extusque albidâ (rarius incarnatâ), lævigatâ (nonnunquam concentricè substriatâ); margine ventrali arcuato, dorsali utrinque convexo et subæqualiter declivi; extremitate posticâ obtusâ; flexurâ distinctâ; natibus minimis; costâ umbonali ferè obsoletâ; ligamento angustissimo, infosso; dentibus ut in* T. nuce. Long. 0·50; lat. 0·60 poll.

Hab. St. Nicholas, Zebu.

By its more orbicular outline it may be distinguished from *nux* and *casta*. It is still more closely allied to *robusta*, but its tenuity, more obtuse hinder extremity, and the greater convexity and less sudden slope of the dorsal edges, suffice for its separation.

TELLINA ROBUSTA. *Tel. testâ parvâ, rotundato-subtrigonâ, solidâ, subinæquivalvi, subæquilaterali, ventricosâ, nitidâ, aut albo-flavescente, aut pallidè rosaceâ, sublævigatâ (plerumque inferius remotè substriatâ); margine ventrali valdè arcuato, dorsali utrinque subrecto et valdè declivi; latere postico attenuato, ferè subrostrato, ad extremitatem acuminato; ligamento angustissimo, infosso; natibus distinctis, prominentibus, et rectè incurvatis; umbonibus tumidis; flexurâ distinctâ; costâ umbonali ferè obsoletâ; lunulâ parvâ; superficie internâ, plerumque sub umbonibus, flavidâ aut roseâ; dentibus ut in* T. nuce. Long. 0·70; lat. 0·80 poll.

Hab. Isle of Annaa, South Seas, and isle of Burias, Philippines; sandy mud, low water.

Is closely allied to *nux*, *pinguis* and *casta*, but of a stouter texture even in the youngest individuals. The ligamental edge being nearly straight, easily separates it from *pinguis*, where it is decidedly convex.

TELLINA CASTA. *Tel. testâ obovali, tenuissimâ, subinæquivalvi, subæquilaterali, pellucidâ, convexâ, nitidâ, extus intusque candidâ, lævigatâ; margine ventrali maximè arcuato; dorsali utrinque subrecto, subæqualiter satisque declivi; extremitate posticâ angustâ, biangulatâ; ligamento angustissimo, subinfosso; natibus acutis; flexurâ ventrali costâque umbonali distinctis; dentibus ut in* T. nuce. Long. 0·36; lat. 0·48 poll.

Hab. Singapore; sandy mud.

Bears some resemblance to *T. nux*, but the shape is less broad, the ventral edge decidedly arcuated, the dorsal edges less convex and shorter, and the umbones colourless.

TELLINA DISCUS. *Tel. testâ* T. Remiei *simillimâ, sed subobliquâ et sulcis concentricis valdè irregularibus, vixque continuis; natibus*

haud rectè incurvatis; margine postico dorsali elevatiore, antico dorsali, prope nates prominulas subincurvato; umbonibus lævigatis; extremitate posticâ angulatâ. Long. 2·75; lat. 3 poll.
Hab. Isle of Mindanao; on reefs, in coarse sand.

TELLINA CYRENOIDEA. *Tel. testâ suborbiculari, solidiusculâ, inæquivalvi, valdè inæquilaterali, subventricosâ, sordidè albâ (intus, sub umbonibus, purpureâ), concentricè costellatâ; striis minutis obliquè radiantibus, costellas confertas posticè decussantibus; margine ventrali arcuato; dorsali utrinque valdè et subrectè declivi, anticè brevi, posticè longiore; latere antico breviore, obtusè rotundato; extremitate posticâ obtusâ, paululùm attenuatâ; natibus prominentibus; lunulâ distinctâ; ligamento infosso; flexurâ costâque umbonali obsoletissimis; dentibus lateralibus parvis, distinctis, subæquidistantibus.* Long. 0·60; lat. 0·70.
Hab. St. Nicholas, isle of Zebu; sandy mud, low water.
In external appearance bears much resemblance to a *Cyrena.*

Nineteen specimens of Stuffed Birds, from Van Diemen's Land, presented by Thomas Alexander, Esq., F.Z.S., were exhibited.

Letters were read from E. D. Dickson and H. J. Ross, Esqrs., Corr. Memb., which were accompanied by a donation of Mammals, Birds, Reptiles, Insects, &c. Also seven Birds' Skins, from the island of Cerigo, presented by Capt. Thomas Graves, R.N., Corr. Memb.

The birds, which were in an excellent state of preservation, were named by Mr. Fraser, and the following notes by Messrs. Dickson and Ross were read:—

Circus rufus, Briss.

"Shot near Lake Tajoora, December 1, 1842. Female. Had an immense quantity of eggs in its ovarium; I never before met with so astonishing a number in any bird. Its brain was large, and, excepting the tubercular masses on its base, consisted of almost entirely cineritious matter. Cranium strongly marked with protuberances on its upper surface."

Alcedo ispida, Linn.

"Female. Shot on the sea-shore 18th of November 1842. Said to be a rare bird at Tripoli. This specimen, together with others I found at Trebizond, were a good deal smaller than those birds I procured at Erzeroom."

Muscicapa grisola, Linn.

"Very common about the trees on the Jebel mountains, May and June 1843."

Muscicapa albicollis, Temm.

"Male. Killed at Tripoli June or July 1843. Female. Common in the Owaniyeh valley on Jebel mountains, May 1843. Flies exactly like a swallow."

Lanius Excubitor? Linn.

"Male. Sent by Mr. Gagliuffi, H.M.B. Vice-Consul at the capital of Fezzan, March 1843."

Lanius rufus, Briss.

"Male. Shot on the Jebel mountains June 1843. Female. Food small beetles: disposition shy. Total length from bill to tail 7·6 inches. Common on Jebel mountains: shot 5th of May 1843."

Oriolus galbula, Linn.

From the island of Cerigo, Mediterranean. Presented by Capt. Thomas Graves, R.N.

Saxicola rubetra, Bechst.

"Male. Shot in a garden on the 9th of November 1843. Female. Shot on the Jebel mountains May 1843."

Saxicola Deserti, Rüpp.

"Shot at Sokna by G. B. Gagliuffi, Esq., March 1843. Food, ants and other small insects."

Saxicola Œnanthe, Gould.

Two specimens. Shot by G. B. Gagliuffi, Esq. at Sokna, March 1843, and one in the autumn of 1843.

Saxicola —— ?

This is apparently a new species, nearly allied to *S. cachinnans*, Temm., but I defer describing it until more specimens are received.

"Male. Shot in the Wadi Belkashim. Sent from Fezzan in the autumn of 1843 by G. B. Gagliuffi, Esq."

Saxicola —— ?

"A young bird, shot upon the Jebel mountains June 1843. Appears to belong to an undescribed species."

Phœnicura ruticilla, Swains.

"Male. Shot by G. B. Gagliuffi, Esq. at Sokna, March 1843."

Curruca cinerea, Bechst.

"Sent from Fezzan during the autumn of 1843 by G. B. Gagliuffi, Esq."

Curruca melanocephala, Lath.

"Male. Shot in a garden on the 9th of November 1843. Eyelids orange-red."

Curruca orphea, Gould.

"Shot in Owaniyeh valley on the Jebel mountains 5th of May 1843. Male. Total length 6·7 inches: food beetles: eyes pale straw-yellow, with dilated black pupils: lives among rushes. It had the largest testes I ever observed in any bird of its size; they were 0·7 of an inch long, and equal in magnitude to its gizzard."

Salicaria Phragmitis, Selb.

"Shot on the Jebel mountains May 1843."

Salicaria galactotes, Gould.

"Male. Songster. Food, minute grasshoppers, insects, &c. Total length 7¼ inches; bill dusky brown, legs light brown; testicles white and very large, each being nearly equal in size to its gizzard. Habits shy. This lovely bird, whenever it perches upon a branch, wags its tail like a *Motacilla*."

Malurus Acaciæ? Rüpp.

"Female. Shot by G. B. Gagliuffi, Esq., between Tarhona and Benoleed. Food, ants."

Motacilla neglecta, Gould. *Budytes neglecta,* Cuv.

"Sent from Fezzan during the autumn of 1843 by G. B. Gagliuffi, Esq."

Anthus pratensis, Bechst.

"Male. Shot on the 30th of October 1843."

Alauda arvensis, Linn.

"Shot on the 30th of November 1843, in the vicinity of Lake Tajoora, where they were collected into large flocks in the stubble-fields, apparently migrating. They were very shy."

Alauda brachydactyla, Temm.

"Male and female. Shot by G. B. Gagliuffi, Esq. at Sokna in March 1843."

Alauda cristata? Linn.

"Samsoon Lark. Very common at times. Shot in May? 1842."

Pyrgita domestica? Cuv.

Two very pretty varieties; one nearly white, but retaining the black throat. "Male. Sent by G. B. Gagliuffi, Esq., March 1843."

The other pale cinnamon. "Sent from Fezzan during the autumn of 1843 by G. B. Gagliuffi, Esq."

Cuculus canorus, Linn.

"Shot either in June or July 1843."

Perdix petrosa, Lath.

"Killed in December 1842. Very common all over the country, frequenting ravines, hills, and all places where they can find cover, and often met with even in our gardens: flies in coveys: a shy bird: used as food by the natives, though its flesh is dry and without flavour. Its heart is so small that it does not exceed that of a sparrow."

Otis Houbara, Linn.

"Male. Houbara. Caught by falcons on the 23rd of March 1843. Total length 28½ inches; stomach capacious, but thin; distended with bits of vegetable matter, like portions of green dates."

Cursorius Isabellinus, Meyer.

"Male. Shot at Tripoli. This is probably an inhabitant of the inland lakes of Africa, for it makes its first appearance with us during the months of July and August, and quits us again for the winter. It frequents pools and other moist situations, where it occasionally is seen in astonishing numbers. A shy bird, and reckoned good eating."

Ardea cinerea, Linn.

"Brought by an Arab 14th of March 1843. Male. Total length 53½ inches: eyes of a sulphur-yellow colour; bill bright yellow; legs light brown with dusky claws."

Ardea garzetta, Linn.
From Cerigo. Presented by Capt. Thomas Graves, R.N.

Ardea comata, Pall.
From Cerigo. Presented by Capt. Thomas Graves, R.N.

Ibis Falcinellus, Temm.
From Cerigo. Presented by Capt. Thomas Graves, R.N.

Gallinula chloropus, Lath.
"Sent from Fezzan during the autumn of 1843 by G. B. Gagliuffi, Esq."

Botaurus stellaris, Steph.
"Sent from Fezzan during the autumn of 1843 by G. B. Gagliuffi, Esq."

Limosa melanura, Leisl.
"Tripoli, June or July 1843."

Himantopus melanopterus, Meyer.
"Tripoli, June or July 1843," and an apparently young bird. "Shot at Tajoora Lake 1st of December 1843." And two specimens from Cerigo, presented by Capt. Thomas Graves, R.N.

Charadrius pluvialis, Linn.
"Young female? Total length 13·3 inches. Contents of its gizzard insects, grass and pebbles. Shot on the 17th of November 1843. Said to be common on the shore to the westward of the town."

Charadrius hiaticula, Linn.
"Female. Shot on the 5th of December 1843. Legs pale orange-red. Common along the sea-beach in December."

Tringa variabilis, Meyer.
"Shot 24th of December 1842, on the sea-side."

A beautiful specimen of *Siliquaria anguina* formed a part of this donation.

April 23, 1844.

William Yarrell, Esq., Vice-President, in the Chair.

A continuation of Mr. Sylvanus Hanley's paper on new *Tellinæ* was read, containing the following descriptions:—

Tellina sincera. *Tel. testâ* T. carnariæ *simillimâ, sed majore, latiore, compressâ et albidâ; striis tenuioribus; ligamento valdè angusto; natibus paululùm ad latus anticum spectantibus; margine ventrali tantùm subarcuato; dentibus lateralibus conspicuis, subæquidistantibus.* Long. 1·20; lat. 1·40 poll.

Hab. ——? Mus. Cuming, Metcalfe.

Extremely like *T. carnaria*, but larger, broader, and more flattened. The oblique striæ are minute, and almost entirely disappear in aged specimens.

Tellina Senegalensis. *Tel. testâ* T. splendidæ *simillimâ, sed striis sulcisque exilioribus magisque confertis; extremitate etiam posticâ, striis arcuatis obliquis in utrâque valvulâ, ornatâ; superficie internâ purpureâ, albo posticè biradiatâ.* Long. 0·80; lat. 1 poll.

Hab. Senegal.

An extremely common shell, bearing some slight resemblance to *carnaria*, and has probably been hitherto neglected, from its close approximation to the *splendida* of Anton.

Tellina incarnata. *Tel. testâ obovatâ, subobliquâ, inæquilaterali, ventricosâ, solidâ, incarnatâ aut albido-roseâ, impolitâ; striis elevatis concentricis tenuissimis, striis radiantes elevatas confertissimè decussantibus; margine ventrali arcuato, posticè sursùm accliviore; dorsali anticè declivi et prope nates paululùm incurvato, posticè elevatiore subarcuato et subitò declinante; ligamento infosso; superficie internâ flavescente, margines versus subroseâ; dentibus lateralibus maximis.* Long. 0·70; lat. 0·95 poll.

Hab. San Nicholas, Zebu; sandy mud, low water.

This graceful species is allied in sculpture to the *decussata* of Lamarck, but the shape and colouring easily distinguish it. In almost every adult specimen the tips of the beaks are chalky white, the umbones yellow, and the ligamental edge rosy.

Tellina Lyra. *Tel. testâ ovali, tenui, compressâ, nitidiusculâ, albâ, striis concentricis elevatis ornatâ, interstitiis lævigatis; margine ventrali ad utramque extremitatem arcuato, mediò convexiusculo; dorsali posticè altiore, convexo satisque declinante, anticè prope lunulam excavatam, aut horizontali aut leviter acclivi; latere antico paululùm longiore, rotundato; extremitate posticâ obtusâ;*

natibus acutis, prominentibus; flexurâ obsoletâ; dentibus lateralibus distinctis, antico approximato, postico parvo, remotiore. Long. 1·80; lat. 2·60 poll.

Hab. Tumbez, Peru.

This most exquisite shell will probably prove inequivalve, but as I have never met with any but left valves, I can only judge so from analogy. Although very different in shape, its texture and the excavated dorsal areas remind us of *Burnetti*. The ventral fold is obsolete, and the situation of the umbonal ridge is indicated by a linear carina, which is only separated from the dorsal edge by a narrow concavity.

Tellina Philippinarum. *Tel. testâ ovatâ aut subovatâ, tenui, subæquilaterali, intus extusque candidâ, nitidâ, concentricè et tenuissimè striatâ; margine ventrali arcuato, posticè sursùm acclivi; dorsali antico brevi, recto, subdeclivi; latere postico subcuneiformi; ligamento prominulo; extremitate anticâ obtusâ; cardine dente laterali (in junioribus subobsoleto) antico subapproximato.* Long. 0·70; lat. 1 poll.

Hab. St. Nicholas, isle of Zebu, and Jimmamailan, isle of Negros.

This shell, which appears to be common throughout the Philippine Islands, reminds us by its shape of the *T. solidula*. It is rather variable in its proportions, and but rarely attains the assigned dimensions. In aged specimens the vicinity of the umbones is usually of a flesh-colour or tawny orange.

Tellina Listeri. *Tel. testâ obovatâ, solidâ, ventricosâ aut subventricosâ, æquilaterali, glabrâ, extus intusque candidâ; margine ventrali mediò subrecto; dorsali anticè arcuato paululùmque declivi, posticè recto, declivi; latere antico dilatato, obtusè rotundato; postico obtusissimè biangulato; ligamento magno, infosso; natibus obtusis; umbonibus plerumque subplanulatis; cardine dente laterali antico subapproximato.* Long. 2·3; lat. 3· poll.

Hab. Senegal. Mus. Cuming, Hanley.

This species appears to be represented in Lister's 'Historia Conchyliorum,' plate 288. fig. 235. Although in general shape it is approached by many of its section (*Tellinæ* with a single lateral tooth), its superior size and solidity render it remarkable.

Tellina pumila. *Tel. testâ* T. Philippinarum *simillimâ, sed angustiore; margine ventrali mediò subrecto; dorsali utrinque recto aut subconcavo, anticè paululùm declivi, latere postico cuneiformi; margine antico recto, verticali.* Long. 0·60; lat. 0·90 poll.

Hab. Valparaiso; sandy mud, from seven to thirty fathoms.

Easily to be confused with *T. Philippinarum*, but is decidedly narrower and the margins less convex. The front dorsal edge, which is longer and less sloping than in that species, forms an angle with the straight and direct anterior margin.

Tellina Culter. *Tel. testâ parvâ, ovatâ, inæquilaterali, tenuiusculâ, convexâ, nitidâ, intus extusque aurantio-roseâ, lævigatâ;*

margine ventrali anticè arcuato, posticè sursùm acclivi; dorsali anticè magis minusve convexo satisque declivi, posticè recto et valdè declivi; latere antico producto, ad extremitatem obtusè rotundato; postico acuminato; natibus acutis; ligamento vix prominulo; flexurâ ventrali obsoletâ; cardine dente laterali antico parvo, approximato. Long. 0·35; lat. 0·55 poll.

Hab. Cagayan, province of Misamis, Mindanao; twenty-five fathoms, sandy mud.

This species is closely allied to the *tenuis* of our own shores, but may be distinguished by its acuminated extremity. In young specimens there are indications of concentric striæ near the front of the ventral margin.

Tellina Corbuloides. *Tel. testâ subovali, inæquivalvi, solidâ, subventricosâ, sublævigatâ, roseo-incarnatâ (intus plerumque aurantio-rubrâ); margine ventrali sinistræ valvulæ, ultra marginem convexiusculum alterius, prominente; latere antico breviore, obtusè acuminato; extremitate posticâ rotundatâ; areâ dorsali posticâ in adultis subplanulatâ; natibus obtusis; flexurâ ventrali distinctâ; cardine dente laterali, parvo, approximato, antico.*

Var. *Testâ extus intusque candidâ.* Long. 0·80; lat. 1·20 poll.

Hab. Catbalonga, isle of Samar; ten fathoms, soft mud.

The general appearance of this shell gives us the idea of a *Corbula.* It is covered when fresh with a thin fugacious epidermis, which reflects the most brilliant prismatic colours.

Tellina Cycladiformis. *Tel. testâ parvâ, rotundato-subtrigonâ, tenui, ventricosâ, intus extusque incarnatâ aut pallidè roseâ, sublævigatâ; margine ventrali convexo; dorsali utrinque declivi, convexiusculo; latere antico rotundato et paullò breviore; extremitate posticâ obtusè subangulatâ; ligamento prominulo; flexurâ costâque umbonali obsoletis; cardine dente laterali parvo, approximato, antico.* Long. 0·20; lat. 0·25.

Hab. St. Nicholas, Zebu.

Not unlike *pisiformis,* but destitute of oblique striæ.

Tellina insculpta. *Tel. testâ oblongo-elongatâ, solidiusculâ, compressâ, æquilaterali, extus intusque candidâ; sulcis confertis concentricè exaratâ, striisque tenuissimis radiantibus (præsertim posticè) decussatâ; margine ventrali elongato, subrecto; dorsali utrinque subrecto, subdeclivi; extremitate posticâ subbiangulatâ; flexurâ ventrali distinctâ; cardine dente laterali quamplurimum approximato, antico.* Long. 1; lat. 2 poll.

Hab. Chiriqui, West Columbia; sandy mud, three fathoms.

This unique and elegant shell possesses the shape and general appearance of a *Psammobia.* The single anterior lateral tooth is so close to the primary ones, that the hinge appears to be composed of three cardinal teeth in the left valve. Beyond the almost obsolete umbonal ridge the concentric sulci become broken into small scales. The delicate radiating striæ are quite obsolete in front. The shell seems slightly inequivalve.

Tellina inæqualis. *Tel. testâ subovatâ, valdè inæquilaterali, solidâ, convexâ, candidâ, tenuiter striatâ; striis supernè obliquis, infernè concentricis, flexuosis; supra costam umbonalem inconspicuam, rugis erectis flexuosis, asperatâ; margine ventrali convexissimo; dorsali anticè subincurvato et valdè declivi, posticè brevi, recto, subdeclivi; latere antico producto, ad extremitatem attenuato, rotundato; extremitate posticâ obtusâ; natibus acutis; lunulâ distinctâ; superficie internâ candidâ, aut flavescente; cardine dente laterali magno, subremoto, antico.* Long. 0·90; lat. 1·20 poll.

Hab. Ceylon. Mus. Cuming.

An unique specimen of this curious shell is in the museum of Mr. Cuming, and reminds us in many particulars of the *Tellina Gargadia*; but that species is neither so narrow nor so greatly inequilateral, its oblique striæ do not extend over the posterior portion of the shell, and its hinge is clearly provided with two lateral teeth. The elevated flexuous wrinkles radiate down the umbonal slope in three distinct lines.

Tellina Felix. *Tel. testâ subovali, solidiusculâ, valdè inæquilaterali, convexiusculâ, nitidâ, lævigatâ, intus extusque roseâ; margine ventrali vix convexiusculo; dorsali anticè vix declivi, convexo, posticè valdè declivi; latere postico brevissimo, obtusè subtruncato, infernè subangulato; extremitate anticâ rotundatâ; costâ umbonali et flexurâ ventrali subobsoletis; cardine dente laterali magno, approximato, antico.* Long. 0·38; lat. 0·80 poll.

Hab. Panama; sandy mud, six to ten fathoms.

This elegant little shell approximates in form to the British *Donacina*, but differs as well in colouring as in sculpture and teeth.

Tellina Columbiensis. *Tel. testâ ellipticâ aut oblongo-ellipticâ, compressiusculâ, subtenui, lævigatâ, intus extusque albidâ, epidermide tenuissimâ, fulvo-cinereâ indutâ; margine ventrali mediò convexiusculo, utrinque arcuato; dorsali utrinque convexo, anticè paullò, posticè satis declivi; latere antico longiore, rotundato; extremitate posticâ acuminatâ; flexurâ subobsoletâ; dentibus primariis minimis, lateralibus nullis.* Long. 1·70; lat. 3 poll.

Hab. Monte Christi, West Columbia; sandy mud, twelve fathoms.

Its more compressed valves and minute teeth will distinguish it from the few species which are allied to it in outline. The hinge-margin is very short and rather broad. The general shape is that of *T. Soverbii*.

Tellina Souleyeti. *Tel. testâ oblongâ, tenuiusculâ, convexo-depressâ, intus extusque albidâ, lævigatâ; margine ventrali magis minusve convexo; dorsali anticè convexiusculo et subdeclivi, posticè subrecto aut subretuso et valdè declivi; flexurâ costâque umbonali distinctis; ligamento infosso; natibus acutis; latere antico longiore, rotundato; extremitate posticâ subrostratâ; dentibus lateralibus nullis.* Long. 0·75; lat. 1·25 poll.

Hab. St. Nicholas, Zebu; sandy mud at low water.

I have named this species in honour of my friend M. Souleyet,

whose investigation of the *Pteropoda* promises to be of high interest to natural science.

TELLINA UNDULATA. *Tel. testâ oblongâ, tenuissimâ, compressâ, impolitâ, intus extusque albidâ, subobliquè et concentricè undulatâ; margine ventrali convexo; dorsali anticè subrecto et vix declivi, posticè incurvato, satisque declivi; latere postico brevi, attenuato, rostrato; flexurâ costâque umbonali distinctis; natibus acutis; dentibus lateralibus nullis.* Long. 0·40; lat. 0·80 poll.

Hab. St. Elena, West Columbia; sandy mud, six fathoms.

The oblique waves are chiefly conspicuous in front of the shell, and become concentric posteriorly. This character is so distinct that the species cannot possibly be confounded with any of this genus. The general shape is that of *crucigera*; the fold is very distinct and the ligament sunken.

TELLINA MICANS. *Tel. testâ subovali, tenui, nitidissimâ, compressâ, niveâ, lævigatâ; margine ventrali convexo; dorsali anticè convexiusculo, subhorizontali; latere antico longiore, ad extremitatem rotundato aut obtuso; postico cuneiformi; flexurâ costâque umbonali obsoletis; natibus obtusis; dentibus lateralibus nullis.* Long. 0·50; lat. 1 poll.

Hab. Catbalonga, isle of Samar, and Bias, isle of Negros.

Bears a close resemblance to the *margaritacea* of Lamarck, but that species is not devoid of lateral teeth. It is a glassy-looking shell and highly polished; the surface too is sometimes slightly opalescent.

TELLINA CUSPIS. *Tel. testâ ovatâ, solidiusculâ, convexâ, nitidiusculâ, roseâ, anticè et infernè substriatâ; margine ventrali arcuato; dorsali utrinque subdeclivi, anticè convexo, posticè recto aut subretuso; flexurâ costâque umbonali distinctis; latere antico paululùm longiore, rotundato; postico subacuminato, subrostrato; dentibus lateralibus nullis.* Long. 1·20; lat. 1·85 poll.

Hab. ——? Mus. Cuming, Walton, Metcalfe.

A beautiful shell, whose general appearance is that of an abbreviated specimen of the *T. depressa* of Lamarck, which latter must resume its prior appellation of *incarnata*, being decidedly the species so designated by Linnæus.

"Descriptions of *Marginellæ* collected during the voyage of H.M.S. Sulphur, and from the collection of Mr. Cuming," by Mr. Hinds.

MARGINELLA, Lamarck.

Section I. *Phænospira.*

MARGINELLA PIPERATA. *Mar. testâ obovatâ, maculis parvis nigris et albidis, interdum longitudinaliter coalitis, confertim ornatâ; spirâ retuso-conicâ, obtusâ; anfractu ultimo rotundatè angulato; spirâ lineâ unicâ comitatâ; labro incrassato, extùs nigro maculato, intùs lævi; columellâ quadriplicatâ.* Axis 9 lin.

Hab. ——?

Cab. Cuming.

MARGINELLA SCRIPTA. *Mar. testâ parvâ, retusè ovatâ, cinereâ, lineis nigris longitudinalibus valdè angulatis (zic-zac) sparsim maculatis; spirâ retusissimâ; labro intùs denticulato; columellâ quinqueplicatâ, duabus superioribus transversis.* Axis $3\frac{1}{2}$ lin.

Hab. Straits of Macassar; in eleven to fifteen fathoms, coarse sand.

Cab. Belcher.

MARGINELLA LIVIDA. *Mar. testâ ovatâ, pallidè cærulescente, obsoletè trifasciatâ; spirâ retusâ; labro albido, valdè incrassato, intùs lævi; columellâ latè callosâ, suprà spiram ascendente, quadriplicatâ.* Axis $6\frac{1}{2}$ lin.

Hab. Cuba.

Cab. Grüner.

Shell ovate, dull pale blue, indistinctly banded by a darker colour; the face covered by a white callosity spreading over the columella, ascending along the spire, and running into the labrum, which is thus thickened even beyond what is usual; the back shouldered and slightly angular.

It is to the liberality of M. Grüner that I am indebted for the opportunity of including this shell in these descriptions.

MARGINELLA NODATA. *Mar. testâ elongatè ovatâ vel subfusiformi, luteo-olivaceâ, lineis nigris subflexuosis longitrorsum ornatâ, punctis concoloribus conspersis; spirâ elongatâ, inconspicuè plicocostatâ; labro incrassato, intùs denticulato; columellâ quadriplicatâ.* Axis 10 lin.

Hab. Cape Blanco, west coast of Africa; in from twelve to fifteen fathoms, among sand.

Cab. Belcher.

With the general aspect and character of *M. Cleryii*, but somewhat larger, more broadly shouldered, the longitudinal lines studded at intervals with dark spots, and which are somewhat regularly disposed in the transverse direction; and lastly, the spire is less elongated and furnished with rather indistinct pliciform ribs.

MARGINELLA MUSICA. *Mar. testâ ovatâ, cinereo-olivaceâ, lineis nigris transversim ornatâ; spirâ retuso-conicâ; labro paululùm incrassato, intùs lævi; columellâ quadriplicatâ.* Axis 8 lin.

Hab. Cape Blanco, west coast of Africa; in thirty-five fathoms, sand.

Cab. Belcher.

Readily distinguished from any species hitherto recorded by the transverse, somewhat distant, and regularly disposed dark lines.

MARGINELLA BELCHERI. *Mar. testâ concinnè ovatâ, albâ, lineis eleganter punctatis raris, frequentioribus, vel confertis transversim dispositis, interdum albo fasciatâ; spirâ mediocri, conicâ; labro incrassato, albo, prope medium subdilatato, intùs lævi; columellâ quadriplicatâ.* Axis 9 lin.

Hab. Cape Blanco, west coast of Africa; in from twelve to fifteen fathoms.

Cab. Belcher.

This very beautiful species displays considerable variation in the character of its markings. In some individuals the exterior is nearly white, with a few scattered transverse lines, composed of elegant minute dottings, and these are perhaps the older shells; from this they gradually become more and more covered with them, till in some the whole surface is quite darkened. In this latter case irregular lines become conspicuous in the longitudinal direction. In many specimens the transverse lines are separated by intervals, which permit the ground-colour of the shell to show through like milk-white bands. The outer lip seems in all cases to retain its uniform white colour, and at its upper part is slightly emarginate, but becomes thickened at and a little beneath the centre.

MARGINELLA SAPOTILLA. *Mar. testâ elongatè ovatâ, ferè subcylindraceo-ovatâ; cinereâ vel glaucescente, concolore; spirâ retusoconicâ; apertura intùs fuscâ; labro incrassato, recto, albo, posticè fulvo, intùs lævi; columellâ quadriplicatâ.* Axis 11 lin.

Hab. Panama; in from five to thirteen fathoms, sandy mud.

Cab. Belcher et Cuming.

The American analogue of *M. cærulescens*, or more correctly *M. prunum*, than which it is of smaller size, more cylindrical in shape, whence result its straight outer lip, less fullness and roundness of the shoulders, but without any disposition to that obscure banding which is visible in some specimens of *M. prunum*. Both species present a rich brown colour within the aperture, and in general appearance they are remarkably alike.

MARGINELLA CONSTRICTA. *Mar. testâ albidâ, obscurè trifasciatâ; spirâ retusè conicâ; anfractu ultimo prope medium coarctato; labro incrassato, medio incurvato, intùs lævi, supernè ad spiram adscendente; columellâ quadriplicatâ.* Axis 8 lin.

Hab. ——?

Cab. Cuming.

MARGINELLA NIVOSA. *Mar. testâ ovatâ, cinereo-fuscâ; maculis lacteis laceratis super lineas longitudinales dispositis; spirâ retusâ; labro subrecto, incrassato, albo, ad spiram adscendente, intùs infra medium læviter denticulato; columellâ quadriplicatâ.* Axis 9 lin.

Hab. ——?

Cab. Cuming.

A full-shaped oval shell of a fawn colour, with longitudinal lines, as if marking the periods of growth, on which are aggregated small irregular milk-white spots; these are generally clustered on the lines, but a few occupy the intervals between them. The outer lip is of an uniform white, and beneath its middle are a few rather indistinct denticulations; above it ascends to the spire, which it renders callous on that side. Within it is of a pale fawn-colour.

MARGINELLA PRUINOSA. *Mar. testâ ovatâ, coarctatâ, albidâ, obsoletè trifasciatâ, maculis parvis lacteis conspersâ; spirâ conicoretusâ, subcallosâ; labro incrassato, paululùm incurvato, intùs*

læviter denticulato; aperturâ angustâ; columellâ quadriplicatâ. Axis. 6 lin.

Hab. West Indies.

Cab. Cuming.

In some respects similar to the foregoing, but, in the place of its full rounded form, this is contracted towards the middle of the body-whorl. The fasciation is constant on all the specimens, but always very faint and indistinct, and the small milk-white spots are scattered with little regularity over the surface.

MARGINELLA AUSTRALIS. *Mar. testâ retusè ovatâ, albidâ vel pallidè corneâ; spirâ conico-retusâ; labro incrassato, ponè albido, intùs lævi; columellâ quadriplicatâ, versus basin albo fasciatâ.* Axis $3\frac{1}{3}$ lin.

Hab. North-west coast of Australia; in coral sand at low water. Mr. Dring, R.N.

Cab. Cuming.

The characters of this little shell are quite unobtrusive, if we except the white base of the columella; and this may serve to distinguish it from any species hitherto on record.

MARGINELLA VITREA. *Mar. testâ coniformi, hyalinâ, nitidâ; spirâ valdè retusâ; labro paululùm incrassato et reflexo, intùs lævi; columellâ plicis quatuor gracilibus.* Axis 3 lin.

Hab. West coast of Africa.

Cab. Belcher.

MARGINELLA FUSIFORMIS. *Mar. testâ fusiformi, albidâ vel pallidè corneâ; spirâ elatâ, obtusâ; anfractu ultimo gradatim attenuato; labro paululùm incrassato, intùs lævi; aperturâ lineari; columellâ quadriplicatâ.* Axis 3 lin.

Hab. Straits of Malacca; in seventeen fathoms, mud.

Cab. Belcher.

This species departs so far from the usual outline of the genus as to become decidedly fusiform. The recent shell is most probably of a delicate horn-colour, though the prevailing number of our specimens are white, shining and glossy, and, there seems little doubt, have lost their original colour.

The following species belongs to a section of this genus, which might with much propriety be separated as a subgeneric group, under the name of *Volvarina*. They are all delicate and rather thin shells, with an apparent spire, the labrum never varixed, and usually not even thickened, with a sharp edge, always bent in on the aperture. The columellar folds are nearly constantly four in number, slender, and more or less oblique. *M. avena*, Valenciennes, is a typical species.

MARGINELLA NITIDA (VOLVARINA). *Mar. testâ elongatè ovatâ, fuscâ, politâ, nitidâ, concolore; spirâ conicâ, obtusâ; labro tenui, acuto, inflexo, pallido; columellâ quadriplicatâ.* Axis 4 lin.

Hab. ——?

Cab. Cuming.

Section II. *Cryptospira.*

MARGINELLA TRICINCTA. *Mar. testâ obeso-ovatâ, cinereo-cærulescente, fusco trifasciatâ, labro incrassato, luteo, intùs lævi; columellâ sexplicatâ, ad basin albâ; plicis tribus superioribus transversis, supremâ paululùm obsoletâ.* Axis 11 lin.

Hab. Straits of Macassar; in eleven fathoms, coarse sand.

Cab. Belcher.

MARGINELLA BLANDA. *Mar. testâ ovatâ, tenui, sardonychiâ, obsoletè fasciatâ; spirâ vix occultâ, pallidâ; labro subincrassato et subreflexo, intùs lævi; columellâ albidâ, sexplicatâ, plicis superioribus evanidis.* Axis 9 lin.

Hab. Cape Blanco, west coast of Africa; in twelve to fifteen fathoms.

MARGINELLA IMBRICATA. *Mar. testâ ovatâ, albidâ, maculis rufis quadratis propè medium unifasciatâ, aliter punctis transversis ordinatè vestitâ; apice puncticulato; labro reflexo medio et cum basi columellæ ustulato; columellâ subcallosâ, quadriplicatâ.* Axis 5 lin.

Hab. Acapulco. Col. Moffat.

Cab. Cuming.

In one specimen the tessellated band which encircles the body-whorl is broken up into a number of small spots and punctations, so that though these markings present usually a nearly square shape, they are most probably disposed to vary. The shell in some respects approaches *M. interrupta.*

MARGINELLA MURALIS. *Mar. testâ elongatè ovatâ, ferè subcylindraceâ, lacteâ, nitidâ; maculis pallidè rufis quadratis transversis ornatâ, interdum albo marginatis, majoribus per series tres dispositis; labro vix incrassato, subinflexo, intùs sulcato; columellâ plicis tribus inferioribus distinctis, obliquis, alteris superioribus obsoletis transversis.* Axis $5\frac{1}{2}$ lin.

Hab. ——?

Cab. Cuming.

This is a remarkably pretty glittering species, and the specific name seems justified by the appearance of the pale red regularly-disposed square markings, which resemble the extremities of the bricks in a wall. The labrum is not merely toothed within, but distinctly sulcate. It approaches M. Kiener's *M. maculosa,* but the ornation is quite of a different character, and it has no angular elevation on the body-whorl.

MARGINELLA SAGITTATA. *Mar. testâ retuso-ovatâ, pallidâ, lineis rufis sagittatis transversis, alteris longitudinalibus confluentibus, ornatâ; apice puncticulato; labro subinflexo, intùs lævi; columellâ vix quadriplicatâ.* Axis 5 lin.

Hab. Brazils: Humphreys.

Cab. Cuming.

Shell shortened, ovate, the ornation consisting of reddish brown, transverse, arrow-headed markings, disposed in regular series and

connected by waved longitudinal lines. The labrum is not the least thickened, and slightly inflexed, and the superior fold of the columella is scarcely distinguishable.

"On the evidence of the former existence of Struthious Birds distinct from the Dodo in the islands near Mauritius," by H. E. Strickland, Esq., M.A.

It is well known that Leguat, a French Protestant refugee, who for more than two years (from 1691 to 1693) resided in the island of Rodriguez, near Mauritius, described a bird under the name of *le Solitaire*, which Latham considered to be allied to, but distinct from, the Dodo, and which Gmelin denominated *Didus solitarius*. Later authors have supposed Leguat's bird to be either altogether fictitious, or to be founded on an imperfect description of the true Dodo, *Didus ineptus*, Linn., of whose former existence in the island of Mauritius there is now no dispute. Considering, however, that Leguat was a man of education, and that the rest of his narrative bears intrinsic proofs of veracity, there is no reason to doubt the general accuracy of his description of the *Solitaire*; and if this be admitted, it follows that his bird was distinct, generically as well as specifically, from the Dodo.

The *Solitaire*, as described and figured by Leguat, must have differed from the Dodo in the following respects:—

1. The beak is stated to resemble that of a turkey, except in being rather more curved. Leguat's figure corresponds with this description, and exhibits a moderate-sized gallinaceous-formed beak, totally unlike that which we know the Dodo to have possessed.

2. The *Solitaire* is said to have had hardly any tail, whereas the Dodo was depicted with an arched tail, like that of the ostrich.

3. The *Solitaire* is said to be longer in the leg ("plus haut montée") than a turkey, while the Dodo was a very short-legged bird, as shown by the specimens in the British and Oxford Museums.

4. The *Solitaire* carried its neck erect, and this member was said to be longer in proportion than that of a turkey. But the Dodo is depicted with a short, thick and curved neck, corresponding with the massive proportions of its head.

5. Though unable to fly, the wings of the *Solitaire* appear to have been more developed than in the Dodo, as they were enlarged at the end into a knob the size of a musket-ball, with which the bird attacked its enemies.

6. The female *Solitaire* is stated to have a kind of band (probably composed of feathers) at the upper part of the beak, resembling a widow's cap; but in the Dodo the whole face was naked.

It seems then sufficiently evident, that as late as the year 1693 the island of Rodriguez was inhabited by a large species of bird distinct from the Dodo of Mauritius, and now exterminated. This bird was unable to fly; and Leguat, who gives a minute description of its habits, mentions the remarkable circumstance that it lays one egg on a heap of palm-leaves a foot and a half high, a character which possibly indicates an affinity to *Tulegalla* and the *Megapodiinæ* of Australia.

The *Solitaire* of Rodriguez seems not to have been mentioned by any other author than Leguat, and we may presume that the species was exterminated within a few years after his visit.

There is evidence however that other apterous birds of this anomalous class formerly existed in the adjacent island of Bourbon. In the library of the Zoological Society is a manuscript presented by that active naturalist the late C. Telfair, Esq., who during his residence in Mauritius collected many valuable scientific and historical documents. This MS. is entitled 'Journal et Relation des Voyages faits par le Sr D. B. aux îles Dauphine ou Madagascar et de Bourbon ou Mascarenne.' 1669. The author, who seems to have been a very intelligent observer, speaking of the birds of the island of Bourbon, has the following passage:—

"Oiseaux de terre et leurs noms.

"*Solitaires*: ces oiseaux sont nommés ainsi, parce qu'ils vont toujours seuls. Ils sont gros comme une grosse Oye, et ont le plumage blanc, noir à l'extrémité des ailes et de la queue. À la queue il y a des plumes approchantes de celles d'Autruche, ils ont le col long, et le bec fait comme celui des bécasses, mais plus gros, les jambes et pieds comme poulets d'Inde. Cet oiseau se prend à la course, ne volant que bien peu.

"*Oiseaux bleus*, gros comme les *Solitaires*, ont le plumage tout bleu, le bec et les pieds rouges, faits comme pieds de poules, ils ne volent point, mais ils courent extrêmement vite, tellement qu'un chien a peine d'en attraper à la course; ils sont très bons."

The author then proceeds to describe the wild pigeons and other birds of Bourbon.

It appears then that about the year 1670 the island of Bourbon was inhabited by two species of Struthious birds, one of which was called *Solitaire*, and the other *Oiseau bleu*. The *Solitaire* of Bourbon seems however to have been distinct from, though probably allied to, the bird of that name in Rodriguez. Its plumage is stated to have been white, with the wings and tail terminated with black, whereas Leguat describes the Rodriguez bird as greyish and brown. The Bourbon species further differed in having a tail similar to that of an ostrich, and in the beak being lengthened, "like that of a woodcock, but stouter," in which respect it must have resembled the Apteryx of New Zealand. The phrase "ne volant que bien peu" would seem to imply that the bird possessed some powers of flight, though possibly it may only mean that when hard pressed the bird aided its progress by flapping the wings, or by springing into the air for a short distance.

The *Oiseaux bleus* seem to have been a distinct species both from the Dodo and from the Solitaires of Bourbon and of Rodriguez, and to have been wholly unable to fly, but possessed, like the Apteryx, of great cursorial powers.

We are then justified in believing, from the relations of authors apparently deserving of credit, that the three contiguous islands of Mauritius, Bourbon and Rodriguez were formerly inhabited by at least four distinct species of birds, deprived, or nearly so, of the power of flight, and more nearly allied in structure to the Apteryx of New Zealand than to any other existing genus of birds. And if the ac-

count given by Cauche of a tridactylous and apterous bird in Mauritius, called *Oiseau de Nazarette*, be correct, we must believe in the former existence of a fifth species of the same anomalous family.

Nor need we be surprised at the supposition that the species allied to the Dodo may have been thus numerous, when we recollect that Prof. Owen has already shown that no less than five species of that ornithic wonder, the Dinornis, inhabited New Zealand at a very recent date, and were doubtless contemporaries of the still surviving Apteryx. Still less should we wonder at the speedy extinction of these birds after man took possession of the Mauritian archipelago. Confined to very small islands, unable to escape from their enemies by flight, and highly esteemed for food, they soon experienced the same fate as that of the Dinornis, a fate which will shortly overtake the unprotected Apteryx*.

Having thus shown that there is good historical evidence of the former existence of several Struthious or *Didiform* birds in the Mauritian group of islands, we may inquire whether any actual remains of these deceased species are still attainable. On this point I must be content rather to excite inquiry than to supply information. Of the Dodo, as is well known, we possess an entire head, and the feet of two individuals; but of the other birds above referred to, no relics have yet been identified. M. Quoy, however, assured M. de Blainville that the bones in the Paris Museum which Cuvier supposed to belong to the Dodo, were brought, not from Mauritius, but from Rodriguez; and it is therefore probable, as supposed by M. de Blainville, that they may have belonged to the *Solitaire* of Leguat. There are, too, certain bones from Rodriguez presented by Mr. Telfair to this Society (Zool. Proceedings, Part I. p. 31); and in the Andersonian Museum at Glasgow there are also some so-called "Dodo's bones from Mauritius." All these materials should be submitted to careful examination; and we may feel confident that if Prof. Owen, who has so skilfully demonstrated the affinities of the Dinornis from a few fragments of the skeleton, were to take these materials in hand, he would soon deduce some valuable results, whether positive or negative, from the investigation.

Much light also might probably be thrown on the subject if naturalists residing in Mauritius, Bourbon and Rodriguez would endeavour to obtain further evidence. The alluvia of streams, the soil on the floors of caverns, and even the ancient mounds of rubbish near towns and villages, should be carefully searched, and every fragment of bone preserved. We may hope that the success which has attended such researches in New Zealand will stimulate the naturalists of Mauritius to similar efforts, and that the *Solitaires* and *Oiseaux bleus* will ere long, like the Dodo and the Dinornis, take their just rank in our systems of ornithology.

* It is probable that in 1693, when Leguat visited Mauritius, the Dodo had been extinct a considerable time. He makes no mention of any such bird, but remarks "L'île était autrefois toute remplie d'Oyes et de Canards sauvages, de Poules d'eau, de Gelinottes, de Tortues de mer et de terre; *mais tout cela est devenu fort rare*;" showing that at that period, when the Dutch had occupied Mauritius for nearly a century, civilization had made great inroads on the fauna of the island.

May 14, 1844.

Rev. John Kirby in the Chair.

A letter was read from Walter Elliott, Esq. of Madras to Col. Sykes, which was accompanied by a number of skins of animals from the Neilgherry Hills and the Carnatic.

At the request of the Chairman, Professor Percy called the attention of the Meeting to the following remarks on the management of various species of Monkeys in confinement:—

"Having during the last five years paid considerable attention to the habits and management of various species of Monkeys, I have pleasure in complying with the request of Mr. Frazer, and presenting the results of my experience concerning these animals; apologizing, however, for the crude and unconnected style of this communication.

"1. *Character of the locality.*—I fitted up a capacious hay-loft for these animals, arranging the cages on each side. The roof at first consisted merely of slates without mortar. The cages were constructed of an iron grating in front, of wood partitions and roof, and of a brick wall at the back. The boards composing the roof were not rabbeted, so that warm air could freely escape from the cage through the roof. At the upper part of each cage was a close box, with an aperture large enough for a monkey to pass through, and a door opening externally and fixed on a slide. By this arrangement it was easy thoroughly to scrape and cleanse the floor of the box; every night, for a considerable period, fresh sawdust and straw were introduced into each box through the sliding-doors, and the animals regularly at the hour of dusk resorted to them, and remained in them during the night. Some of them, however, invariably threw out the straw. Great care was required to keep the bottom of the box clean. I would recommend, that in the event of such an arrangement being adopted, the bottom of the box should be made to slide out, and that it should be always removed during the day; and further, that a wire door should also be attached to the entrance from within, with a view to keep the animals out during the day and to secure them within during the night. I think that this arrangement of boxes is most applicable for the more delicate species, as those of the genus *Cebus*; and that for the large monkeys, as *Cynocephalus*, *Papio*, etc., it is quite superfluous.

"The great objection to the preceding plan is the trouble which it imposes upon the keeper. I am satisfied, however, that for the delicate monkeys above mentioned it is well adapted during the winter months; it has the advantage of keeping them warm without the aid of much artificial heat, which is at all times in a greater or less degree injurious. Of late, not having had any of the delicate

species, but only some individuals of the two genera *Papio* and *Cercopithecus*, I have found, as before remarked, that where two or three individuals are kept in each cage the arrangement of sleeping-boxes is not required.

"2. *Mode of heating.*—For two years during the winter months, from November to the beginning of April, I employed an Olmsted stove, which was kept constantly burning; since that time I have used, with much more convenience and greater economy, an Arnott stove. I have not observed any unpleasant or injurious effects to arise from this mode of warming, in consequence I believe of the free ventilation through the roof. Frequently during the winter nights the thermometer has sunk to the freezing-point. Of one thing I am convinced, namely, that a *constant* temperature is not only not beneficial, but is highly injurious to animal life. If we search through nature we do not find on any spot of the globe a uniform temperature, and in many regions where monkeys abound the extremes of heat and cold are very considerable. We are led then to the conclusion, from *à-priori* reasoning as well as from practical experience, that a condition of uniform temperature, as has been supposed by some persons, is not the condition adapted to promote the health of monkeys. The object in the construction of a menagerie for monkeys should be to enable these animals as much as possible to keep themselves warm, in precisely the same way as they do in nature; and this may in great measure be effected by adopting the arrangement of sleeping-boxes, in the manner previously described. During the winter nights I have not found it necessary to maintain the temperature higher than 45° or 50° Fahr., and, during the day, than 56° or 60°.

"3. *Food.*—I have always given as much variety as I could obtain in the season; I allow them daily bread and milk, potatoes roasted and occasionally raw, onions roasted as well as raw, lettuce, carrots, and any scraps of food which the house may furnish. In order to amuse their minds, if I may be allowed the expression, I direct rice or wheat to be thrown down amongst the sawdust; by this means they amuse themselves in picking up the grains. Great care is always to be taken that the feeble animals obtain their proper proportion of food: as is well known to those accustomed to the management of monkeys, the strong tyrannise greatly over the weak, and appropriate an undue measure of food to themselves. Keepers then should be particularly careful in ensuring to the weak monkeys their proper allowance; I have occasionally known some to become much emaciated in consequence of the tyranny exerted over them. I may remark concerning the Marmozet (*Hapale Jacchus*), that spiders appear to be beneficial; the animal eats them with great avidity.

"4. *Exercise and amusement.*—It is desirable as much as possible to induce the monkey to take exercise which is amusing to himself; various expedients may be suggested in the case of different species. Small trees which turn vertically are well adapted to many of the *Cebus* tribe. I am satisfied that amusement is an element of essential importance in the successful treatment of monkeys. We shall

be convinced of the truth of this statement when we reflect upon the excitable temperament of the monkey and upon his natural habits; in the forest or on the rocks, roaming and jumping about, whether in pursuit of food or in the way of frolic and gambols, his mind is ever employed and amused. If amusement be withheld from the monkey he becomes desponding, and his health declines in consequence, just as in the case of man. In the summer there is no difficulty in providing the required amusements in the open air: I have one monkey, a female *Cercopithecus radiatus*, who for two years during the summer consecutively was accustomed to roam at large over all the surrounding premises; she became a favourite with neighbours, who used to encourage her visits. She returned to her domicile with as much regularity as a common household animal.

"5. *Catamenia.*—I have a *Papio leucophæus*, which I have had four years, which regularly, so far as I have observed, menstruates at intervals of about six weeks. The labia become enormously swelled and protuberant, and during the subsidence of the swelling a sanguineous discharge appears. I have also a female *Cercopithecus radiatus* which has occasionally exhibited a discharge of the same character. I have noticed that two individuals of *Cercopithecus radiatus* are habitually affected with a copious mucous discharge from the vagina. I have sometimes seen large, transparent, colourless clots of mucus evacuated.

"6. *Lice.*—I have occasionally observed small lice, especially about the shoulders. I have found the best remedies in cleanliness and sulphur ointment.

"7. *Diseases.*—Although I have had seventeen living monkeys at one time I have only lost one, of phthisis pulmonalis; and in the case of that one (*Papio Rhæsus*) I am satisfied that the disease had far advanced before he came into my possession. I lost one, which had previously belonged to an itinerant showman (*Cercopithecus Mona*), of tubercular ulceration of the mucous membrane of the intestines; the liver, and, what is rare in man, the spleen also contained tubercular deposit. I have lost some from acute diarrhœa. In a Barbary Ape (*Inuus sylvanus*) which I lost I found only congestion of the vessels of the pia mater and a small hydated cyst at the base of the brain; he had just arrived at the period of cutting the canine teeth. A *Cercopithecus ruber* (Patas or Senegal monkey) died convulsed; it was examined by my friend Mr. Goodsir of Edinburgh, who found no appreciable lesion. A brown *Cebus*, which I kept during two years, died of mollities ossium. Several of the bones were broken, and, what is remarkable, the large canine teeth continued to be developed long after the bone of the head. Accordingly, they remained *in situ*, and formed beneath each eye a curious tubercle. No appearance of disease existed in any of the viscera. The first approach of the disease was indicated by slight dragging of the hinder extremities, a symptom which, so far as I have hitherto observed, has uniformly terminated after several months in death. The animal before death had a depraved appetite, occasionally eating his own ordure. He was much in the habit of masturbation, which he

practised by drawing the hairs of his fore-arm over the glans. I castrated him some time before death, but not until the ravages of mollities had very far advanced.

"In conclusion, I beg again to apologize for these unconnected remarks, which I have put together hastily and without being enabled to refer to any notes."

The conclusion of the paper by Dr. Falconer and Captain Cautley on the Gigantic Fossil Tortoise of India was then read:—

"On a former meeting we went through the anatomical characters presented by the remains of the *Colossochelys Atlas*. Commencing with the plastron, we traced the modifications of form through the costal elements of the carapace and the dorsal vertebræ, all of which bear the closest resemblance to the ordinary type of the Chersite Chelonians, or true land tortoises. A like result followed the examination of the extremities, which, as exhibited in the remains of the humerus, femur and ungueal phalanges, were seen to be constructed exactly on the plan of *Testudo*, with columnar legs and truncated club-shaped feet, as in the proboscidean Pachydermata. The same direction of affinity was observed throughout the conformation of the head. The only portions of the skeleton from which more or less direct evidence was not derived, were the neck and tail vertebræ, of which there were no specimens in the collection. The general result of the examination showed that the *Colossochelys Atlas* was strictly a land tortoise in every part of its bony frame; and the impressions of the horny scutes proved the like in regard to the arrangement of its dermal integument.

"The principal distinctive characters were found in the sternum, which is enormously thickened at its anterior extremity, along the united portion of the episternal bones, and contracted into a narrow neck, so that the width of the combined episternals does not much exceed their thickness: this thickened portion bears on its under side a deep massive cuneiform keel, which terminates upon the commencement of the entosternal piece. There is more or less thickening of this part in all the species of *Testudo*, and the amount of it is very variable in different individuals of the same species; but there is nothing approaching the same degree of contraction in reference to the thickness, nor aught like a developed keel, in any of the existing land tortoises which we have either had an opportunity of examining, or seen described in systematic works on the tribe. The keel in the fossil is feebly shown in the young animal, but strongly marked in the adult. Conceiving that generic distinctions are only legitimate in the case of well-defined modifications affecting some of the leading characters in the organization of an animal, we do not consider ourselves warranted in attaching a higher systematic importance to the *Colossochelys* than as a subgenus of *Testudo*, which may technically be defined thus (the distinction resting mainly on the form of the sternum):—

Subgen. Colossochelys.

Testa solida, immobilis, sterno anticè in collum valdè incrassatum,

subtùs carinâ crassâ cuneiformi instructum, angustato. Testudo terrestris, staturâ et mole ingenti (inde nomen κολοσσὸς et χέλυς) sui tribus prodigium! Olim in Indiæ orientalis provinciis septentrionalibus degebat.

"*Colossochelys Atlas.*—The first fossil remains of this colossal tortoise were discovered by us in 1835 in the tertiary strata of the Sewalik Hills, or Sub-Himalayahs skirting the southern foot of the great Himalayah chain. They were found associated with the remains of four extinct species of Mastodon and Elephant, species of Rhinoceros, Hippopotamus, Horse, Anoplotherium, Camel, Giraffe, Sivatherium, and a vast number of other Mammalia, including four or five species of Quadrumana. The Sewalik fauna included also a great number of reptilian forms, such as crocodiles and land and freshwater tortoises. Some of the crocodiles belong to extinct species, but others appear to be absolutely identical with species now living in the rivers of India: we allude in particular to the *Crocodilus longirostris*, from the existing forms of which we have been unable to detect any difference in heads dug out of the Sewalik Hills. The same result applies to the existing *Emys tectum*, now a common species found in all parts of India. A very perfect fossil specimen, presenting the greater part of the evidence of the dermal scutes, is undistinguishable from the living forms, not varying more from these than they do among each other. Prof. Thomas Bell, the highest living authority on the family, after a rigid examination, confirms the result at which we had arrived, that there are no characters shown by the fossil to justify its separation from the living *Emys tectum*. There are other cases which appear to yield similar results, but the evidence has not yet been sufficiently examined to justify a confident affirmation of the identity at present.

"The remains of the *Colossochelys* were collected during a period of eight or nine years along a range of eighty miles of hilly country: they belong in consequence to a great number of different animals, varying in size and age. From the circumstances under which they are met with, in crushed fragments, contained in elevated strata which have undergone great disturbance, there is little room for hope that a perfect shell, or anything approaching a complete skeleton, will ever be found in the Sewalik Hills. It is to be mentioned, however, that remains of many of the animals associated with the *Colossochelys* in the Sewalik Hills have been discovered along the banks of the Irrawaddi in Ava, and in Perim Island in the Gulf of Cambay, showing that the same extinct fauna was formerly spread over the whole continent of India.

"This is not the place to enter upon the geological question of the age of the Sewalik strata; suffice it to say, that the general bearing of the evidence is that they belong to the newer tertiary period. But another question arises: 'Are there any indications as to when this gigantic tortoise became extinct? or are there grounds for entertaining the opinion that it may have descended to the human period?' Any *à-priori* improbability, that an animal so hugely disproportionate to existing species should have lived down to be a

contemporary with man, is destroyed by the fact that other species of Chelonians which were coeval with the *Colossochelys* in the same fauna, have reached to the present time; and what is true in this respect of one species in a tribe, may be equally true of every other placed under the same circumstances. We have as yet no direct evidence to the point, from remains dug out of recent alluvial deposits; nor is there any historical testimony confirming it; but there are traditions connected with the cosmogonic speculations of almost all Eastern nations having reference to a tortoise of such gigantic size, as to be associated in their fabulous accounts with the elephant. Was this tortoise a mere creature of the imagination, or was the idea of it drawn from a reality, like the *Colossochelys*?

"Without attempting to follow the tortoise tradition through all its ramifications, we may allude to the interesting fact of its existence even among the natives of America. The Iroquois Indians believed that there were originally, before the creation of the globe, six male beings in the air, but subject to mortality. There was no female among them to perpetuate their race; but learning that there was a being of this sort in heaven, one of them undertook the dangerous task of carrying her away. A bird (like the Garūda of Vishnoo or the Eagle of Jupiter) became the vehicle. He seduced the female by flattery and presents: she was turned out of heaven by the supreme deity, but was fortunately received upon the back of a tortoise, when the otter (an important agent in all the traditions of the American Indians) and the fishes disturbed the mud at the bottom of the ocean, and drawing it up round the tortoise formed a small island, which increasing gradually became the earth. We may trace this tradition to an Eastern source, from the circumstance that the female is said to have had two sons, one of whom slew the other; after which she had several children, from whom sprung the human race.

"In this fable we have no comparative data as to the size of the tortoise, but in the Pythagorean cosmogony the infant world is represented as having been placed on the back of *an elephant, which was sustained on a huge tortoise.* It is in the Hindoo accounts, however, that we find the fable most circumstantially told, and especially in what relates to the second Avatar of Vishnoo, when the ocean was churned by means of the mountain Mundar placed on the back of the king of the tortoises, and the serpent Asokee used for the churning-rope. Vishnoo was made to assume the form of the tortoise and sustain the created world on his back to make it stable. So completely has this fable been impressed on the faith of the country, that the Hindoos to this day even believe that the world rests on the back of a tortoise. Sir William Jones gives the following as a translation from the great lyric poet Jyadeva: 'The earth stands firm on thy immensely broad back, which grows larger from the callus occasioned by bearing that vast burden. O Cesava! assuming the body of a tortoise, be victorious! Oh! Hurry, Lord of the Universe!'

"The next occasion in Indian mythology where the tortoise figures prominently is in the narratives of the feats of the bird-demigod 'Garūda,' the carrier of Vishnoo. After stating the circumstances of

his birth, and the disputes between his mother Vinūta and 'Kudroo,' the mother of the serpent, it is mentioned that he was sent on an expedition to bring 'Chundra' the moon, from whom the serpents were to derive the water of immortality. While pursuing his journey, amidst strange adventures, Garūda met his father Kūshgūfa, who directed him to 'appease his hunger at a certain lake, where *an elephant and tortoise were fighting*. The body of the tortoise was eighty miles long—the elephant's 160. Garūda with one claw seized the elephant—with the other the tortoise, and perched with them on a tree 800 miles high.' He is then, after sundry adventures, stated to have fled to a mountain on an uninhabited country, and finished his repast on the tortoise and elephant.

"In these three instances, taken from Pythagoras and the Hindoo mythology, we have reference to a gigantic form of tortoise, comparable in size with the elephant. Hence the question arises, are we to consider the idea as a mere fiction of the imagination, like the Minotaur and the chimæra, the griffin, the dragon, and the cartazonon, &c., or as founded on some justifying reality? The Greek and Persian monsters are composed of fanciful and wild combinations of different portions of known animals into impossible forms, and, as Cuvier fitly remarks, they are merely the progeny of uncurbed imagination; but in the Indian cosmogonic forms we may trace an image of congruity through the cloud of exaggeration with which they are invested. We have the elephant, then as at present, the largest of land animals, a fit supporter of the infant world; in the serpent Asokee, used at the churning of the ocean, we may trace a representative of the gigantic Indian python; and in the bird-god Garūda, with all his attributes, we may detect the gigantic crane of India (*Ciconia gigantea*) as supplying the origin. In like manner, the *Colossochelys* would supply a consistent representative of the tortoise that sustained the elephant and the world together. But if we are to suppose that the mythological notion of the tortoise was derived, as a symbol of strength, from some one of those small species which are now known to exist in India, this congruity of ideas, this harmony of representation would be at once violated; it would be as legitimate to talk of a rat or a mouse contending with an elephant, as of any known Indian tortoise to do the same in the case of the fable of Garūda. The fancy would scout the image as incongruous, and the weight even of mythology would not be strong enough to enforce it on the faith of the most superstitious epoch of the human race.

"But the indications of mythological tradition are in every case vague and uncertain, and in the present instance we would not lay undue weight on the tendencies of such as concern the tortoise. We have entered so much at length on them on this occasion, from the important bearing which the point has on a very remarkable matter of early belief entertained by a large portion of the human race. The result at which we have arrived is, that there are fair grounds for entertaining the belief as probable that the *Colossochelys Atlas* may have lived down to an early period of the human epoch and become extinct since:—1st, from the fact that other Chelonian species and

crocodiles, contemporaries of the *Colossochelys* in the Sewalik fauna, have survived; 2nd, from the indications of mythology in regard to a gigantic species of tortoise in India.

"Some of the bones were analysed with great care by Mr. Middleton, and yielded a large proportion of fluorine, the constituents being,—

Phosphate of lime	64·95
Carbonate of lime	22·36
Fluoride of calcium	11·68
Oxide of iron	1·00
A trace of chloride of soda.	
	99·99

"Other Sewalik fossil bones were at the same time subjected to analysis, such as the *Mastodon elephantoides*, *Camelus sivalensis*, Horse, Ruminants, &c., and the whole of them yielded similar results, with a proportion of fluoride of calcium varying from 9 to 11 per cent. This is much above the usual quantity found in fossil bones; the utmost that has been met with having been in bones of the Anoplotherium from the Paris basin, 14 per cent."

May 28, 1844.

William Horton Lloyd, Esq., in the Chair.

The following extracts were read from a letter from Robert Templeton, Esq., M.D., Corr. Mem., Royal Artillery, Colombo, Ceylon :—

"You will be glad to learn that I yesterday heard of a new monkey, which I imagine, from the description, must belong to the same genus as the Wanderoo. Every day brings some novelty to my notice, but I regret to say that although I have many promises from officers at out-stations, I do not receive specimens as fast as I could wish.

"You may announce to the Society that I had an accouchement in my house of a *Loris*, the affair occupying about half an hour, at the end of which a little naked object was fully in the world, about two inches long, like a young mouse, perfectly without covering, a large head, attenuate body, and excessively slender legs; the face and eyes were proportionally much smaller than in the older animal. It clung to the mother so tenaciously, that I believe it would have almost parted with its legs rather than let go its hold. The mother died on the following night and the young one immediately after, so that I had little time for observing them. You will perceive from the half-finished sketch I enclose that it is not at all entitled to the usual appellation of *dog-like*, which has been derived I presume from the drawings having hitherto been made from stuffed specimens.

"The loss of the 'Memnon' has been a matter of serious concern to me, as she carried a paper which cost much trouble, and of which I foolishly destroyed the copy; unfortunately, since that time I have had neither leisure nor specimens from which to work out another. In the meantime I wish you to inform the Society that there is found in the alpine regions of Ceylon during the rainy season enormous worms, reaching from twenty to forty inches in length, and about an inch or $1\frac{1}{2}$ inch in thickness. From the size and colour I have adopted the name of Megascolex cæruleus.

"The body is composed of 270 rings, the sexual organs occupying the 16th, 17th and 18th; between this part and the head it is somewhat ventricose, but at the 17th ring there is a decided narrowing. Each ring is dilated in the middle of its length into a ridge, which carries on it, except in the mesial line of the back, minute conical mammillæ, 100 in number, each surmounted with a minute bristle, arched backwards; the dermoid covering is striated in opposite directions diagonally, to admit of the contractions of the muscles beneath; dorsally the depressed parts of the rings are deep bright blue, which becomes gradually narrowed as it descends the sides, and ter-

minates abruptly, leaving the inferior parts orange-yellow, but the absolute ventral part is pure yellow.

"The intestinal canal is very large, extending to within an eighth of an inch of the surface, and supported on all sides by a series of membranous partitions, attached externally to the edge of each ring. The walls of the intestine are composed of strong but fine membrane, which is separable into layers, but is without any distinct appearance of fibres; exterior to this are the muscular bundles, which serve for the progressive movements of the animal ; they are compound, whitish, shining fibres, collected into longitudinal fasciculi, separated by tolerably strong cellular membrane, and are deficient, as far as I am aware, only in one position.

"In all works which I have examined it is stated (I think originally by Sir Everard Home) that the respiration of this tribe is carried on through a system of pores on the sides of the animal, as in the leech. This is a complete mistake; the facts are as follows:—Along the middle line of the back, as I have before noticed, the mammillary projections are deficient for a space about one-tenth of an inch broad, and in the interval between each ring in this situation is a small transverse narrow ridge, in the centre of which, and occupying its whole breadth, is the orifice of the respiratory apparatus, a narrow oval; they are first visible in the interval between the 14th and 15th ring, and terminate between the 17th and 18th from the tail, being most developed at half the length of the animal, or rather a little nearer the tail. The artery runs along the whole back of the worm, sending off lateral branches at the position of the septa, and at the place where the respiratory orifices open externally it forms the inferior boundary of a little quadrangular space, shut up on all sides by cellular membrane, so as to present the appearance of a little sac like a reticule, with a rectangular bottom; the sides of this space are formed as follows: the muscle becomes deficient there, taking a new attachment, and having a new origin beyond the orifice, the profile being arched rather abruptly, and thus we have an anterior and posterior wall; the lateral are formed by the muscular bundles of either side, and the shape must necessarily be more or less quadrangular, in fact nearly square: the membrane forming the immediate walls of the sac is so fine and so loose that I failed in all attempts to trace its form inside, but I satisfied myself of there being a distinct cavity, by introducing from the outside a small blunted wire, with which I gently pressed the sides; it seemed however not so extensive anteriorly, posteriorly, and at the angles, as I should have supposed from the form of the more solid supports outside.

"The rest of the anatomy of this animal I must leave until I can procure more specimens and have more leisure.

"When I first got the *Megascolex* I was sure I had obtained an animal which would break down the old division of *Abranches setigères* and *A. sans soies*, for the bristles are so minute that I did not in the first instance perceive them. As to its being a true *Lumbricus* there could be no doubt. I was much gratified when I discovered that the separation of the tribes, founded on a character which in-

dicates their respective terrestrial and aquatic habits, was correct, and gave due credit to its proposer."

"Monograph of the genus *Myadora*, a small group of Acephalous Mollusks of the family *Myaria*," by Lovell Reeve, Esq.

Genus Myadora, Gray.

Testa trigono-ovata, inæquivalvis, valvâ sinistrâ plus minusve concavâ, dextrâ planâ, rarò concaviusculâ; inæquilateralis, latere postico rotundato, antico leviter flexuoso, coarctato, infernè plerumque truncato, depressione plano-concavâ sub umbones. Cardo: dentibus in valvâ dextrâ duobus lateralibus, elongatis, rudibus, ab umbone divergentibus, quorum posticus planus, subobsoletus; in valvâ sinistrâ projecturis sulcatis duabus lateralibus, dentes recipientibus. Ligamentum internum in foveâ trigonâ centrali inter dentes insertum, appendice testaceâ concavâ sæpè internè protectum. Valvæ intus margaritaceæ, pallii impressione musculari anticè sinuatâ.

The genus *Myadora*, introduced by Mr. Gray in his account of the 'Shells of Molluscous Animals,' in the 'Synopsis of the Contents of the British Museum,' is one that cannot fail to be appreciated; nothing indeed can more fully demonstrate the necessity for a new generic allotment of certain species, than the circumstance of their having been transported at different times from one genus to another by the same author*.

The *Myadoræ* partake of the characters of *Anatina* and *Pandora*, and as they have been referred at times to both of those genera, it is important to describe with some minuteness the differences which entitle them to generic distinction. In *Anatina* the hinge is composed of two hollow spoon-shaped processes, containing the ligament, protected in some species by a moveable testaceous clavicle, which crosses the dorsal axis of the shell on the posterior side, as in the *Anatina truncata*, for example, a species now commonly obtained with the accessory hinge-piece complete.

In *Pandora*, which is too flat and compressed a shell to admit any structure like the spoon-shaped processes of *Anatina*, the ligament is lodged in a cicatrix, protected on the posterior side by a single central oblong tooth in the right valve only; the clavicle is dispensed with, but the loss is in a degree supplied by a thickening and folding over of the dorsal margin.

In *Myadora*, which being a thicker shell requires a hinge of more

* "In an Appendix to a Catalogue of Shells collected in the Australian and Polynesian group, by Mr. S. Stutchbury," says Sowerby, in his account of the genus *Pandora*, 'Species Conchyliorum,' Part 1, "I have described, under the name of *Pandora brevis*, a shell (*Myadora brevis*, nobis) which I am now convinced is rather an *Anatina*, inasmuch as its flat valve is destitute of the blunt tooth which characterizes the *Pandoræ*; it differs also from them in having a sinus in the muscular impression of the mantle, and in being possessed of a small testaceous appendage attached to the ligament." This shell it will be seen however has not the spoon-shaped processes of *Anatina*.

solid structure, the peculiarities above noted in *Anatina* and *Pandora*, the clavicle of the former, the folded margin of the latter, are united in the following modified condition. The dorsal margin of the right valve of *Myadora* becomes consolidated into a tooth-like ledge or projection, diverging from, on each side, the umbo, fitting into grooved projections of similar construction in the left valve; and by the diverging of these tooth-like projections a compact triangular cavity is obtained for the insertion of the ligament, which in some species is walled in, as it were, internally, not laterally as in *Anatina*, by a moveable testaceous clavicle forming an angle with the diverging ledges.

The clavicles of *Anatina* and *Myadora*, it may be observed, are very differently situated with respect to the ligament, the one being a side appendage, extending across the dorsal axis of the shell; the other an internal appendage, parallel as it were to the dorsal axis.

Of the following ten species, which I propose to refer to this genus, the grand type, *Myadora striata*, is an inhabitant of Port Nicholson, New Zealand, and the remainder are for the most part collected by Mr. Cuming in the Philippine Islands.

1. Myadora crassa. *Anatina crassa*, Stutchbury, Zool. Journ. vol. v. p. 100; Tab. Supp. xliii. f. 5 and 6.
Conch. Iconica, *Myadora*, pl. 1. f. 1.
Hab. ——?
This short rounded species is the only one at present known in which the right valve is concave.

2. Myadora trigona. *Myad. testâ trigonâ, valdè plano-depressâ, usque marginem concentricè striatâ, striis prominentibus, quasi carinulatis, prope marginem anticam undatis; umbonibus acutissimè mucronato-elevatis.*
Conch. Iconica, *Myadora*, pl. 1. f. 2.
Hab. Catanauan, province of Tayabas, island of Luzon.
Four odd valves only of this interesting little species were collected by Mr. Cuming at the above-mentioned locality.

3. Myadora plana. *Myad. testâ trigono-oblongâ, anticè subtruncatâ, planissimâ, concentricè striatâ, striis subdistantibus, valvæ sinistræ prominentioribus.*
Conch. Iconica, *Myadora*, pl. 1. f. 3. *a* and *b*.
Hab. Baclayon, island of Bohol, Philippines (found in sandy mud at the depth of seventeen fathoms); Cuming.
This species is chiefly distinguished from its congeners, the *Myadoræ tincta* and *trigona*, by its more oblong shape.

4. Myadora ovata. *Myad. testâ ovatâ, subtriangulari, valvâ sinistrâ ventricoso-concavâ, dextrâ leviter convexâ, concentricè striatâ, striis elevatis, prope marginem anticam subobsoletis, valvæ dextræ numerosis, confertis, sinistræ prominentibus, subdistantibus, umbonibus depresso-incurvis.*
Conch. Iconica, *Myadora*, pl. 1. f. 4.

Hab. San Nicolas, island of Zebu, Philippines (found in sandy mud at the depth of six fathoms); Cuming.

This species exhibits a greater disparity in the sculpture of the valves than any other, the striæ of the right valve being very fine and close-set, whilst those of the left are almost keel-like and comparatively distant.

5. Myadora tincta. *Myad. testâ trigonâ, anticè subtruncatâ, usque marginem concentricè striatâ, striis elevatis, prominentibus; fuscescente tinctâ.*

Conch. Iconica, *Myadora*, pl. 1. f. 5.

Hab. Island of Ticao, Philippines (found in coral sand at the depth of six fathoms); Cuming.

The *Myadora tincta* scarcely differs from the *Myadora plana*, except in being of a less oblong and more triangular form.

6. Myadora striata, Gray, MSS. British Museum; *Pandora striata*, Deshayes.

Conch. Iconica, *Myadora*, pl. 1. f. 6. *a*, *b*, and *c*.

Hab. Port Nicholson, New Zealand; Swainson.

This is the grand type of the genus, and of much larger size than any other species.

7. Myadora brevis. *Anatina brevis*, Stutchbury, Zool. Journ. vol. v. p. 99; Tab. Supp. xliii. f. 1 and 2.

Conch. Iconica, *Myadora*, pl. 1. f. 7.

This is a very interesting form, and the striæ of the left valve are peculiarly wrinkled.

8. Myadora oblonga. *Myad. testâ trigono-oblongâ, anticè latissimè truncatâ, concentricè striatâ, striis elevatis, regularibus, prope marginem anticam angulatis.*

Conch. Iconica, *Myadora*, pl. 1. f. 8.

Hab. Island of Mindoro, Philippines; Cuming.

The anterior side of this species is the most broadly truncated of any.

9. Myadora curvata. *Myad. testâ curvato-oblongâ, valvâ dextrâ convexiusculâ, anticè subindistinctè flexuoso-costatâ, concentricè striatâ, striis elevatis, angustis, regularibus.*

Conch. Iconica, *Myadora*, pl. 1. f. 9.

Hab. Island of Corrigidor, Philippines; Cuming.

This species differs also in form rather than in variety of sculpture.

10. Myadora Pandoræformis. *Anatina Pandoræformis*, Stutchbury, Zool. Journ. vol. v. p. 99; Tab. Supp. xliii. f. 3 and 4.

Conch. Iconica, *Myadora*, pl. 1. f. 10.

The *Myadoræ striata*, *brevis*, and *Pandoræformis* are the only species of the genus at present known to have the clavicle.

The Secretary called the attention of the Meeting to a specimen of the Two-toed Sloth, *Bradypus didactylus*, which was now in the Gardens, and requested Mr. Ball, Secretary to the Royal Zoological

Society of Ireland, to communicate such particulars connected with the habits and manners of this curious animal as had fallen under his observation.

Mr. Ball regretted that it was out of his power to state the exact locality from which the animal had been obtained; however, he had reason to believe that it was brought from Demerara.

Its general food was sea-biscuit and water; of fruit it partook sparingly, but he had observed it pick the young buds of the hawthorn flowers and eat them with great avidity.

While in the Zoological Gardens at Dublin its favourite position was where it was supported partly by the branch to which it clung, and partly by an adjoining branch on which its back could rest.

In lapping water, the great length to which its tongue was protruded was very remarkable, thereby showing its affinity to the other *Edentata* of South America.

June 11, 1844.

George Gulliver, Esq., in the Chair.

Letters were read from William Willshire, Esq., Corr. Mem., accompanying a specimen of the Aoudad, *Ovis Tragelaphus*, from Mogadore, which he presented to the Society; and from the Rev. R. T. Lowe, Corr. Mem., presenting specimens of Fish from Jamaica.

Also a communication from H. Bourchier, Esq., Corr. Mem., Malta, relating to two Ostriches presented to the Society by Colonel Warrington.

"On the Blood-corpuscles of the Two-toed Sloth, *Bradypus didactylus*, Linn.," by George Gulliver, F.R.S.

From an observation which I have lately made, it results that the Two-toed Sloth is one of the very few animals that has blood-discs considerably larger than those of Man.

The following measurements of the blood-discs of the Sloth are given in vulgar fractions of an English inch:—

1-3200	Common sizes.
1-3000	
1-2888	
1-2823	
1-2769	
1-2664	
1-2583	
1-4266	Extremes.
1-2286	
1-2865	Average.

M. Mandl* discovered that the blood-corpuscles of the Elephant are the largest at present known belonging to the Mammalia, and I subsequently found that those of the Capybara were, as far as we then knew, next in size, as noticed in my Appendix to Gerber's Anatomy, pages 5, 8, and 50.

But it now appears that the blood-corpuscles of the Sloth are larger than those of the Capybara, and, among mammiferous animals, second only in magnitude to the corpuscles of the Elephant.

For the sake of comparison, some of my measurements of the average size of the largest blood-discs of Mammalia are here set down in the order of the magnitude of the discs, and in vulgar fractions of an English inch.

* Anatomie Microscopique, Paris 1838, Prem. Liv. p. 17. M. Mandl's observation refers to the blood-corpuscles of the African elephant; it was those of the Asiatic species that I examined.

Elephas Indicus, Cuv.	1-2745
Bradypus didactylus, Linn.	1-2865
Balæna Boops, Auct.	1-3099
Hydrochærus Capybara, Erxl.	1-3216
Phoca vitulina, Linn.	1-3281
Dasypus villosus, Desm.	1-3315
Myopotamus Coypus, Desm.	1-3355
Pithecus Satyrus, Geoff.	1-3383
Dasypus sex-cinctus, Auct.	1-3457

Numerous other measurements are appended to the English version of Gerber's Anatomy.

It has been said that the blood-corpuscles are larger in omnivorous than in herbivorous and carnivorous animals. To the facts which I have elsewhere* shown to be at variance with this opinion, it may be added that the oviparous Vertebrata, whatever may be the nature of their food, have larger blood-corpuscles than Mammalia, and that the size of the blood-corpuscles of many carnivorous birds exceeds that of the corpuscles of several of the omnivorous species.

Finally, the Two-toed Sloth, which is a purely vegetable feeder, has, excepting the Elephant, the largest blood-corpuscles hitherto observed in any mammiferous animal.

"Mr. Hinds' resumed description of new Shells, from the cabinets of Sir E. Belcher and H. Cuming, Esq."

RINGICULA, Deshayes.

RINGICULA GRANDINOSA. *Rin. testâ ovatâ, retusâ, lævigatâ, politâ; anfractibus rotundatis, ultimo magno, subquadrato, rotundato; columellâ supernè valdè callosâ, denticulatâ.* Axis $1\frac{2}{3}$ lin.

Hab. Bais, island of Negros; in six fathoms, coarse sand: Cagayan, island of Mindanao; in twenty-five fathoms, sandy mud: Catbalonga, island of Samar; in ten to thirty fathoms, mud: Sorsogon, island of Luzon:—all in the Philippines.

Cab. Cuming.

These little shells resemble each other very closely, and it is only by close attention to minute characters and the proportion and form of the last whorl that they can be satisfactorily discriminated. The present species is perfectly smooth, and the last whorl is large, of a squarish form, and full and rounded. The upper portion of the aperture is strongly denticulated.

RINGICULA PROPINQUANS. *Rin. testâ ovatâ, retusâ, striatâ, nitidâ; anfractibus rotundatis, ultimo magno valdè rotundato, concinnè striato.* Axis $1\frac{1}{2}$ lin.

Hab. Sual, Philippines; in five to seven fathoms, sandy mud.

Cab. Cuming.

Here the last whorl is not so square in shape, but very full and rounded, and is neatly striated in a very regular manner, and the spire is short. Till the light is thrown properly on them, these striæ

* Appendix to Gerber's Anatomy, p. 4–5.

are not very evident, but once discovered they will be found constant.

RINGICULA CARON. *Rin. testâ ovatâ, acuminatâ, striatâ, nitidâ; anfractibus rotundatis, ultimo subtransverso, rotundato, distanter striato; spirâ exsertâ; aperturâ subabbreviatâ; labro corrugato.* Axis $1\frac{2}{3}$ lin.

Hab. Straits of Malacca; in seventeen fathoms, mud.

Cab. Belcher.

The greatest breadth of the last whorl is probably in the transverse direction, and it is grooved with striæ placed at regular distances from each other. The spire also is proportionately lengthened.

RINGICULA EXSERTA. *Rin. testâ ovatâ, acuminatâ, lævigatâ, politâ; anfractibus rotundatis, lævigatis; spirâ elongatâ; labro ponè valdè incrassato.* Axis $1\frac{2}{3}$ lin.

Hab. Camiguing; in forty fathoms, sandy mud: Sorsogon, island of Luzon; in six fathoms, coarse sand;—both in the Philippines.

Cab. Cuming.

Compared with *R. grandinosa*, the last whorl is small, but agrees in being quite smooth and round; the spire is elongated, as in *R. caron*, and the labrum is even rather more reflected than is usual.

RINGICULA AUSTRALIS. *Rin. testâ ovatâ, acuminatâ, lævigatâ, politâ; anfractibus rotundatis, penultimo sensim minore; spirâ elongatâ, infrà suturam fasciâ subalbidâ cinctâ.* Axis $1\frac{1}{2}$ lin.

Hab. Port Lincoln, Australia.

Cab. Metcalfe.

The only specimen before me has not attained its full adult age. In its characters it is rather intermediate; the spire is not so prominently produced, and the penultimate whorl is more than usually developed, so as to be more intermediate in size between the others. All these species are of one uniform glassy semiopake colour, in some individuals being more glassy, in others more opake.

NEÆRA, Gray.

NEÆRA LYRATA. *N. testâ suborbiculari, tenui, fragili, diaphanâ, liris transversis sulcatâ, anticè rotundatâ; rostro retusissimo; margine ventrali convexâ.* Long. $4\frac{1}{2}$; lat. 2; alt. $3\frac{1}{3}$ lin.

Hab. Basay, island of Samar, Philippines; in from five to seven fathoms, sandy mud.

Cab. Cuming.

This species is to *Neæra* exactly what *Mactra elegans* is among that group, the sculpture and outline of the shells being so very similar. This is of course comparatively a very miniature shell.

NEÆRA TENUIS. *N. testâ ovali, fragili, diaphanâ, striis concentricis incrementis rugosâ, anticè rotundatâ, posticè retusè rostratâ; margine ventrali anticè subemarginatâ.* Long. $4\frac{1}{2}$; lat. 2; alt. $3\frac{1}{3}$ lin.

Hab. Bais, island of Negros, Philippines; in seven fathoms, coral sand.

Cab. Cuming.

Less ventricose than is usual with the species of this group, posteriorly gradually attenuated into a short blunt beak, and on the ventral margin slightly emarginate.

NEÆRA COCHLEARIS. *N. testâ majusculâ, oblongâ, albidâ, striatâ, prope umbones elevatiusculâ, anticè rotundatâ, posticè attenuatè nasutâ, liris angustis, versus umbones respectantibus; margine ventrali valdè rotundato, posticè emarginato.* Long. $11\frac{1}{2}$; alt. 8 lin.

Hab. Bais, island of Negros, Philippines; in seven fathoms, coral sand.

Cab. Cuming.

The description is drawn up from a single valve, but this is so large, and the characters so marked, as to render its future identity comparatively easy.

June 25, 1844.

William Horton Lloyd, Esq., in the Chair.

"Description of some new species of Birds brought by Mr. L. Fraser from Western Africa," by H. E. Strickland, Esq., M.A.

Mr. Fraser has placed in my hands for examination and description a portion of the ornithological collection made by him during the Niger expedition, and I now present the names and characters of the new species. Mr. Fraser's researches in Western Africa have made us acquainted with several new and interesting species of birds, and as he was only able to bring home very few, and in some cases only one specimen of each species, it would be very desirable that full descriptions, illustrated by figures, of these ornithological rarities should be made public, especially as it may be long before the pestilential shores of Western Africa are again explored by naturalists.

HIRUNDINIDÆ, CYPSELINÆ.

Cypselus parvus, Licht., Verz. Doubl. p. 58.

A specimen of this bird was brought by Mr. Fraser from Acra; it is probably the smallest species of the genus, the total length being only 6 inches, wing $4\frac{3}{4}$ inches, medial rectrices $1\frac{3}{4}$ inch, external $3\frac{1}{4}$ inches. Plumage uniform mouse-colour, chin whitish.

Acanthylis bicolor (Gray); *Chætura bicolor*, Gray, Zool. Misc. p. 7.

A specimen of this elegant little species was obtained in May 1842 at Fernando Po, where it was very common.

TURDIDÆ, MALURINÆ.

PRINIA OLIVACEA, Strickl. *P. suprà viridi-olivacea, remigibus fuscis, olivaceo limbatis, caudâ cuneatâ, rectricibus duobus intermediis fuscis, lateralibus albis, extùs fusco marginatis, extimo toto albo; mento corporeque toto inferno albido, pallidè flavo lavato. Rostrum pedesque fuscescentes.*

The aspect of this bird is that of a *Phylloscopus*; but the beak is longer, more depressed at the base, the culmen carinated, the wings short and rounded, the first quill subspurious, the fourth longest; tail much graduated, rectrices narrow; tarsi moderately long, acrotarsia scutate, toes slender, the outer longer than the inner. These characters induce me to class the bird provisionally in the genus *Prinia*.

Total length $4\frac{1}{2}$ inches; beak to gape 6 lines, to front $5\frac{1}{2}$ lines, breadth 2 lines, height $1\frac{1}{2}$ line; wing $1\frac{3}{4}$ inch; medial rectrices 1 inch 10 lines, external 1 inch 1 line; tarsus $7\frac{1}{2}$ lines, middle toe $5\frac{1}{2}$ lines, hind ditto 5 lines.

Hab. Fernando Po; June 1842.

Prinia icterica, Strickl. *P. suprà flavo-olivacea, loris, superciliis, genis, margine alarum, tibiis, caudæque tectricibus infernis lætè flavis, mento, guld, pectore et abdomine albidis, pallidè isabellino lavatis, hypochondriis flavo-olivaceis, rostro nigro, pedibus rubris.*

This bird appears to belong to the same group as the last, but the beak is rather more depressed, the tail shorter and less cuneate, and the tarsi rather longer. In all other respects their structures correspond. They both have short rictal bristles and the nostrils are large, oblong, and situated in a large membranous depression of the beak. Possibly they may hereafter form a distinct genus of *Malurinæ*, distinguished chiefly by the depressed form of the beak.

Total length $3\frac{3}{4}$ inches; beak to gape $7\frac{1}{2}$ lines, to front 6 lines, breadth $2\frac{1}{4}$ lines, height $1\frac{1}{2}$ line; wing 1 inch 11 lines; medial rectrices $1\frac{1}{4}$ inch, external 1 inch; tarsus $9\frac{1}{2}$ lines, middle toe $6\frac{1}{2}$ lines, hind ditto $5\frac{1}{2}$ lines.

Hab. Fernando Po; June.

Mr. Fraser adds: "Irides light hazel; note *tweet, tweet, tweet,* hopping about the topmost branches of a small tree like a wren." In a sketch of this bird by Mr. Fraser the tail is erect, as in *Troglodytes.*

Turdinæ.

Cossypha poensis, Strickl. *C. corpore suprà fuliginoso-fusco, remigibus fuscis, omnibus* (1â *et* 2â *exceptis*) *basin versùs rufo-ferrugineis, sed scapis fuscis; rectricibus fuscis, tribus externis utrinque albo terminatis* (*qui color in rectricis extimæ pogonio externo obliquè versus basin producitur*), *corpore toto inferno ferrugineo, guld obscuriore. Rostrum atrum, pedes flavescentes.*

Seems to be a typical *Cossypha,* allied to *C. reclamator* (Vieill.), with which it agrees in all essential characters. The specimen above described is a male, and was procured at Clarence, Fernando Po.

Total length $7\frac{3}{4}$ inches; beak to gape 10 lines, to front 7 lines, breadth 4 lines, height $2\frac{1}{2}$ lines; wing 4 inches 2 lines; medial rectrices $3\frac{1}{2}$ inches, external 3 inches 4 lines; tarsus 1 inch, middle toe and claw 1 inch, hind ditto 8 lines, lateral toes equal.

Mr. Fraser adds that this bird "feeds on the ground; when sitting quiet in a naked bush it is with difficulty to be discovered. Irides hazel."

Pycnonotinæ.

Andropadus latirostris, Strickl. *A. corpore suprà olivaceo, remigibus fuscis, extùs viridi-olivascente, intùs albido, marginatis, rectricibus fusco-brunneis, olivaceo limbatis; corpore subtùs olivascente, lateribus menti, alæ tectricibus infernis, et abdomine medio stramineis. Rostrum corneum, marginibus pallidis, pedes ungues-que pallescentes. Rostrum depressum, tomiorum dentibus obliquis 6 vel 7 utrinque; illis maxillæ distinctis, mandibulæ subobsoletis.*

In this species the beak is considerably depressed and formed like that of a *Muscicapa*; the teeth of the upper mandible are distinct and regular, but disappear about the middle of the beak. The lower

mandible is also furnished with five or six serrations, but very low and indistinct. The wing is much rounded, the fifth quill being longest and the rest graduated. The colour and texture of plumage are much like that of the East Indian *Pycnonotus flavirictus*, Strickl. (Ann. Nat. Hist., June 1844.)

Total length $6\frac{3}{4}$ inches; beak to gape 11 lines, to front 7 lines; breadth 4 lines, height $2\frac{1}{2}$ lines; wing $3\frac{1}{4}$ inches; medial rectrices 3 inches; external $2\frac{3}{4}$ inches; tarsus $\frac{3}{4}$ inch, middle toe and claw 8 lines, hind ditto 6 lines.

The above description is taken from a specimen marked "female." In two other specimens in which the sex is not indicated the dimensions and plumage are the same, but the yellow streak on each side of the chin is wanting, and the lower mandible wants the serrations, and exhibits only a small subterminal notch. These are probably younger individuals.

Hab. Fernando Po; June.

Andropadus gracilirostris, Strickl. *A. corpore toto suprà olivaceo, remigibus primariis fuscis, extùs olivascente, intùs pallidè ochraceo limbatis, corpore subtùs pallidè olivaceo-cinerascente, mento guláque albidis, abdomine medio crissoque pallidè flavescentibus, alarum tectricibus infernis pallidè ochraceis. Rostrum pedesque corneo-fusci; rostrum longiusculum, turdinum, dentibus maxillæ duobus, mandibulæ nullis.*

This species differs from the former one in several points of structure; the beak is considerably narrower at the base and more slender, the upper mandible has only two dentations, with a faint trace of a third, and the lower mandible exhibits only a slight subterminal emargination. The wings also differ, being more pointed; the first quill is subspurious, and the second, third and fourth nearly equal, the third longest. These two species, however, agree in the structure of the tail and feet, and in the texture and almost the colour of the plumage, the rump-feathers being dense, long and downy, as in the true *Pycnonoti*. The specimen before me is a male; it exhibits two or three slender nuchal bristles, like those of *Pycnonotus* and *Criniger*, which are not traceable in *A. latirostris*.

Total length 7 inches; beak to gape 10 lines, to front 7 lines, breadth 3 lines, height $2\frac{1}{2}$ lines; wing $3\frac{1}{4}$ inches; medial rectrices 3 inches 1 line, external 2 inches 11 lines; tarsus $9\frac{1}{2}$ lines, middle toe and claw 9 lines, hind ditto 6 lines.

Hab. Fernando Po; June. "Irides white; a pretty songster."

Muscicapidæ, Muscicapinæ.

Muscicapa Fraseri, Strickl. *M. capite, dorso alisque fuscis, ferrugineo tinctis, remigibus fuscis, primariis extùs basin versus obscurè ferrugineis, omnibus, 1ª et 2ª exceptis, pogoniis internis ad basin pallidè rufis, uropygio, caudæ tectricibus, corporeque toto inferno rufo-ferrugineis, guláque pallidiore, rectricibus fuscis, 6 intermediis strictissimè, lateralibus largè, rufo terminatis, externo ferè omninò rufo. Rostrum latum, nigrum, pedes pallidè brunnei.*

The rufous colouring of the plumage reminds us of *Tchitrea*, Less. (*Muscipeta*, Auct.), but the beak is much shorter and more triangular than in that genus. In its general structure and proportions this bird appears to approach the restricted genus *Muscicapa* more closely than any other group. The form of the beak is almost exactly that of the *Muscicapa latirostris*, Sw., of India, and the legs are much shorter than is usual in terrestrial birds. Notwithstanding these characters, Mr. Fraser's notes state that this bird "feeds on the ground; has the motions and plump appearance of a robin." He adds that the irides are hazel, and that it is a beautiful songster.

The beak is strong, depressed, very broad, the sides straight when viewed from above, and the base furnished with bristles of moderate length. The first quill is subspurious, 1 inch long; the second is half an inch shorter than the third; the fourth is the longest. Tarsi short, acrotarsia and paratarsia entire; outer toe slightly longer than the inner one, its first phalanx attached to the middle toe; claws curved, compressed, sharp; tail rounded. The male and female are alike, except that in the specimen before me of the female the narrow rufous tip of the medial rectrices is wanting, and the dimensions are rather less than in the male.

Total length $7\frac{1}{4}$ inches; beak to gape 9 lines, to front 6 lines, height $2\frac{1}{4}$ lines, breadth at gape 6 lines; wing 3 inches 10 lines; medial rectrices $3\frac{1}{4}$ inches, external 3 inches 1 line; tarsus 10 lines, middle toe and claw 9 lines, hind ditto 7 lines.

Hab. Fernando Po.

I dedicate this species to Mr. Louis Fraser, naturalist to the Niger expedition, who succeeded in bringing home many interesting additions to zoological science, notwithstanding the difficulties and dangers by which he was surrounded.

Laniidæ, Laniinæ.

Tephrodornis ocreatus, Strickl. *T. capite suprà genisque fusco-atris, dorso toto alisque obscurè fusco-plumbeis, remigibus rectricibusque fusco-atris, extùs plumbeo limbatis, corpore toto inferno albo, gutturis pectorisque plumis cinereo strictè marginatis, alarum tectricibus infernis cinereis albo marginatis. Rostrum pedesque atri, acrotarsiis integris.*

This bird approaches sufficiently near to the Indian genus *Tephrodornis* to be classed with it, the only important structural differences being that the acrotarsia are entire and that the tail is slightly rounded. The beak resembles that of *T. Indica* (Gray), but is a trifle shorter; the nostrils are concealed by incumbent bristly feathers; the fourth, fifth and sixth quills are nearly equal, the first three graduated, and the outer toe longer than the inner.

Total length $6\frac{3}{4}$ inches; beak to gape 11 lines, to front 7 lines, breadth 3 lines, height $2\frac{1}{2}$ lines; wing 3 inches 7 lines; medial rectrices 3 inches, external 2 inches 8 lines; tarsus 10 lines, middle toe 9 lines, hind ditto 7 lines.

Hab. Fernando Po; June. "Irides hazel, legs blue."

Mr. Gould laid upon the table a number of Skins of Animals and Birds, being part of a large collection which Mr. Gilbert had lately forwarded to him from Australia. Mr. Gould characterized the following species:—

MAMMALIA.

MACROPUS GRACILIS. *M. infrà incanescens et saturatè fuscus; colli lateribus rufescenti-fusco lavatis; genis, mento et guld fulvescente-albis, vellere molli, ad basin cinereo, exinde fusco, dein albo, apice nigro; pilis longis nigris crebrè interspersis.*

	feet	in.
Length from tip of nose to the tip of the tail ..	2	6
——— of tail	1	1
——— of tarsi and toes, including nails	0	5
——— of arm and hand, including nails	0	3¼
——— of face from tip of nose to base of ear..	0	3½
——— of ear	0	2¼

Face and all the upper surface of the body grizzled grey and dark brown, the grizzled appearance produced by each hair being greyish white near its tip; sides of the neck and the outer side of the limbs washed with reddish brown; margin of the anterior edge and the base of the posterior edge of the ear buffy white; line from the angle of the mouth dark brown; line along the side of the face, chin and throat buffy white; under surface buffy grey; tail clothed with short grizzled hairs, similar to the upper surface of the body, and with a line of black on the upper side at the apex for about one-third of its length; the fur, which is somewhat soft to the touch, is grey at the base, then brown, to which succeeds white, the points of the hairs being black; there are also numerous long black hairs dispersed over the surface of the body; feet grizzled grey and rufous.

This is a very elegantly formed little animal, and is intermediate in size between *Macropus lunatus* and *Macropus frænatus*.

HYPSIPRYMNUS PLATYOPS. *H. facie magnopere latâ; hâc, corporisque lateribus, fuscescente-cinereis; dorso rufescenti-fusco; facie, partibusque superioribus pilis longis, et flavido-albis inter vellus crebrè adspersis; corpore inferiore fulvescente-cinereo.*

	feet	in.
Length from tip of the nose to the extremity of the tail ..	1	7
——— of tail	0	7
——— of tarsi and toes, including nails	0	2⅝
——— of arm and hand, including the nails	0	2½
——— of face from tip of nose to base of ear	0	3
——— of ear	0	0⅞

Face extremely broad, and, with the sides of the body, brownish grey; back reddish brown; the whole of the face and upper surface beset with numerous long yellowish white hairs, offering a strong contrast to the darker colouring of the fur; all the under surface and limbs buffy grey; tail brown above, paler beneath.

'Mor-da,' aborigines of Western Australia.

The above is the description of a female received from Swan River.

PERAMELES ARENARIA. *P. vellere rigido et cinerascente-fusco, pilis longis nigris intermixto, his fasciam lateralem vix distinctam, notamque instar ephippii ad dorsum medium efficientibus; auribus ferrugineis ad basin, in medio saturatè fuscis, ad apicem cinerascente-fuscis; corpore inferiore fulvescente-albo.*

	inches.
Length from tip of nose to extremity of tail	$14\frac{1}{2}$
——— of tail	$4\frac{1}{4}$
——— from tip of nose to base of ear	$3\frac{1}{4}$
——— of hind-leg, tarsi and toes	$2\frac{1}{4}$
——— of fore-leg	$2\frac{1}{4}$
——— of ear	$1\frac{5}{8}$

The fur is harsh to the touch and of a greyish brown hue, interspersed with numerous long black hairs, which form a broad indistinct band down the flanks, immediately before the hind-legs, and a kind of saddle-like mark on the centre of the back; ears rather lengthened and of three colours—rusty red near the base, then dark brown, and the apex of a light greyish brown; sides of the muzzle and all the under surface buffy white; line along the upper surface of the tail dark brown, the remainder buffy white; outside of the fore-legs dark brownish grey; feet and claws buffy white.

HAPALOTIS LONGICAUDATA. *H. supernè pallidè arenaceâ, pilis longis, nigris, ad caput et dorsum cum vellere intermixtis; rostri lateribus, et abdomine albis; caudâ pilis brevibus nigris ad basin indutâ, apicem versùs nigris et elongatis; apice extremo albo vellere molli, adpresso et juxta cutem plumbeo.*

	inches.
Length from tip of nose to extremity of tail	16
——— of tail	9
——— from tip of nose to base of ear	$1\frac{3}{4}$
——— of hind-leg, tarsi and toes	2
——— of fore-leg	$1\frac{3}{8}$
——— of ear	$0\frac{7}{8}$

All the upper surface and the outside of the limbs pale sandy, interspersed on the head and over the back with numerous fine black hairs, which, becoming longer on the lower part of the back and rump, give that part a dark or brown hue; ears naked and of a dark brown; sides of the muzzle, all the under surface and the inner surface of the limbs white; tail clothed with short dark brown hairs at the base, with lengthened black hairs tipped with white on the apical half of its length, the extreme tip being white; tarsi white; whiskers very long, fine, and black; the fur is close, very soft, and of a dark slaty grey at the base, both on the upper and under surface.

This species is considerably smaller than *Hapalotis albipes*, but has a much longer tail and longer hind-legs in proportion to the size of the body.

'Kor-tung' and 'Goota-was,' aborigines of Moore's River, Western Australia.

PHASCOGALE CALURUS. *Phasc. cinerea; subtùs pedibusque albis,*

indistinctissimè flavo-tinctis; caudâ corpore longiore, dimidio basali pilis brevibus, rufis, apicali pilis longis nigris obsitâ; auribus magnis ad basin pilis flavescentibus obsitis.

	inch.	lin.
Length from tip of nose to extremity of tail ..	10	6
——— of tail	5	6
——— from tip of nose to base of ear.....	1	3
——— of tarsi and toes	0	11
——— of ear.....	0	7½

This beautiful species was procured in the interior of Western Australia.

It is nearly allied to *P. penicillata*, but is of smaller size and has the tail less bushy; the portion covered with short hair is extended from the base nearly to the middle of the tail, and is remarkable for its brilliant rusty-red colour; on the apical half of the tail the hairs are long, being on an average about half an inch in length; all the under side is black, very nearly to the root. The fur is soft and moderately long, and its general colour is ashy grey externally, but grey next the skin; the under parts of the body are white, tinted with cream-colour, and this last-mentioned tint is very distinct on the sides of the body; the eye is encircled by a narrow black line, and there is a blackish patch in front of the eye. The ears are large and very sparingly clothed for the most part with very minute dusky hairs, but at the base, both externally and internally, are some longish yellow hairs.

PHASCOGALE CRASSICAUDATA. *Phasc. suprà cinerea flavo-tincta; corpore subtùs, pedibusque albis; auribus mediocris, externè maculâ nigrâ ornatis; caudâ brevi crassâ.*

	inch.	lin.
Length from tip of nose to extremity of tail ..	5	7
——— of tail	2	1
——— of ear	0	5½
——— tarsi and toes	0	7

Hab. Western Australia.

This species is about the size of the common mouse, and is not unlike the *Mus sylvaticus* in its colouring; above grey with a wash of yellow, and on the sides of the body distinctly tinted with yellow; under parts and feet pure white; tail much swollen, especially in the middle, and clothed throughout with very minute pale hairs; ears clothed with pale hairs, but with a largish black spot externally; eyes encircled with black hairs; fur moderately long and soft.

AVES.

IERACIDEA OCCIDENTALIS. *Ier. vertice et corpore superiore ferrugineo-fuscis; singulis plumis strigâ centrali nigrâ angustè notatis; caudâ fusco multi-fasciatâ; corpore subtùs albo plumis lineâ fuscâ angustâ notatis.*

Crown of the head, back and scapularies rusty brown, with a narrow stripe of black down the centre; rump deep rusty brown, crossed

by broad bands of dark brown, the tip of each feather buffy white; wings very dark brown; the inner webs of the primaries with a series of large spots, assuming the form of bars, of a deep rusty brown near the shaft and fading into buffy white on the margin; wing-coverts tipped with rusty red; spurious wing with a row of rusty red spots on either side of the shaft; tail dark brown, crossed by numerous broad irregular bars of rusty red, and tipped with pale buff; ear-coverts and a stripe running down from the angle of the lower mandible dark brown; chin, all the under surface, and a broad band which nearly encircles the neck, white, with a fine line of dark brown down the centre; thighs deep rust-red, each feather with a line of black down the centre and tipped with buffy white; cere very light greenish flesh-colour; irides wood-brown; space round the eye pale yellow, becoming brighter near the eye; base of the upper mandible, the under mandible and gape, very light horn-colour; tip of the upper mandible black.

Total length, 16 inches; bill, $1\frac{1}{4}$; wing, $12\frac{1}{2}$; tail, $7\frac{3}{4}$; tarsi, $2\frac{1}{2}$.
Hab. Western Australia.

ÆGOTHELES LEUCOGASTER. *Æ. quoad colorem* Æ. Nov. Hollandiæ *consimilis, at grandior, rostro longiore, et abdomine albo.*

Head black; crown, lunar-shaped mark at the back of the head, and a collar surrounding the neck, black, freckled with grey in the centre of each feather; back freckled black and white; wings brown, crossed by numerous bands of lighter brown, freckled with dark brown; primaries margined externally with buff, interrupted with blotchings of dark brown; tail dark brown, crossed by numerous broad irregular bands of reddish buff, freckled with dark brown; ear-coverts straw-white; chin, abdomen and under tail-coverts white; breast, sides of the neck, and a narrow collar surrounding the back of the neck, white, crossed by numerous narrow freckled bars of black; irides dark brown; upper mandible dark olive-brown, lower white, with a black tip; legs pale yellow, claws black.

Total length, $9\frac{1}{2}$ inches; bill, 1; wing, $5\frac{3}{4}$; tail, 5; tarsi, 1.
Hab. Port Essington.

MALURUS PULCHERRIMUS. *Mal.* Mas: *vertice, et fasciâ dorsali splendidè violaceo-cæruleis; orbitis et plumis auricularibus ex ærugine cæruleis; gulâ indico-cæruleâ, nigro subtùs indistinctè marginatâ; plumis scapularibus castaneis; loris, nuchâ, et dorso imo holoserico-nigris.* Fœm.: *fusca, subtùs pallidior, orbitis rubidè fuscis.*

Crown of the head and a broad band across the centre of the back rich glossy violet-blue; space surrounding the eye and the ear-coverts verditer-blue; throat intense indigo-blue, bounded below by an indistinct band of black; lores, collar surrounding the back of the neck, and the lower part of the back, deep velvety black; scapularies chestnut; wings brown; tail dull greenish blue, indistinctly barred with a darker tint and slightly tipped with white; abdomen and under tail-coverts white; bill and feet black; irides dark brown.

Female dull brown, paler beneath; tail-feathers like those of the male, but less bright; bill and space round the eye reddish brown.

Remarks.—Very similar in its markings and general contour to *M. Lamberti*; it may however be always distinguished from that species by its larger size and by the deep indigo-blue colour of the throat and chest, which parts are black in *M. Lamberti*.

Total length, $5\frac{1}{4}$ inches; bill, $\frac{9}{16}$; wing, 2; tail, $3\frac{1}{4}$; tarsi, $\frac{15}{16}$.

Hab. Western Australia.

PACHYCEPHALA GILBERTII. *Pach.* Mas: *colore saturatè olivaceo-fusco; capite plumbeo; loris nigris; gulâ ferrugineâ; humeris subtùs, abdomine medio, crissoque arenaceis.* Fœm. *differt, loris non nigris, neque gulâ ferrugineâ.*

The plumage dark greyish olive-brown; the head dark slate-grey, and the breast of a lighter grey; the lores black; throat rust-red; under surface of the shoulder, centre of the abdomen and under tail-coverts sandy buff; irides light brown; bill and feet black. The female is similar in colour, but is destitute of the black on the lores and the red on the throat.

Total length, $6\frac{3}{4}$ inches; bill, $\frac{11}{16}$; wing, $3\frac{7}{8}$; tail, $3\frac{3}{8}$; tarsi, 1.

Hab. Western Australia.

July 9th, 1844.

William Horton Lloyd, Esq., in the Chair.

Mr. Yarrell laid upon the table three specimens of the *Rana esculenta*, of different stages of growth, from Foulmire, Cambridgeshire, presented to the Society by F. Bond, Esq.

"Descriptions of a number of new species of Shells belonging to the genus *Cytherea*," by Sylvanus Hanley, Esq.

CYTHEREA VARIANS. *C. testâ ovato-cordatâ, inæquilaterali, subventricosâ, tenuiusculâ, albâ, maculis et lineis angulatim flexuosis castaneis variegatâ, concentricè (et anticè præsertim) sulcato-striatâ; lunulâ magnâ, cordatâ, lineâ impressâ circumscriptâ, albâ, maculâ castaneâ aut livido-purpurascente basi ornatâ; pube castaneo venulatâ; superficie internâ omninò albidâ; margine integro; cardine ut in* C. læta. Long. 1; lat. 1·45 poll.

Index Test. Sup. t. 15. f. 33.

Hab. Brazil.

Easily distinguished from *læta* and *obliquata* by its lunule, and from *pellucida* (to which in colouring and general contour it approximates) by its close and irregular groove-like striæ.

CYTHEREA OBLIQUATA. *C. testâ ovato-cordatâ (interdum oblongo-cordatâ), tumidâ aut ventricosâ, solidiusculâ, sublævigatâ, albidâ, lineis angularibus minutissimis brunneis aspersâ; margine ligamentali convexiusculo, subdeclivi; ventrali subarcuato; lunulâ magnâ, indistinctâ, colorum experte; natibus valdè obliquis, candidis; ligamento angusto; extremitate posticâ obtusâ; superficie internâ albâ aut albido-roseâ; margine integro.* Long. 1·75; lat. 2·50 poll.

Index Test. Sup. t. 15. f. 24.

Hab. ——? Mus. Cuming, Hanley, &c.

A species which for a long time has been confounded with *læta*, whose dentition, lunule and general shape it possesses. It is however a broader shell, with the beaks still more oblique, and its surface invariably speckled with minute scattered linear zigzags, which are more closely congregated near the swollen umbones.

CYTHEREA PLEBEIA. *C. testâ suborbiculari, subquadratâ, valdè inæquilaterali, solidâ, compressiusculâ, squalidè albidâ, fulvo variegatâ (intus lividâ), concentricè et confertissimè sulcatâ; margine ligamentali convexo et subdeclivi; postico dorsali paululùm subretuso et valdè declivi; ventrali arcuato; umbonibus haud complanatis et minimè striis divaricatis instructis; lunulâ lanceolatâ, albâ; margine interno subcrenulato.* Long. 1; lat. 1·20 poll.

Index Test. Sup. t. 15. f. 37.

Hab. Catbalonga, Philippines. Mus. Cuming, Hanley.

This species is allied to the type of its subgenus, the *Circe scripta*, but the compressed umbones of that shell at once distinguish it.

Minute tawny zigzags adorn the whitish ground of the anterior surface, whilst the fulvous hue predominates posteriorly.

Cytherea Philippinarum. *C. testâ cordatâ, inæquilaterali, ventricosâ, crassiusculâ, pallidè lividâ, radiis et lineis angulatim flexuosis saturatioribus variegatâ, concentricè costellatâ; costellis convexis, confertis; interstitiis lævigatis; lunulâ brevi, cordiformi, albâ; rimâ livido purpurascente; margine ventrali integro, arcuato; superficie internâ albidâ, maculâ lividâ sub umbonibus notatâ.* Long. 0·80; lat. 1 poll.

Index Test. Sup. t. 15. f. 36.

Hab. Philippines. Mus. Cuming, Hanley.

Very distinctly characterized by its crowded narrow ribs. The dentition is that of its subgenus *Chione*, and the short white lunule, equally with the narrow ligament, is bordered with livid purple.

Cytherea Diemenensis. *C. testâ oblongo-cordatâ, convexâ, nitidiusculâ, concentricè et obsoletè sulcatâ, carneo-fulvâ; radiis angustis lunuláque lanceolatâ, colore tinctis saturatiore; pube albâ, strigis flexuosis litteratâ; superficie internâ albidâ, radio fusco-purpureo obliquo, sub umbonibus ornatâ; margine integro.* Long. 0·80; lat. 1·20 poll.

Hab. Van Diemen's Land. Mus. Metcalfe.

Easily to be distinguished from those allied to it in form by its internal ray. The hinge is that of the section *Chione*.

Cytherea cor. *C. testâ cordato-trigonâ, intus extusque albâ, convexiusculâ, undique concentricè striatâ; striis exilibus, regularibus, confertissimis; latere postico majore, subcuneiformi; margine ligamentali valdè declivi, convexiusculo; ventrali subarcuato; natibus acutis; lunulâ oblongâ, impressâ; margine interno integro.* Long. 0·80; lat. 1 poll.

Index Test. Sup. t. 15. f. 7.

Hab. Africa. Mus. Metcalfe.

Not unlike the *Venus variabilis* of Sowerby in shape and general appearance. The epidermis is of that white velvety texture which we meet with in *argentea*.

Cytherea Hindsii. *C. testâ trigonâ, ventricosâ, solidiusculâ, lævigatâ, nitidâ, subæquilaterali, albidâ, brunneo nebulosâ, utrinque obtusâ; latere antico paululùm majore; natibus incurvatis, pallidis; lunulâ magnâ, subinconspicuâ, omninò pallidâ; pube fusco strigatâ; superficie internâ albidâ; margine integro.* Long. 1; lat. 1 poll.

Index Test. Sup. t. 15. f. 35.

Hab. Guayaquil. Mus. Cuming, Hanley.

This and the succeeding species belong to the subgenus *Trigona*, and are easily distinguished from the *Mactroides* of Born and Chemnitz by the absence of a purple stain upon the umbones.

"Descriptions of new species of Tritons, collected chiefly by H. Cuming, Esq. in the Philippine Islands," by Lovell Reeve, Esq.

Triton gallinago. *Trit. testâ abbreviato-clavæformi, varicibus*

duobus, rotundis, solidis; spirâ breviusculâ, acuminatâ; anfractibus supernè angulatis, tuberculorum serie unicâ ad angulum armatis, tuberculis peculiariter plano-vellicatis, acutis, anfractûs ultimi valdè irregularibus; anfractibus infra costatis, costis crenulatis, sub tuberculis flexuosè nodulosis, costarum interstitiis elevato-striatis; albâ, varicibus aurantio-fusco vividè tinctis; columellâ rugoso-plicatâ, aperturæ fauce albâ, labro intus fortiter denticulato; canali subelongato, ascendente.

Conch. Icon., *Triton*, pl. 2. f. 5.

Hab. Cagayan, province of Misamis, island of Mindanao, Philippines (found in sandy mud at the depth of twenty fathoms); Cuming.

The ribs of this delicate species are noduled, and more strongly developed on the varices than on the body of the shell; and the central dorsal tubercle of the last whorl is unusually prominent, with all the appearance of a double tubercle. The canal is much shorter than that of most of the club-shaped Tritons, and is particularly curved or bent upwards.

Triton Ranelloides. *Trit. testâ Ranellæformi, varicibus decem nodiferis; spirâ elevatâ; anfractibus, superficie totâ subtilissimè reticulatâ, supernè depressis, infra nodis grandibus biseriatim, anfractu ultimo triseriatim, cinctis, nodis inferioribus minoribus; luteo-albidâ, fuscescente variâ, tæniis subtilissimis fuscescente alboque articulatis, lineis fuscis fortioribus inter nodos, cinctâ; columellâ maculâ purpureâ albirugosâ supernè tinctâ; aperturæ fauce albâ, labro intus leviter denticulato; canali brevissimo.*

Conch. Icon., *Triton*, pl. 3. f. 10.

Hab. Matnog, province of Albay, island of Luzon, Philippines (found on the reefs); Cuming.

Partaking as this shell does in almost equal proportion of the characters of both *Triton* and *Ranella*, it has been a matter of some difficulty to decide to which of the two genera it might with the greater propriety be referred.

Triton exilis. *Trit. testâ clavæformi, varice unico parvo; spirâ breviusculâ; anfractibus supernè angulatis, infernè coarctatis, transversim subirregulariter costatis, costis liris parvis longitudinalibus decussatis, tuberculatis, tuberculis grandibus, prominentibus, subcompressis; albâ, aurantio-fusco sparsim tinctâ; columellâ plicatâ, plicis superioribus valdè majoribus, aperturæ fauce albâ, labro intus rugoso-denticulato; canali longissimo, supernè peculiariter contorto.*

Conch. Icon., *Triton*, pl. 4. f. 11.

Hab. San Nicolas, island of Zebu, Philippines (found in sandy mud at the depth of ten fathoms); Cuming.

This highly interesting species has been erroneously published by Mr. Sowerby in his 'Genera of Shells,' and by myself in my 'Conchologia Systematica,' vol. ii. plate 243. fig. 3, for the *Triton clavator*, and demonstrates how necessary is the examination of an entire genus by comparison for the proper discrimination of the species. No question as to the specific difference of these two shells could

however be urged, for they vary materially both in form and detail of sculpture. The *Triton clavator* is comparatively full and ventricose, with the upper ribs only moderately tubercled; the *Triton exilis* is small, peculiarly contracted round the lower part, with the tubercles very prominently developed entirely across the whorls: in the former species there is a varix on the penultimate whorl as well as upon the last whorl; in the latter species, as in the *Triton canaliferus*, there is no varix upon the penultimate whorl; lastly, the mouth of the former species is either yellowish or yellowish scarlet, whilst that of the latter exhibits not the slightest indication of colour, and the stains of orange-brown with which it is marked externally are of a character not to be misunderstood.

Triton Pfeifferianus. *Trit. testâ fusiformi, varicibus septem prominentibus, acutangularibus; spirâ elatâ; anfractibus subirregulariter convolutis, convexis, supernè plano-depressis, leviter canaliculatis, transversim costulatis, costulis irregularibus, nunc angustis, nunc latioribus, striis elevatis longitudinalibus nodulosodecussatis, anfractuum parte medianâ nodosâ, nodis distantibus, longitudinaliter subplicatis; fuscescente, fusco pallidè variâ; columellâ rugulosâ, labro intus rugoso-denticulato; canali subelongato.*

Conch. Icon., *Triton*, pl. 4. f. 14.

Reeve, Pro. Zool. Soc., 1844.

Hab. ——?

This species may probably be recognised as one of not uncommon occurrence, though not hitherto described; its leading features are the rude manner in which one whorl is deposited on the other, the prominent sharp-angled structure of the varices, and the delicate granulated sculpture of the ribs where they are crossed by the raised striæ; and its general appearance is altogether peculiar.

I take the liberty of dedicating this characteristic species to Dr. Pfeiffer of Cassel, Germany, on account of the diligence that gentleman has exercised in arranging the synonyms of the genera *Triton* and *Ranella* in his "Memoir of the genus *Tritonium*," Revue Zoologique de la Société Cuviérienne.

Triton Saulliæ. *Trit. testâ elongato-conicâ, tubæformi, paululùm contortâ, basim versus subangulato-attenuatâ, varicibus novem decemve plano-depressis; spirâ acuminatâ; anfractibus subangulatis, nodorum prominentium seriebus duabus infra angulum armatis, subtilissimè liratis, liris apicem versus minutissimè crenulatis; albido aut lutescente, rubido-fusco variegatâ et maculatâ; epidermide tenui; columellâ lævi, obsoletè plicatâ, plicâ albâ unicâ supernè munitâ; labro intus denticulato; aperturâ angulato-ovatâ, fauce cærulescente-albâ.*

Conch. Icon., *Triton*, pl. 5. f. 17.

Hab. Matnog, island of Luzon, Philippines; Cuming.

I was about to figure a somewhat discoloured specimen of this shell, collected by Mr. Cuming at the above-mentioned locality, when a smaller but very richly painted example presented itself for comparison from the collection of Miss Saul. It is unquestionably di-

stinct from any of the trumpet-shaped species, though curiously intermediate between the *Triton variegatus* and *australis*. I now dedicate it with great pleasure to a much-esteemed collector, whose cabinet bears interesting testimony of her excellent discrimination of species.

TRITON SINENSIS. *Trit. testâ elongato-clavæformi, varicibus duobus rotundis; spirâ subelatâ; anfractibus costis duplicibus subdistantibus undique cinctis, striâ unicâ elevatâ interveniente, costis superis leviter nodosis, costis interstitiisque subtilissimè crenulatis; albidâ, lutescente tinctâ, varicibus inter costas lutescentibus; columellâ multirugosâ; labro denticulato; aperturæ fauce albâ; canali elongato, subcontorto.*

Conch. Icon., *Triton*, pl. 6. f. 18.

Hab. China.

This shell is not uncommon in collections, though it appears to have been singularly neglected by naturalists. It presents a most remarkable modification of the *Triton canaliferus*: the entire sculpture of the two species—such as, for example, the double rib, the intervening raised line, the two only varices, the profusely wrinkled columella, the long slightly twisted canal, &c.—is the same in both; but the canaliculated structure of the sutures, which forms so very important a specific character in the *Triton canaliferus*, is wanting. The *Triton Sinensis* might therefore be recognised as an example of the *Triton canaliferus* with the spire pushed out as it were; or one in which the whorls have not been subject to that peculiar depression which forms so deep and characteristic a channel round the suture.

TRITON GRANDIMACULATUS. *Trit. testâ ovato-turritâ, crassâ, infernè coarctatâ, varicibus tribus; spirâ subobtusâ; anfractibus supernè angulatis, transversim exiliter striatis et liratis, liris superis tuberculato-nodosis; fuscescente-fulvâ, varicibus et columellæ parte superiori maculis grandibus nigerrimo-fuscis ornatis; columellâ lævi vel obsoletè plicatâ; labro intus dentato, dentibus nigerrimo-fuscis; aperturæ fauce albâ; canali breviusculo, subascendente.*

Conch. Icon., *Triton*, pl. 6. f. 20.

Hab. Matnog, province of Albay, island of Luzon (found on the reefs); Cuming.

This shell appears at first sight to be nothing more than a casual variety of the *Triton lotorium*; it will be found, however, upon examination to differ materially. The large tuberculated humps of the *Triton lotorium* are here represented by regular series of small rounded knobs, which impart a kind of cancellated structure to the earlier whorls which is very characteristic; the lower part of the shell is not distorted, and the varices, especially at the back, are vividly painted with large distinct brown blotches.

TRITON SARCOSTOMA. *Trit. testâ subabbreviato-clavæformi, varicibus duobus, rotundis, solidiusculis; spirâ brevi, apice subdepresso; anfractibus supernè angulatis, transversim costatis, costis noduloso-*

crenatis, costarum interstitiis subtiliter crenato-liratis, costis superis tuberculatis, tuberculis grandibus, prominentibus, subcompressis; spadiceo-fuscescente, costis inter tubercula albimaculatis; columellâ supernè et infernè leviter corrugatâ, labro intus fortiter rugoso-denticulato; columellâ labroque carneo eximiè tinctis.

Conch. Icon., *Triton*, pl. 7. f. 21.

Hab. Island of Ticao, Philippines (found on the reefs); Cuming.

This shell has somewhat the aspect of the *Triton cynocephalus*; it differs in being much less ventricose, and in having very prominent tubercles round the upper part of the whorls. The mouth is stained with a pale flesh-tint without any indication of dark colour on the columella.

TRITON AQUATILIS. *Trit. testâ fusiformi-turritâ, varicibus septem octove rotundis, prominentibus; spirâ elatâ; anfractibus convexis, transversim costatis, costis duplicibus, subdistantibus, liris undatis tuberculiferis longitudinaliter decussatis; pallidè rufescente-fuscâ, fusco maculatâ et variegatâ; columellâ et aperturæ fauce carneo-tinctis, albirugosis, labro intus albidenticulato; canali brevi, ascendente.*

Conch. Icon., *Triton*, pl. 7. f. 24.

Hab. Island of Ticao, Philippines (found on the reefs at low water); Cuming.

The longitudinal waved ridges which adorn the surface of this interesting species have, in the fine specimen before me, a beautiful ripple-like appearance which is very characteristic. The columella and interior are covered with enamel of a bright uniform flesh-tint, and the varices are very round and prominent. I have seen several examples of this species in different stages of growth, all exhibiting the above peculiarities with remarkable specific distinctness.

TRITON TRILINEATUS. *Trit. testâ clavato-fusiformi, varicibus tribus; spirâ breviusculâ; anfractibus supernè angulatis, ad angulum compresso-tuberculatis, transversim plano-liratis, liris subtilissimè crenulatis, interstitiis lineis tribus elevatis sculptis; albidâ, fusco variegatâ, varicibus fusco-maculatis; columellâ lutescente-albâ, costatâ; canali subelongato, leviter ascendente; labro fortiter denticulato-costato; aperturæ fauce albâ.*

Conch. Icon., *Triton*, pl. 10. f. 31.

Hab. Philippine Islands; Cuming.

This is a strongly marked species, with the denticulated sculpture of the lip extending into the aperture after the manner of ribs; and the body of the shell is crossed by flattened ridges, between each of which are three very characteristic raised lines.

TRITON ÆGROTUS. *Trit. testâ subpyriformi, varicibus validis duobus; spirâ acutâ; anfractibus supernè angulatis, transversim costatis, liris minutis tribus vel quatuor inter costas decurrentibus, costis superis tuberculatis, tuberculis infernè evanidis; albidâ, fuscescente maculatâ; columellâ plicatâ; canali subelongato, subascendente; aperturæ fauce albâ; labro intus denticulato.*

Conch. Icon., *Triton*, pl. 12. f. 42.
Hab. China.

Care must be taken not to confound this shell with the *Triton trilineatus*, in which the dorsal tubercles are more strongly developed, and which has no varix on the back of the penultimate whorl.

TRITON ENCAUSTICUS. *Trit. testâ pyriformi, varice unico depressiusculo; spirâ rotundato-depressâ; anfractibus transversim costatis, tuberculorum seriebus plurimis longitudinalibus armatis, inferioribus minoribus; albidâ, fusco variè tinctâ; columellâ lævi, crassissimè encausticâ, aurantio-lutescente; canali elongato, ascendente; labro aurantio-lutescente, intus denticulato.*
Conch. Icon., *Triton*, pl. 12. f. 43.
Hab. Island of Ticao, Philippines (found on the reefs); Cuming.

The enamelled character of the mouth of this shell is somewhat like that of the *Triton tuberosus*; the form is that of the *Triton retusus*.

TRITON RIDENS. *Trit. testâ elongato-ovatâ, subfusiformi, solidiusculâ, distortâ, varicibus quinque sexve subindistinctis; spirâ acuminatâ; anfractibus liris angustis elevatis prominentibus distantibus eleganter clathratis, liris transversis duplicatis; cærulescente-albâ, epidermide sericâ indutâ; columellâ fortiter rugosâ, aurantio tinctâ; canali breviusculo, vix ascendente; aperturâ parvâ, coarctatâ; labro intus fortiter dentato, albo, aurantio marginato.*
Conch. Icon., *Triton*, pl. 12. f. 46.
Hab. Philippine Islands; Cuming.

Although this species exhibits little more than a modification of the characters of the *Triton cancellinus*, the difference is of good specific importance. The cancellated sculpture is wider and more prominent, whilst the ridges are more sharply noduled in crossing over each other. The wrinkles and denticulations which surround the aperture are much more strongly developed, and the orange-stained colouring of the enamelled disc is peculiarly characteristic.

TRITON THERSITES. *Trit. testâ subfusiformi, varicibus quatuor; spirâ exsertâ; anfractibus transversim granoso-liratis, angulatis, ad angulum tuberculatis, tuberculis validis, valdè prominentibus, anfractuum totâ superficie subtilissimè granulosâ; columellâ albâ, subexcavatâ, leviter rugosâ, callositate supernè armatâ; canali longiusculo, subascendente; labro intus leviter denticulato.*
Conch. Icon., *Triton*, pl. 13. f. 48.
Hab. —— ?

Several shells have been named after the rude enemy of Achilles as significant of their deformity. The *Triton* under consideration, though it has quite a hump-backed appearance from the prominence of the dorsal tubercles, is however beautifully granulated, the granulated ridges being especially neatly sculptured in passing over the tubercles and varices.

TRITON MORITINCTUS. *Trit. testâ ovato-oblongâ, ventricosâ, varice unico elevato; spirâ depressâ; anfractibus supernè plano-angulatis,*

transversim crenulato-costatis, ad angulum fortiter tuberculatis, tuberculis acutis, infernè evanidis, transversim subtiliter sulcatis; rubidâ, varicibus albimaculatis; epidermide subsetosâ; columellâ rufo-aurantiâ, maculâ grandi, nigricante-purpureâ, albirugosâ, tinctâ; canali subelongato, subcontorto; aperturæ fauce rufo-aurantiâ; labro intus fortiter dentato.

Conch. Icon., *Triton*, pl. 13. f. 49.

Hab. Philippine Islands; Cuming.

This shell, which is not uncommon in collections, approximates very closely to the *Triton cynocephalus*; it is however specifically distinct. The whorls of the *Triton moritinctus* are very strongly tubercled, the tubercles being disposed in waved longitudinal rows, whilst in the *Triton cynocephalus* the tubercles have more the appearance of regular nodules.

Triton exaratus. *Trit. testâ subtrigono-fusiformi, varicibus duobus; spirâ elevato-turritâ; anfractibus supernè planissimo-angulatis, ad angulum subnodosis, transversim liratis, liris compressis, duplicatis, crenulatis, interstitiis excavato-sulcatis; albidâ, fuscescente cæruleoque variè tinctâ; columellâ albâ, subrugosâ; canali longiusculo; aperturâ rotundâ; labro intus dentato.*

Conch. Icon., *Triton*, pl. 13. f. 50. *a* and *b*.

Var. *β*. *Testâ nigricante-fuscâ, albibalteatâ.*

Hab. North coast of New Holland.

This is a very characteristic species, with the transverse ridges standing out in bold relief, and the upper part of the whorls peculiarly flat and indented at the sutures.

Triton ficoides. *Trit. testâ trigono-ficiformi, varicibus quinque; spirâ brevi, obtusâ; anfractibus dorsim tumidiusculis, transversim liratis, liris nodosis, super varices duplicatis; columellâ nodosâ et rugosâ, infernè luteo-sanguineo tinctâ; canali brevi; labro intus fortiter dentato.*

Conch. Icon., *Triton*, pl. 13. f. 51.

Hab. Africa.

M. Kiener should have been sure of this shell being the *Ranella caudata* of Say, before he ventured to question the generic appropriation of that species. It is quite another thing, and I much doubt if a shell of such bright and vivid colour were ever found within the latitude of New York. The *Ranella caudata* belongs to a small group of *Ranellæ*, of which the *R. Muriciformis* is the type.

Triton acuminatus. *Trit. testâ subfusiformi, varice nullo; spirâ acutissimè acuminatâ; anfractibus numerosis, transversim elevato-striatis, longitudinaliter costatis, costis subobliquis, crebriusculis; columellâ subtilissimè rugosâ; canali breviusculo, ascendente; aperturâ parvâ, rotundâ; labro intus denticulato.*

Conch. Icon., *Triton*, pl. 14. f. 54.

Hab. China.

The *Triton acuminatus* is another very aberrant form, though belonging to that interesting section of the genus of which the *Triton niveus* is the type.

Triton gracilis. *Trit. testâ gracili-fusiformi, varicibus tribus; spirâ subelatâ; anfractibus tuberculato-nodosis, liris parvis subtiliter decussatis; lutescente-albâ, vel fuscâ, albibalteatâ, epidermide tenui subsetosâ indutâ; columellâ fortiter rugosâ, albâ; canali subelongato, ascendente; aperturæ fauce albâ; labro intus peculiariter rugoso-denticulato.*

Conch. Icon., *Triton*, pl. 15. f. 58.

Hab. Philippine Islands; Cuming.

A delicate little species, in which the outer lip is peculiarly fully wrinkled within.

Triton elongatus. *Trit. testâ elongato-fusiformi, varice unico subindistincto; spirâ acuminatâ; anfractibus supernè leviter angulatis, transversim liratis et striatis, liris striisque granuloso-crenatis, æquidistanter nodulosis; cinereâ, liris livido-purpureis; columellâ excavatâ, rugosâ, callositate supernè armatâ; canali elongato, subcontorto; labro intus dentato, dentibus binis.*

Conch. Icon., *Triton*, pl. 15. f. 59.

Hab. Philippine Islands; Cuming.

This shell approximates very closely to the *Triton vespaceus*; so closely indeed, that I may be thought rather venturous to describe it as a new species. The differences however are as follows: the canal is much more elongated, the whorls are not tubercled, and the beaded ridges are of a peculiar livid-purple colour.

Triton gemmatus. *Trit. testâ elongato-oblongâ, varicibus quatuor-vel quinque; spirâ subobtusâ; anfractibus liris, pulcherrimè gemmatis, cingulatis, interstitiis striis elevatis longitudinalibus et transversis eximiè clathratis; aurantio-lutescente; columellâ rugosâ, callositate supernè armatâ; canali breviusculo; labro intus dentato, dentibus binis.*

Conch. Icon., *Triton*, pl. 15. f. 60.

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

Var. β. *Testâ albâ, varicibus duobus ad sex; liris subnodosis.*

Hab. Island of Annaa (Chain island), South Pacific Ocean, and island of Burias, Philippines (found under stones in both localities at low water); Cuming.

The sculpture of this shell is very similar to that of the *Triton rubecula*; the beaded ridges are however wider apart, and on the varices have three smaller ridges between them.

Triton obscurus. *Trit. testâ elongato-turritâ, varicibus undecim; spirâ acuminatâ; anfractibus transversim granulosis, longitudinaliter subobsoletè sulcatis, sulcis creberrimis; fuscescente, fusco pallidè balteatâ, maculis fuscis quadratis perpaucis seriatim pictâ, varicibus fusco maculatis; columellâ lævi, crassissimè encausticâ; canali brevissimo, labro intus denticulato.*

Conch. Icon., *Triton*, pl. 16. f. 63.

Hab. East. Indies; Lieut. Babb.

This shell may have been probably confounded with the *Triton*

maculosus; it differs however in not being transversely grooved, in having a different arrangement of the varices, and in other minor particulars.

TRITON CRISPUS. *Trit. testâ ovatâ, subfusiformi, varicibus duobus vel tribus; spirâ breviusculâ; anfractibus liris crispis prominentibus, subdistantibus, decussatis, liris ad decussationem nodulosis, interstitiis striis crispis elevatis subtilissimè cancellatis; cinereo-cærulescente, varicibus lirisque albidis; columellâ excavatâ, rugosâ, callositate supernè armatâ; canali breviusculo; labro intus fortiter denticulato.*

Conch. Icon., *Triton*, pl. 17. f. 68.

Hab. ——?

Quite distinct from any hitherto described species.

TRITON EBURNEUS. *Trit. testâ ovato-oblongâ, varicibus tribus vel quatuor remotiusculis; spirâ brevi; anfractibus liris parvis obtusis creberrimè decussatis; intus extusque albâ; columellâ excavatâ, infernè subrugosâ; canali brevissimo; labro intus denticulato.*

Conch. Icon., *Triton*, pl. 17. f. 69.

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

This shell has somewhat the form of the *Triton Quoyi*, an interesting little New Holland species, which M. Kiener thought to be the recent analogue of Lamarck's fossil *Triton viperinum*.

TRITON VERRUCOSUS. *Trit. testâ subpyramidali-oblongâ, varicibus quatuor vel quinque; spirâ mediocri; anfractibus supernè impressis, transversim striatis et liratis, liris longitudinalibus prominentioribus decussatis, ad decussationem nodosis; aurantio-fuscescente, anfractuum parte inferiori fusco inter nodos articulatâ; columellâ excavatâ, vix rugosâ; canali brevissimo.*

Conch. Icon., *Triton*, pl. 17. f. 71.

Hab. ——?

Care must be taken not to confound this shell with the lesser New Holland species, *Triton Quoyi*.

TRITON TORTUOSUS. *Trit. testâ oblongo-turritâ, subangustâ, varicibus octo obliquè invicem subsequentibus; spirâ tortuosâ; anfractibus granulis parvis subtiliter reticulatis; lutescente, maculis fuscis grandibus, longitudinaliter undatis, eleganter pictâ; columellâ excavatâ, subgranulosâ; canali brevissimo, recurvo.*

Conch. Icon., *Triton*, pl. 17. f. 74.

Hab. Island of Burias, Philippines (found under stones at low water); Cuming.

This interesting species approximates very closely to the *Triton distortus*; it differs in being of a more delicate and slender form, in the granules being less prominent, and in the peculiar waved style of the painting.

TRITON SCULPTILIS. *Trit. testâ oblongo-turritâ, varice nullo; spirâ exsertâ; anfractibus longitudinaliter costellatis, costellis angustis,*

interstitiis striis elevatis cancellatis, anfractûs ultimi parte inferiori conopeo carinæformi prominente peculiariter ornatâ; albidâ, suturis fuscis; columellâ lævi; canali brevissimo.

Conch. Icon., *Triton*, pl. 18. f. 76.

Hab. Island of Capul, Philippines (found under stones at low water); Cuming.

In addition to the above account of this beautiful species, it may be noticed that the transverse striæ are brown upon the ribs and white in the interstices; the sutures are brown in consequence of the whorls being encircled with a brown line just at the point where one whorl lodges in its spiral growth upon the other, over the basal canopy, as if to mark out the exact plan of convolution.

TRITON EXIMIUS. *Trit. testâ oblongo-turritâ, varice nullo; spirâ acuminatâ; anfractibus costellis minutis eximiè cancellatis, longitudinalibus majoribus, valdè remotioribus; albâ, fuscescente obscurè fasciatâ; canali brevissimo.*

Conch. Icon., *Triton*, pl. 18. f. 77.

Hab. Lord Hood's Island, Pacific Ocean (on the reefs), and island of Capul, Philippines (under stones at low water); Cuming.

A neatly cancellated, almost colourless, shell.

TRITON EGREGIUS. *Trit. testâ elongato-ovatâ, varice nullo; spirâ acutâ; anfractibus longitudinaliter costatis, striis elevatis transversis cancellatis; albâ, costis medio albis, supra et infra fuscis; canali brevi, recurvo.*

Conch. Icon., *Triton*, pl. 18. f. 78.

Hab. Island of Masbate, Philippines (found under stones at low water); Cuming.

The style or arrangement of the sculpture not much unlike the preceding species; the shell is however larger, more globose, and has a very pretty appearance, arising from the dark brown upper and lower portions of the ribs being crossed by white striæ.

TRITON SIPHONATUS. *Trit. testâ fusiformi-turritâ, varicibus novem, subindistinctis; spirâ acuminatâ; anfractibus creberrimè reticulatis, ultimo anticè quasi siphonato; roseo- aut cæruleo-albidâ, aurantio-fusco sparsim maculatâ; laminâ columellari tenui, lævi; aperturâ elongato-ovatâ; labro subtilissimè denticulato.*

Conch. Icon., *Triton*, pl. 18. f. 81.

Hab. ——?

Chiefly distinguished by its anterior extension.

TRITON DECAPITATUS. *Trit. testâ elongato-turritâ, varice nullo; spirâ decollatâ; anfractibus longitudinaliter concentricè costellatis, costellis angustis, numerosis, confertis, transversim striatis; lutescente, fusco subindistinctè maculatâ; costellis aurantio-fuscis, lineâ lutescente anticè interruptis, anfractu ultimo lineis lutescentibus duabus; canali brevissimo.*

Conch. Icon., *Triton*, pl. 18. f. 85.

Hab. Island of Burias, Philippines (found under stones at low water); Cuming.

Care must be taken not to confound this species with the *Triton truncatus*, in which the ribs are larger and wider apart, and the colour not interrupted.

TRITON DIGITALE. *Trit. testâ oblongâ, varice nullo; spirâ acuminatâ; anfractibus seriatim granulosis, granulis numerosis, confertis, obtusis; albidâ, fuscescente sparsim punctatâ; canali brevissimo.*
Conch. Icon., *Triton*, pl. 19. f. 86.
Hab. Island of Capul, Philippines (found under stones at low water); Cuming,
The sculpture of the shell is much like the granular surface of a thimble.

TRITON CONCINNUS. *Trit. testâ oblongâ, tenuiculâ, varice nullo; spirâ subacuminatâ; anfractibus longitudinaliter concentricè costellatis, transversim creberrimè striatis; lutescente, aurantio-fuscescente peculiariter pictâ, apice roseo-purpureo; canali brevissimo.*
Conch. Icon., *Triton*, pl. 19. f. 87.
Hab. Philippine Islands; Cuming.
The bright orange-brown painting is peculiarly festooned, as it were, round the upper part of the whorl next the suture.

TRITON ANGULATUS. *Trit. testâ oblongâ, turritâ, varice nullo; spirâ acuminatâ; anfractibus supernè angulatis, longitudinaliter costellatis, transversim striatis, striis prominentibus, confertis; luteâ, aut lutescente-albâ, rubido-fusco alboque sparsim punctatâ; canali brevissimo.*
Conch. Icon., *Triton*, pl. 19. f. 88.
Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.
Chiefly distinguished by the angular structure of the whorls next the suture.

TRITON LATIVARICOSUS. *Trit. testâ oblongâ, solidâ, subcompressâ, varicibus tribus vel quatuor latis; spirâ subobtusâ; anfractibus longitudinaliter concentricè costellatis, costellis solidis, subdistantibus, transversim creberrimè striatis; canali brevissimo.*
Conch. Icon., *Triton*, pl. 19. f. 90.
The varices of this shell are unusually broad, and the ribs are wider apart on the back of the whorls than on the side.

TRITON TESSELLATUS. *Trit. testâ elongatâ, varice nullo; spirâ acuminatâ, acutâ; anfractibus striis longitudinalibus et transversis subtilissimè reticulatis; albidâ, maculis grandibus rubido-fuscis subirregulariter tessellatâ; canali brevi, subrecurvo.*
Conch. Icon., *Triton*, pl. 19. f. 91.
Hab. Island of Burias, Philippines (found under stones at low water); Cuming.
This shell may be easily recognised by its rude tessellated spots.

TRITON BACILLUM. *Trit. testâ elongato-clavæformi, solidâ, varici-*

bus duobus; spirâ elongatâ, subretusâ; anfractibus obtuso-granulosis; cærulescente-albâ; canali brevissimo, recurvo; aperturâ breviusculâ.

Conch. Icon., *Triton*, pl. 19. f. 94.

Hab. —— ?

This is the only species of *Triton* I have noticed with a single varix on each side.

Triton carduus. *Trit. testâ globosâ, ventricosâ, varice nullo; spirâ brevi, acutissimâ; anfractibus longitudinaliter costatis, transversim striatis, striis valdè elevatis, costas super submuricato-nodosis; albidâ, fuscescente variâ; columellâ excavatâ; canali brevi.*

Conch. Icon., *Triton*, pl. 19. f. 95.

Hab. —— ?

A rather thin shell, of very sharply cancellated sculpture.

Triton pagodus. *Trit. testâ pyramidali-ovatâ; spirâ acuminato-turritâ, varice nullo; anfractibus subventricosis, supernè angulatis, transversim creberrimè elevato-lineatis, longitudinaliter costatis, costis compressiusculis, subdistantibus; albidâ, rubido-castaneo multifasciatâ; canali brevi, valdè recurvo; aperturâ rotundâ; labro intus elevato-striato.*

Conch. Icon., *Triton*, pl. 20. f. 97.

Hab. Bay of Montija, West Columbia; Cuming.

This species partakes more of the character of *Nassa* than the preceding; it might be referred indeed to that genus with almost as much propriety as to *Triton*.

Triton pictus. *Trit. testâ oblongo-ovatâ; spirâ subacuminatâ, varice nullo; longitudinaliter creberrimè costatâ, transversim elevato-striatâ; rubido-fusco alboque tessellatâ; canali brevi; aperturâ parvâ, fauce albâ.*

Conch. Icon., *Triton*, pl. 20. f. 97.

Hab. Gallapagos Islands (found under stones at low water); Cuming.

An interesting species tessellated with white and very rich dark brown, in which the latter colour greatly preponderates.

Triton decipiens. *Trit. testâ elongato-ovatâ, subfusiformi, distortâ, varicibus quinque sexve indistinctis; anfractibus liris angustis elevatis clathratis; albido-lutescente, epidermide sericâ indutâ; columellâ profundè excavatâ, rugosâ, subobsoletè umbilicatâ, callositatibus plurimis supernè armatâ, rufo-aurantiâ; labro plano-concavo, rufo-aurantio radiato, intus fortiter rugoso-dentato.*

Conch. Icon., *Triton*, pl. 20. f. 102.

Hab. Island of Mindanao, Philippines; Cuming.

I have long hesitated to consider this shell any other than a variety of the *Triton cancellinus*: the differences, though slight, seem however to remain constant. It is uniformly of smaller size, the transverse ridges are not duplicate, and the colour and wrinkled denticu-

lations of the columella and outer lip are of a peculiar and distinct character.

A fine specimen of the Wiry-haired Wolf or Deer-hound was exhibited to the Meeting by George Dodd, Esq., M.P.

July 23, 1844.

No business was transacted.

August 13, 1844.

Professor Owen, V.P., in the Chair.

The following notes from Sir Robert Heron, on the Jerboas in his collection, were read:—

"June 14th, 1844.—The Jerboas were received into this menagerie in June 1843. They are in a box full of cotton: the box is in a room five and a half feet by four and a half, floored with wood, and warmed by a flue which has always been heated at night; the room opens into a pen secured with wire, nine and a half feet by eight and a half. They have been offered many kinds of food, but eat only wheat and lettuce; they have never been seen to drink, but from the water diminishing and their parting with a considerable quantity of urine, we have no doubt of the fact. On the 14th of May last they produced two young ones; on the 12th inst. these young ones are still blind and unable to walk, also nearly naked, but they are grown and appear to be healthy: it is intended to make a pit in their abode about two feet square, filled with earth, where they may burrow.

"June 29.—It was not till their fifth week that the young Jerboas appeared to have the use either of their eyes or limbs; they had still little fur, but were a good deal grown. Now, being forty-six days old, they are about three-quarters grown, are well-clothed and active; they have been seen to eat corn, and are apparently quite established. A second box has been put into their chamber, and last night all four had removed into it. They have never been seen to drink, but it is thought they do so, as the water is sometimes diminished.

"July 20.—The young Jerboas are now exactly like the old ones."

The following extract was read from a communication from the Right Honourable the President of the Society:—

"I have eight young Oroonoko goslings; they are well-grown birds and nearly resemble the adults. I have also eight *Tetrao Umbellus* and two young *Tetrao Cupido*, and every prospect of hatching the Stanley Cranes. The young Eland Antelope and the young Common Zebra are going on charmingly; both the mothers have again taken the male, and my young *Antilope scripta*, not yet twelve months herself, has done the same."

"Descriptions of new species of *Arca*, chiefly collected by H. Cuming, Esq. in the Philippine Islands," by Lovell Reeve, Esq.

Arca obtusa. *Arca testâ oblongâ, Modiolæformi, lateribus obtuso-rotundatis, margine ventrali bysso paululùm hiante; albâ, epidermide nigricante subsquamosâ partim indutâ; radiatim striatâ, striis*

elevatis; umbonibus depressiusculis, approximatis; ligamenti areâ parvâ, angustâ, profundè declivi.

Conch. Icon. *Arca*, pl. 12. f. 77.

Hab. Coast of Japan (found under stones); Dr. Siebald.

Very like a *Modiola* in shape, but not the recent analogue of the fossil *A. Modiolæformis* of Deshayes.

Arca cunealis. *Arca testâ elongato-oblongâ, lateribus supernè angulatis, antico brevi, rotundato, postico elongato, angulato, carinâ ab umbone ad marginem decurrente, margine ventrali bysso hiante; pallidè fuscâ, epidermide molli lamellatâ indutâ; radiatim striatâ, striis elevatis, fortiter granulosis, areâ posticâ subindistinctè nigricostatâ; umbonibus subapproximatis, ligamenti areâ latiusculâ, concavâ, sulcis ligamentariis anticis posticisque, subdistantibus.*

Conch. Icon. *Arca*, pl. 13. f. 87.

Hab. Zanzibar (found under stones at low water); Thorn.

The sculpture of this species corresponds precisely to that of the *Arca mutabilis*; the form of the shell is more depressly elongated, the anterior side is shorter, and there are ligamentary grooves on the posterior part of the cardinal area as well as on the anterior.

Arca tenella. *Arca testâ subcylindraceo-oblongâ, Modiolæformi, tenui, subpellucidâ, lateribus obtuso-rotundatis, margine ventrali vix hiante; pallidè fuscescente, epidermide molli leviter indutâ; radiatim subtilissimè striatâ, striis granulosis; umbonibus obtusis, anticè incurvis; ligamenti areâ anticè latiusculâ, posticè lanceolato-acuminatâ.*

Conch. Icon. *Arca*, pl. 14. f. 91.

Hab. Island of Burias, Philippines (found under stones at low water); Cuming.

A delicate light brown shell, beautifully striated, with a soft scattered epidermis.

Arca setigera. *Arca testâ subquadrato-oblongâ, lateribus rotundatis, postico latiore, margine ventrali bysso vix hiante; rubido-fuscâ, epidermide fuscâ setigerâ indutâ; radiatim subtilissimè striatâ, striis elevatis, granulosis; umbonibus subapproximatis, anticè adjectis; ligamenti areâ angustâ, declivi.*

Conch. Icon. *Arca*, pl. 14. f. 94.

Hab. Zanzibar (found under stones at low water); Thorn.

This species approaches very closely to *Arca lacerata*; it appears, however, to be of an uniform smaller size, the posterior side is less expanded, and the bristles are set in single rows.

Arca virescens. *Arca testâ elongatâ, lateribus rotundatis, postico leviter angulato, antico subattenuato; viridescente, epidermide tenui, ad aream posticam setosâ, indutâ; striis elevatis radiatâ; ligamenti areâ angustissimâ, umbonibus approximatis.*

Conch. Icon. *Arca*, pl. 15. f. 97.

Hab. Catbalonga, island of Samar, Philippines (found under stones at low water); Cuming.

A delicate greenish species, in which the epidermis lies on the posterior area in rows of fine bristles.

Arca fasciata. *Arca testâ oblongâ, tenui, compressâ, lateribus rotundatis, supernè attenuatis; albidâ, fasciis cinereo-purpurascentibus indistinctis concentricè tinctâ; epidermide tenui, posticè setosâ, indutâ; radiatim striatâ, striis elevatis, irregularibus, striis transversis subtilissimis fimbriato-decussatis; ligamenti areâ angustâ, profundè declivi; intus purpurascente.*

Conch. Icon. *Arca*, pl. 15. f. 99.

Hab. ——?

This is a remarkably flattened shell, banded and stained with reddish and ashy purple both inside and outside.

Arca lima. *Arca testâ elongato-ovatâ, lateribus supernè angulatis, antico infra rotundato, postico angulato-rotundato, subextenso; fuscescente, fusco tinctâ, posticè fusco maculatâ, epidermide tenui subtilissimè setosâ indutâ, radiatim liratâ, liris angustis, numerosis, confertis, granosis, perpaucis medianis duplicatis; lateraliter costatâ, costis rudibus, subdistantibus, crenato-nodosis; ligamenti areâ angustâ.*

Conch. Icon. *Arca*, pl. 15. f. 101.

Hab. Islands of Burias and Corregidor, Philippines (found under stones at low water); Cuming.

The sculpture of this shell is very similar to that of the *Arca bullata*; it is, however, of much finer character, although the shell is more elongated and altogether larger.

Arca ocellata. *Arca testâ elongato-quadratâ, lateribus supernè angulatis, latere antico brevissimo, infra rotundato, postico elongato, infra acuminato, margine ventrali bysso latissimè hiante; albidâ, epidermide tenui, subsetosâ, indutâ; radiatim striatâ, striis subtilissimè crenulatis; umbonibus remotis; ligamenti areâ latissimâ, rhombo ligamentario peculiariter ocellato.*

Conch. Icon. *Arca*, pl. 15. f. 102.

Hab. Singapore (found in sandy mud at the depth of seven fathoms); Cuming.

This interesting little species exhibits a character which is quite peculiar to the species. The dark ligamentary space between the umbones is marked with a pair of oblique white oval spots, one on each valve.

Arca Donaciformis. *Arca testâ sub-Donaciformi, medio leviter coarctatâ, latere antico brevissimo, truncato, postico elongato, subacuminato; albidâ, epidermide vix nullâ, striis transversis et longitudinalibus elevatis fimbriato-decussatâ; ligamenti areâ anticè latiusculâ, posticè acuminatâ; ligamento brevi, ad posticam areæ partem solum adjuncto.*

Conch. Icon. *Arca*, pl. 16. f. 104.

Hab. Mozambique Channel (found imbedded in madrepore); Hankey.

The ligament and ligamentary area of this species present exactly

the same peculiar structure as those of the *Arca pusilla* (*Byssoarca pusilla*, Sowerby, Proc. Zool. Soc. 1833); the shell is, however, altogether larger, more acuminated posteriorly, and the sculpture is of a smaller pattern.

Arca tenebrica. *Arca testâ oblongo-ovatâ, lateribus angulato-rotundatis; fuscâ, epidermide tenui indutâ; radiatim striatâ, striis elevatis, numerosis, confertis; umbonibus albidis, approximatis, anticè adjectis; ligamenti areâ angustâ, posticè lanceolato-acuminatâ.*

Conch. Icon. *Arca*, pl. 16. f. 105.

Hab. Basey, island of Samar, Philippines (found under stones at low water); Cuming.

The umbones in this species are very anteriorly situated.

Arca bullata. *Arca testâ ovato-quadratâ, planiusculo-compressâ, lateribus supernè angulatis, antico infra rotundato, postico angulato-extenso; fuscescente, epidermide tenui, subsetosâ, setis in liris longitudinalibus adjectis, indutâ; radiatim costatâ, costis nodosis, costis lateralibus grandibus, distantibus, crenato-nodosis; ligamenti areâ angustâ, elongatâ, declivi.*

Conch. Icon. *Arca*, pl. 16. f. 107.

Hab. ——?

The nodules of the radiating ribs are arranged in longitudinal rows with so much regularity, that the shell has all the appearance of being cancellated, the effect of which is increased by the bristles of the epidermis being deposited only between the nodules.

Arca volucris. *Arca testâ subquadratâ, gibbosâ, naviculari, lateribus supernè angulatis, antico infra rotundato, postico angulato, carinâ acutâ ab umbone ad marginem decurrente; albidâ, fusco sparsim tinctâ; striis elevatis longitudinalibus et transversis decussatâ, areâ posticali costatâ, costis latiusculis, crenatis; umbonibus mucronatis, incurvatis; ligamenti areâ latissimâ, nigro unimaculatâ.*

Conch. Icon. *Arca*, pl. 16. f. 109.

Hab. Island of Burias, Philippines (found under stones at low water); Cuming.

This species belongs to that division of the genus of which the *Arca Noæ* is the type, and is nearest allied to the *Arca imbricata*.

Arca cœlata. *Arca testâ ovato-quadratâ, subcompressâ, latere antico brevissimo, rotundato, postico angulato, margine ventrali bysso hiante; albâ; radiatim costatâ, costis liris angustis elevatis eleganter clathratis, interstitiis profundè excavatis, costis medianis duplicatis, lateralibus confertim nodulosis; umbonibus anticè adjectis; ligamenti areâ angustâ, profundè declivi.*

Conch. Icon. *Arca*, pl. 16. f. 110.

Hab. ——?

The sculpture of this shell is of the most exquisite description, and reminds one forcibly of the delicate embossed carving of the Chinese.

Arca cometa. *Arca testâ elongatâ, latere antico brevissimo, attenuato, rotundato, postico longissimo, plano-angulato; albidâ; radiatim striatâ, striis elevatis, posticis latioribus, prominentibus, distantioribus, subsquamosis; umbonibus anticè adjectis; ligamenti areâ angustâ.*

Conch. Icon. *Arca*, pl. 16. f. 111.

Hab. Sorsogon, island of Luzon, Philippines; Cuming.

The posterior striæ acquire almost the importance of ribs.

Arca olivacea. *Arca testâ ovato-quadratâ, tenuiculâ, subæquilaterali, lateribus rotundatis; albidâ, epidermide olivaceo-fuscâ tenui corneâ indutâ; subtilissimè radiatim striatâ, striis numerosis, confertis; ligamenti areâ mediocri, umbonibus subcentralibus.*

Conch. Icon. *Arca*, pl. 16. f. 113.

Hab. San Nicolas, island of Zebu (found in sandy mud at the depth of four fathoms); Cuming.

This shell is not much unlike the *Arca lactea* in general appearance; it will be found, however, on examination to be a much thinner and more delicate shell, whilst the umbones are sharper and more closely approximated.

Arca minuta. *Arca testâ orbiculari-ovatâ, subæquivalvi, lateribus supernè angulatis, infra rotundatis; albidâ, subpellucidâ, epidermide tenui molli indutâ; radiatim striatâ; ligamenti areâ latiusculâ, ligamento parvo, centrali.*

Conch. Icon. *Arca*, pl. 17. f. 112.

Hab. Philippine Islands (found in coarse sand at the depth of six fathoms); Cuming.

A very minute species, which cannot be referred to any hitherto described.

Arca navicella. *Arca testâ quadrato-elongatâ, subcompressâ, lateribus supernè angulatis, antico infra rotundato, postico angulato, cariná ab umbone ad marginem decurrente; radiatim striatâ; albidâ, fusco posticè sparsim strigatâ; ligamenti areâ elongatâ.*

Conch. Icon. *Arca*, pl. 17. f. 114.

Hab. Calapan, island of Mindoro, Philippines (found in coarse sand at the depth of ten fathoms); Cuming.

This is a little species of the *Arca Noæ* or naviform group.

Arca lateralis. *Arca testâ obliquè trapeziformi, lateribus supernè angulatis, antico brevissimo, postico latissimo, oblique expanso; radiatim costatâ, costis numerosis, angustis, crenatis, epidermide subpilosâ indutâ; ligamenti areâ parvâ.*

Conch. Icon. *Arca*, pl. 17. f. 115.

Hab. Philippine Islands; Cuming.

The peculiarly oblique growth of this species renders it extremely interesting. The posterior side of the shell is radiated with lines of fine dark hair rising from between the crenulations of about every third rib.

Arca symmetrica. *Arca testâ subquadratâ, gibbosâ, lateribus*

supernè acutè angulatis, antico infra rotundato, postico angulato; viridescente; striis longitudinalibus et radiantibus crenulato-decussatâ; ligamenti areâ latiusculâ, ligamento parvo, centrali.

Conch. Icon. *Arca*, pl. 17. f. 117.

Hab. Philippine Islands, bay of Manila; Singapore (found under stones at low water); Cuming.

The ligament of this species occupies only a very small diamond-shaped space between the umbones.

Arca sculptilis. *Arca testâ oblongo-quadratâ, lateribus supernè angulatis, infra obtuso-rotundatis; albâ; striis longitudinalibus et radiantibus elevatis subtilissimè clathratâ; ligamenti areâ latiusculâ.*

Conch. Icon. *Arca*, pl. 17. f. 118.

Hab. Baclayon, island of Bohol, Philippines (found in sandy mud at the depth of seventeen fathoms); Cuming.

The engraved sculpture of this shell is of a more prominent character than that of the preceding species.

Arca Zebuensis. *Arca testâ subquadratâ, gibbosâ, lateribus supernè angulatis, infra obliquè rotundatis; fuscescente, epidermide molli indutâ; radiatim subtilissimè striatâ; ligamenti areâ latiusculâ, ligamento parvo, centrali.*

Conch. Icon. *Arca*, pl. 17. f. 120.

Hab. Island of Zebu, Philippines (found under stones at low water); Cuming.

The ligament, as in the *Arca symmetrica*, occupies merely a small diamond-shaped space between the umbones.

Arca striata. *Arca testâ subquadrato-oblongâ, lateribus obtusè rotundatis; fuscescente, epidermide molli indutâ; radiatim striatâ, striis elevatis, confertis, posticis distantioribus; ligamenti areâ latiusculâ, declivi.*

Conch. Icon. *Arca*, pl. 17. f. 121.

Hab. ——?

This shell approaches very nearly to the *Arca lactea*, but it is yet distinct; the posterior side is longer, it is a more compressed shell, and the posterior striæ are more widely spread.

Arca pulchella. *Arca testâ ovatâ, gibbosâ, lateribus supernè attenuatis, antico brevissimo; albâ; laminis longitudinalibus prominentibus, pulcherrimè fimbriatis, ornatâ; ligamenti areâ anticè latiusculâ; umbonibus anticis.*

Conch. Icon. *Arca*, pl. 17. f. 122.

Hab. Algeria.

This species is well distinguished from any yet described by the very beautifully fimbriated longitudinal laminæ.

"Description of the *Felis Melanura*," by R. Ball, Esq., Secretary to the Royal Zoological Society of Ireland.

"*Felis melanura*, n. s. ?—Size larger than the Margay, but proportionately slighter; on the fore-toes are longitudinal black stripes, on

the hind-toes spots. Three irregular narrow stripes of white on the sides, connected by anastomosing branches, divide the coloured part into island-like irregular spaces, which are black on the edges, shading into fulvous in the centre; these island-like spaces are spotted with black. The tail nearly touches the ground, is pointed and black, save at the under part near the anus, where it is marked with a little white, and shows as it were an imperfect attempt at annulation. The back is black, with a bright fulvous fleur-de-lis sort of marking on the neck; a narrow band of fulvous crosses below the scapulæ, from which run at right angles down the back to the rump two indistinct stripes of the same colour, about half an inch apart; the inside of the ears is fulvous, the outside black, with a white spot on each; the belly white, beautifully but irregularly spotted with black; a very distinct black band crosses the chest; a white spot on the lower eyelid and another longer on the upper; the cheeks are fulvous, striped with black; the forehead is fulvous, ornamented with black, two stripes of which run up the forehead from the eyes, parallel to each other; they are connected together above: immediately over the eyes are four longitudinal spots; above these may be traced three more irregular, and over these three, two, the three sets of spots being as it were ranged in ranks. The fulvous colour is chiefly confined to the fore-part of the animal. It was presented to the Royal Zoological Society of Ireland in the beginning of 1843 by Paymaster J. M'Creagh, of the 32nd Regiment. The foregoing description was taken in January 1844, and the animal was presented to the London Zoological Society in May 1844: when first obtained its colouring was very indistinct and confused; since the description was written some trifling change has taken place, particularly in the extension of the white on the tail, which makes the name not quite so applicable as it was."

Mr. Prichard read his paper "On the Crania of the Laplanders and Finlanders, with observations on the differences they presented from other European races."

"Little has hitherto been done to elucidate the physical characters of the Ugrian or Ugorian races, under which term late writers have comprised the Finns and Lappes, the Magyars or Hungarians, and several nations of Siberia*.

"This is owing to the fact that but few specimens of the skulls of these nations exist in any of the collections in Europe, and few and by no means perfect descriptions of them have been published. Blumenbach has given in his 'Decades Craniorum' a representation of the skull of a Lappe, and he describes it as approaching altogether to the Mongolian variety. Dr. Hueck gives an account of the appearance and general physical characters of the Esthonian Finns, and sums up his observations by pointing out some very considerable differences which he finds between them and the Mongolian form; in fact he says that he can discover nothing common to the Mongo-

* Der Ugrische Volkstamm von F. H. Müller.

lian and Esthonian skulls, except a certain squareness of figure, which is not constant.

"From these statements we should be led to suppose that there is a great difference between the skulls of the Finns and Lappes, and we should be inclined to adopt the opinion maintained by Lehrberg, that they are two separate and distinct races, his argument being founded upon the moral as well as the physical diversities between them*.

"On the other hand, the history of the people, and especially the great similarity of their languages, go far to prove a near relationship between the Finnish and Lappish nations; nor is a greater or less degree of civilization to be looked upon as a proof of diversity of origin, although it may be the cause of all the moral, and possibly of the physical differences also, which exist between the Finns and Lappes.

"From this uncertainty it becomes much more important to ascertain, by the examination of their skulls, what the physical characteristics of each nation are, and whether they exhibit any points of resemblance which may confirm the supposition that there is affinity between them, or whether, on the contrary, a sufficient degree of dissimilarity can be made out, from an accurate examination, to entitle us to set them down as separate races, and to class them with different grand divisions of the human species; whether, in short, these differences, if any such are found, are more than can be accounted for by the diversity of climate and modes of life which are well known long to have existed between them.

"The examination of these skulls for the purpose of furnishing an accurate description of their appearance is interesting in another point of view. In Scandinavia and in Denmark there are numerous tumuli which contain osteological remains of former inhabitants, and it is a disputed point whether they are the remains of a Finnish aboriginal stock or of Cimbrian or some unknown race, since they differ from the old German remains. Now if we could establish a correct notion of the Finnish description of skull, we should have no difficulty in deciding whether the remains before mentioned belonged to this stock.

"Having four specimens of these skulls, two of Finns and two of Laplanders, which my father has received through the kindness of Dr. Ilmoni and Mr. Daniel Wheeler, of Bristol, I have an opportunity of examining their peculiarities and of comparing them with each other and with the skulls of other Europeans, Chinese, American Indian, and the Esquimaux, the latter of which is a most remarkable specimen of the pyramidal and broad-faced skull.

"Upon taking a general view of these skulls, there are no remarkable features which strike us so forcibly as those which we see in the conformation of the Esquimaux. In fact, the only point worthy of

* Lehrberg, über die Wohnsitte der Jemen, ein Beitrag zur Geschichte Neu-Finnlands, in Untersuchungen zur Erläuterung der alten Geschichte Russlands.

notice here, before we commence the particular description, is a degree of general breadth in the face superior to that which is seen in the European generally, which gives to the whole an appearance of squareness when the lower jaw is attached, and causes the actual shortness of the face, which is remarkable in these skulls, to become still more apparent. The general resemblance between the Finnish skulls and those of the Lappes is as strong as between four average European crania, even belonging to the same nation, and altogether their contour decidedly approaches what Blumenbach calls the Mongolian form of skull, the head appearing, as it has been noticed by an ocular observer, 'of the shape of a pent-house.'

"It will be found, however, that it is more especially in a close and minute examination that differences are seen to exist between the Lappes and Finns, on the one hand, and the European skulls on the other.

"Viewed from above and behind, there is a slight difference observable between the Finn and the Lappe: the posterior part of the Lappe is larger than the anterior, while the form of the Finn is more regular and rounded; that is, the line between the parietal protuberances exceeds the transverse diameter of the forehead more in the Lappe than in the Finn. I find, however, that there is equal difference in this respect between two European skulls even of the same nation. Again, from the same point of view the skulls of the Lappes present a central eminence or ridge, upon looking at the outline of the forehead (being the line of junction of the two halves of the frontal bone), which is much less marked, in fact scarcely discernible in the Finn, and altogether absent in the European, being on the contrary very strikingly prominent in the Esquimaux. Examined anteriorly, however, a general view of these skulls gives us exactly opposite results; for the sagittal suture, which is now the median line, and the continuation backwards of the frontal suture of early life, upon looking at the outline or horizon of the skull, is seen to project decidedly more in the Finn than in the Lappe; in both more than in other Europeans. Hence we may fairly lay down, that the skulls of the Finns and Lappes have (as far only as the vault of the cranium, exclusive of any effect produced by the width of the face, allows us to conclude,) more tendency to the pyramidal form than the European, but less than the Esquimaux.

"Examining these skulls anteriorly, taking into consideration the face, the triangular form is very evident, partly in consequence of the fact above mentioned respecting the vault of the cranium, and partly in consequence of the great width between the external surfaces of the malar bones, which in actual measurement in the two Lappes and the two Finns exceeds the length of the same diameter in other Europeans by at least half an inch, and in one case by nearly an inch, being equal to the same diameter in the Esquimaux; in the latter, however, which exhibits the pyramidal shape in a remarkable degree, the form is owing as much to the shape of the forehead as to the lateral projection of the anterior roots of the zygomatic processes. This width across the face is, as has been correctly observed

by Dr. Hueck, not owing to the increased breadth or altered shape in the malar bone, so much as to the altered width and direction of the malar process of the superior maxillary bone.

"The outline of the external surface of this bone, viewed from a point exactly in front of the skull; that is to say, the line which runs from the furthest molar tooth that is visible from this point to the suture connecting the malar and superior maxillary bones, is, in the generality of European crania, either vertical, or sometimes even inclined inwards and upwards in the first part of its course, afterwards turning outwards to form the commencement of the zygoma. In the Esquimaux this line runs obliquely upwards and outwards, at an angle of 45° from its commencement; and in the skulls of the Finns and Lappes it is intermediate to the two directions, being however still inclined outwards. This obliquity is also decidedly more marked in the Finns than in the Lappes.

"Upon this the anterior view, more of the lateral aspect of the lower jaw is seen than is ordinarily observed, in consequence partly of the greater distance between the condyles, which will be again noticed in the examination of the base of the skull, and partly from the fact that the angles project more in a lateral direction, the entire bone being apparently more developed than in other Europeans.

"With respect to some more minute points regarding these skulls, the superciliary ridges are well-marked, the ossa nasi, and the ascending processes of the superior maxillary bones present a flatter and broader anterior surface than the European, and the cavities and foramina are well-marked. [In all these four skulls the supraorbital opening for the frontal nerve and artery is a complete foramen upon the left side, and merely a notch upon the right.]

"In consequence of the greater width of the superior maxillary bone, the shape of the circumference of the orbit is not so round as in the generality of European skulls, where the external inferior angle is the lowest, but it is square, with the angles rounded; and for the same reason the space for the antrum is increased, while the depth of the infraorbital or canine fossa is very materially decreased: in one of the Finnish skulls this surface, from the inferior edge of the orbit to the alveolar processes, is almost plane. There is nothing remarkable in the nasal aperture. The shape of the orbit differs materially from that of the Esquimaux, where it is almost round, and from that in the skull of an Indian of the Sioux tribe, where it much resembles the European.

"The distance from the inferior edge of the nasal aperture, that is, from the anterior nasal spine to the margin of the alveolar process, is in every specimen of these skulls of the Finns and Lappes decidedly less than in any other European with which I have compared them. The teeth are much ground.

"A lateral view of these crania shows that the forehead is somewhat more receding than in the generality of Europeans, although the difference is not great, probably not more than is frequently seen between two specimens of the same tribe.

"The general shape of the head resembles that of the European

anteriorly, but the posterior part does not project so much. There is a marked difference between the posterior projection of the Finns and Lappes and that of the Esquimaux, the latter being much more prominent.

"The line which represents the outline of the ossa nasi, &c., *i. e.* the profile of the face of the skull, presents much less marked irregularities than the European in general. Thus although, as I have before observed, the superciliary ridges are well-marked, the frontal bone does not overhang the ossa nasi, as in the latter, where a decided angle is formed. In the Esquimaux the line from the forehead to the nose is nearly straight, and in the skulls of an Indian of the Sioux tribe and a Chitamache Indian the curve is very regular and open. The junction of the nose and forehead in the Lappes and Finns is therefore more angular than either of the three last-mentioned crania, but much less so than the European.

"Upon this the side view another remarkable fact is observed. The occipital bone being not so much developed downwards as in other Europeans (we observed just now that it had less posterior projection also), and the posterior edge of the lower jaw, from the condyle to the angle, being longer than in the latter, upon placing the skull upon a table or any plane horizontal surface, the inferior maxilla merely touches it by its angle, not resting upon the base of the jaw, as we observe in the English, Irish, ancient Irish (cast), Sioux, Italian and Mulatto skulls. The only ones which have this character in common with the Lappes and Finns are the Negro and the skull of a Hindu.

"The angle of the lower jaw is certainly more obtuse, seen upon comparing skulls in which the molar teeth remain perfect. In the form and direction of the coronoid process there seems to be no great difference.

"The temporal fossæ are well-marked, and in one of the Finnish skulls the anterior inferior angles of the parietal bones are connected to the great wings of the sphenoid by means of an os wormianum upon either side. This is not unfrequently the case in other crania.

"The general shortness of the face which has been observed to exist in these skulls, is more plainly seen by viewing them from the side, when we find that the inferior edge of the malar bone is very little higher than the edge of the alveolar process. This is owing not so much to the want of development downwards of these processes, although I have already noticed the shortness of the space between the nose and the mouth, but to the great breadth (from above downwards) of the malar bone, measured from its free inferior border to its junction with the external orbital process of the frontal bone; and it is a remarkable fact, that this measurement, in all the specimens of the skulls of Finns and Lappes, considerably exceeds that of any of the other specimens of European nations, and is equal to that of the Esquimaux and American skulls. The breadth of this surface of the malar bone in one Finn much exceeds that of any which I have had an opportunity of measuring.

"Thus the shortness of the face is more apparent upon the lateral

view of the cranium, in consequence of the additional width of the malar bone.

"The general shape of the basis cranii presents nothing very striking, with the exception of the zygomatic arches. The foramen magnum is of a more oval form than usual, and there appears to be scarcely as great a development of the occipital bone. This agrees with what we observed when considering the lateral aspect of these skulls, and with what has previously been noticed by Dr. Hueck respecting the space for the cerebellum, which, upon an examination of the interior of the cranium, is said to be small, in consequence of the slight concavity of the inferior occipital fossa. The condyles of the occipital bone are remarkably large, being, in three out of four of these skulls, an inch in the long axis, and in one of them (the Finn) longer. They are not unusually broad. This is not the case in any other European cranium which I have examined, but is seen in the Hindu, Chitamache Indian, and to a certain extent in the Esquimaux. There must doubtless have been a much greater freedom of motion backwards and forwards in these joints than is usually the case.

"The zygomatic arches, which are best seen at the base, are much more curved than in the other Europeans, slightly less so than in the Esquimaux; and the anterior projection of the alveolar processes beyond the anterior termination of the zygoma is also intermediate between the European and the Esquimaux.

"The glenoid cavities are flatter, more widely separated, and not so well-defined as in the European generally, and a difference corresponding to this is seen in the lower jaw, where the condyles, besides being more widely separated from one another, are also more rounded in form, allowing of a greater degree of lateral motion. In correspondence with this fact we also find that the pterygoid processes of the sphenoid bone, especially the external plates, are widened and enlarged, extending farther outwards, affording a greater space for the attachment of the pterygoid muscles, whose duty it is to perform the lateral or grinding motion in mastication. I mentioned above the corresponding fact of the teeth being much worn down.

"The ridges for the attachment of the muscles on the palate bone are well-marked, and viewed from below it is seen that the alveolar processes do not project so much from the horizontal part of the palate; that is, that the entire hard palate presents a general curve throughout, instead of being at first plane with a sudden bend, or almost an angle, which is seen at the point where the alveolar processes are given off in the generality of European skulls.

"These skulls of the Finns and Lappes are very solid and heavy.

"Although this description of the Finnish skulls corresponds in very many respects with that given by Dr. Hueck, yet the examination leads us to an exactly opposite conclusion, viz. that there are very many points in common between the Finn and the races characterized by the pyramidal-shaped skull, and the conclusion with regard to the Lappe corresponds to that which was published by Professor Blumenbach. We are hence able to lay down, that there is no important difference between the skulls of the Finns and Lappes, but that, on

the contrary, there is a very great resemblance between them; that altogether they are more nearly allied to the Hyperborean form than to the European; and that if any difference does exist between them, it is that the Finns approach more nearly to this conformation of skull than the Lappes."

Mr. Gould exhibited a specimen of an Australian Bird, which he described as follows:—

PODICEPS AUSTRALIS. *P. quoad colorem,* P. cristato *consimilis, at cristâ collari in medio latiùs et saturatiùs castaneâ, et ad apicem latiùs nigrâ.*

Crown of the head and occipital tufts black; frill black at the outer edge and chestnut in the centre, gradually passing into buffy white on the face; upper surface and wings dark brown; scapularies and secondaries pure white; all the under surface silvery white, stained with brown and chestnut on the flanks; irides red; bill dark horn-colour; upper surface of the tarsi and toes dark olive-green; under surface pale yellow.

Total length, 24 inches; bill, $2\frac{3}{4}$; wing, $7\frac{1}{2}$; tarsi, $2\frac{1}{4}$.

Hab. Australia and Van Diemen's Land.

Remark.—Nearly allied to *P. cristatus,* but differs in being somewhat larger in size, and in having the frill fuller and of a blacker hue than in that species.

August 27, 1844.

Richard C. Griffith, Esq., in the Chair.

Mr. Fraser read a description of a new species of Crowned Pigeon from New Guinea, now in the Gardens of the Society. In honour of Her Most Gracious Majesty, the Patroness of the Society, he proposed the name of

LOPHYRUS VICTORIA*. *L. ptilose saturatè cæruleo-grisea; singulis plumis cristæ apice barbato cæruleo, albo marginato; pectore castaneo; tectricibus alarum majoribus cinereo-cæruleis, castaneo marginatis.*

The general colour of this species is an intense blue-grey, becoming lighter on the head; the chest is deep chestnut; the larger wing-coverts are light blue-grey, tipped with dark chestnut; the head is surmounted with a crest, each feather of which is of a similar construction as that of *Columbus coronatus*, but spreading into a spatulate form at the extremities, of a blue colour, bordered with white; there is also a dark mark passing through the eye; irides vermilion.

In size it is somewhat larger than *C. coronatus*.

Hab. New Guinea.

This lovely species is closely allied to *C. coronatus*, but differs from that bird in having terminal points to the crest-feathers, in the darker colouring, in having chestnut on the breast instead of the back and shoulders, and in having the larger wing-coverts pale blue-grey, terminated with chestnut, in the place of white, tipped with chestnut.

"Description of new species of *Ranella*," by Lovell Reeve, Esq.

RANELLA ALBIVARICOSA. *Ran. testâ oblongo-ovatâ, depressiusculâ, varicibus tuberculis subspinosis prominentibus armatis; anfractibus leviter angulatis, tuberculis subspinosis infra angulum biseriatim armatis, transversim elevato-striatis, infernè liratis, striis lirisque leviter undulatis, subtilissimè granulatis; albâ, rufescente-fusco tinctâ, varicibus niveis; aperturâ oblongo-ovali, utrinque canaliculatâ, fauce pallidè purpurascente; labro dentato et sulcato.*

Conch. Icon., *Ranella*, pl. 1. f. 2.

Murex rana, Linnæus; Martini, Conch., vol. iv. pl. 133. f. 1270–71.

Hab. Ceylon.

How comes it to pass that this common and peculiarly characteristic species has escaped the notice of so many good discriminating conchologists who have written on the genus?

* "*Lophyrus*, Vieill. (1816); *Goura*, Steph. (1819); *Megapelia*, Kaup (1836); *Ptilophyrus*, Swains. (1837)." G. R. Gray's 'Genera of Birds.'

RANELLA PUSTULOSA. *Ran. testâ ovatâ, subdepressâ, ponderosâ, castaneâ; anfractibus pustularum grandium seriebus duabus tribusve livido-castaneis cingulatis; varicibus granuloso-liratis; columellâ granuloso-rugosâ, rugis albidis; labro planissimè fimbriato, supernè sinuato, fusco, radiatim albisulcato.*

Conch. Icon., *Ranella*, pl. 3. f. 11.

Hab. Ascension Island.

This shell approximates so closely to the *Ranella cælata* in the style and character of its sculpture, that a specimen or two of different ages seem all that is necessary to exhibit a complete specific connection between them; it has however been demonstrated by the researches of two gentlemen of perhaps the greatest practical experience, Mr. Cuming and Mr. Hinds, that no species of shell common to the western coast of South America has ever been discovered on the coast of Africa.

RANELLA PONDEROSA. *Ran. testâ acuminato-ovatâ, crassâ, ponderosâ, varicibus valdè prominentibus; anfractibus supernè leviter angulatis, granulorum seriebus cingulatis, alternis granulis grandibus, bipartitis; rubido-fuscâ, lutescente; columellâ granulatâ et rugosâ; canali brevi, subrecurvo; labro plano-incrassato, granulato, supernè sinuato.*

Conch. Icon., *Ranella*, pl. 3. f. 14.

Hab. —— ?

The sculpture of this shell approaches very nearly to that of the *Ranella cælata*; it only requires however a slight examination of the specimens before me in different stages of growth, to see that they are specifically distinct.

RANELLA NOBILIS. *Ran. testâ oblongo-ovatâ, depressâ, crassiusculâ; spirâ acuminatâ, varicibus angustis, radiatim stellatis; anfractibus granuloso-liratis, præcipuè super varices, in medio tuberculatis, anfractu ultimo tuberculorum seriebus duabus armato; albidâ, fuscescente subtiliter maculosâ; columellâ fortiter rugosâ; aperturâ oblongâ, utrinque canaliculatâ, fauce albâ; labro fortiter rugoso.*

Conch. Icon., *Ranella*, pl. 4. f. 16.

Hab. —— ?

The form of this noble species is somewhat intermediate between that of the *Ranella pulchra*, or "Finned Frog," and the ordinary type of the genus, the varices exhibiting an indication of that peculiar star-like radiation common to the former, whilst the aperture is of an oblong canaliculated form, with the wrinkled lip and columella of the latter. The sculpture most resembles that of the *Ranella foliata*.

RANELLA CORIACEA. *Ran. testâ oblongo-ovatâ, depressiusculâ, spirâ subobtusâ, varicibus rotundatis; anfractibus undique creberrimè granulatis, transversim costatis, costis latis, interdum subobsoletis, irregulariter tumido-nodosis; aurantio-fuscescente; columellâ sparsim rugosâ; aperturâ ovatâ, utrinque leviter sinuatâ; labro intus radiatim denticulato.*

Conch. Icon., *Ranella*, pl. 6. f. 26.
Hab. —— ?

This interesting species, which Mr. Cuming possesses in different stages of growth, is the shell figured by Mr. G. B. Sowerby, jun., in the 'Conchological Illustrations' as a variety of his *Ranella scrobiculator* (*Triton scrobiculator*, Lamarck and others); I think, however, with M. Deshayes, that it is "*une coquille qui me paraît toujours différente; j'en ai vu plusieurs exemplaires et plusieurs figures, et j'ai observé des différences spécifiques constantes. Cette soi-disant variété a plutôt les caractères des Ranelles que le* Scrobiculator *proprement dit, et c'est sans doute ce qui explique pourquoi un certain nombre de conchyliologues veulent que le* Scrobiculator *soit une Ranelle. Pour nous, qui en avons vu l'animal, c'est un Triton.*" Note in new edition of Lamarck's Anim. sans vert., vol. ix. p. 626.

Ranella livida. *Ran. testâ ovato-turritâ, spirâ acuminatâ; anfractibus supernè depressis, ad suturam granulatis, infra lævibus, transversim noduloso-liratis, in medio tuberculorum seriebus duabus compressis armatis; lividâ, fuscescente variâ; columellâ subtiliter rugosâ; aperturâ ovatâ, utrinque sinuatâ; labro denticulato.*
Conch. Icon., *Ranella*, pl. 6. f. 28.
Ranella granifera, Kiener (not of Lamarck).
Hab. Island of Annaa, Pacific Ocean (found on the coral reefs); Cuming.

I do not see how M. Kiener can identify this tuberculated shell with Lamarck's description of *Ranella granifera*.

Ranella plicata. *Ran. testâ oblongâ, sub-Muriciformi; anfractibus rotundatis, scabris, longitudinaliter plicatis, in medio nodulosis; livido-olivaceâ, zonâ albidâ in medio cinctâ; columellâ lævi, canali longiusculo.*
Conch. Icon., *Ranella*, pl. 7. f. 33.
Hab. —— ?

The plicated growth of this shell is developed with the neatest regularity from the apex to the margin.

Ranella venustula. *Ran. testâ ovatâ, crassiusculâ, varicibus valdè obliquis; anfractibus transversim costatis, granulatis et punctatis, supernè angulatis, prope suturam corrugatis, ad angulum fortiter tuberculatis; columellâ excavatâ, nigricante-purpureâ, albigranulosâ; aperturâ rotundâ, utrinque canaliculatâ, fauce roseo-purpureâ; labro incrassato, nigro-purpureo.*
Conch. Icon., *Ranella*, pl. 7. f. 37.
Hab. —— ?

This species is remarkably characterized by its rich dark purple columella granulated with white.

Ranella siphonata. *Ran. testâ ovatâ, crassiusculâ, varicibus perspicuè canaliculatis; anfractibus transversim rudè costatis et tuberculatis, undique granulatis et punctatis, prope suturam corrugatis; luteolâ; columellâ vix rugosâ, roseo-purpurascente; aper-*

turâ rotundâ, fauce roseo-purpurascente, utrinque canaliculatâ, canali supero valdè elato-siphonato.

Var. β. *Testâ albâ aut luteolâ, nigro-cærulescente fasciatâ et punctatâ; columellâ albâ, aperturæ fauce albâ.*

Conch. Icon., *Ranella*, pl. 7. f. 38.

Hab. Philippine Islands; Cuming.

I take this shell to be quite distinct from the dark variety of the *Ranella bufonia* to which it is allied.

Ranella tuberosissima. *Ran. testâ ovatâ, varicibus perspicuè canaliculatis; anfractibus transversim rudè costatis, dorsim tuberosissimis, undique granulatis et punctatis, prope suturam corrugatis; albidâ, nigro-cærulescente punctatâ; columellâ lævi, croceâ; aperturâ rotundâ, vividè croceâ, utrinque canaliculatâ; canali supero elato-siphonato, supernè intus nigricante tincto; labro fortiter dentato.*

Conch. Icon., *Ranella*, pl. 7. f. 39.

Hab. Philippine Islands; Cuming.

An extraordinary humped shell with a yellow mouth.

Ranella triquetra. *Ran. testâ elongato-Muriciformi, varicibus supernè mucronatis; anfractibus angulatis, ad angulum tuberculatis, supra lævibus, infra obsoletè liratis; livido-olivaceâ; columellâ lævi; canali longiusculo; aperturâ parvâ; labro vix denticulato.*

Conch. Icon., *Ranella*, pl. 7. f. 41.

Hab. San Diego, California; Nuttall.

Quite distinct in my opinion from the *R. Muriciformis*, which is a flat pinnated shell.

Ranella hastula. *Ran. testâ parvulâ, sublanceolatâ, depressâ, ancipiti; anfractibus transversim granoso-striatis, lamellis elevatis indistinctè diadematis; castaneo-fuscâ; columellâ lævi; canali brevi, recurvo; aperturâ parvâ.*

Conch. Icon., *Ranella*, pl. 8. f. 42.

Hab. ——?

This little dark granulated shell, though less pyramidal, is of similar structure to the *Ranella anceps*.

Ranella rosea. *Ran. testâ pyramidali-ovatâ, varicibus subobliquis; anfractibus supernè leviter angulatis, transversim striatis, undique seriatim tuberculato-nodulosis, nodulis ad angulum bipartitis; vividè coccineo-roseâ, nodulis luteis; canali breviter recurvo, aperturâ parvâ.*

Conch. Icon., *Ranella*, pl. 8. f. 46.

Hab. Island of Ticao, Philippines; Cuming.

This pretty little species exhibits a very agreeable contrast of colour, namely, yellow nodules upon a bright scarlet-rose ground.

Ranella cuspidata. *Ran. testâ acuminato-ovatâ, crassiusculâ, solidâ, varicibus obliquis; anfractibus transversim noduloso-liratis, tuberculis duobus obtusis inter varices ornatis; albidâ, luteo-*

aurantio plus minusve tinctâ; columellâ lævi; canali breviusculo, recurvo; aperturâ parvâ, ovato-rotundatâ.

Conch. Icon., *Ranella*, pl. 8. f. 48.

Hab. Islands of Capul and Ticao, Philippines; Cuming.

This shell has somewhat the form and general character of the *Ranella bitubercularis*, though it is of more solid growth and of a peculiar orange-yellow colour.

"A continuation of a paper by Sylvanus Hanley, Esq., on new species of the genus *Tellina*, chiefly collected by Hugh Cuming, Esq. in the Philippine Islands and Central America":—

TELLINA RODON. *Tel. testâ oblongâ, tenuissimâ, compressiusculâ, lævi, nitidissimâ, roseâ, pellucidâ, valdè inæquilaterali, utrinque rotundatâ; margine ventrali convexiusculo; dorsali anticè vix declivi et convexiusculo, posticè subdeclivi; latere postico brevi, subattenuato; flexurâ obsoletâ; dente laterali approximato, antico.* Long. 0·38; lat. 0·83 poll.

Hab. ——? Mus. Cuming.

Allied to *coccinea*, but more elongated and glossy.

TELLINA LUX. *Tel. testâ subovali, tenui, pellucidâ, compressâ, nitidâ, aurantiâ, sublævigatâ, inæquilaterali; margine ventrali convexiusculo; dorsali utrinque subdeclivi, anticè convexiusculo, posticè brevi et incurvato; latere postico breviore obtusissimè biangulato; extremitate anticâ obtusè rotundatâ; flexurâ nullâ; dente laterali antico, approximato, distincto.* Long. 0·55; lat. 0·80 poll.

Hab. Philippines. Mus. Hanley.

Two specimens of this rare shell, which possesses the general appearance of *T. psammotella*, were selected by me from a large number of *T. Philippinarum*.

TELLINA HILARIS. *Tel. testâ oblongo-cuneiformi, tenui, compressiusculâ, inæquilaterali, nitidâ, lævi, roseâ, albo biradiatâ; radiis latis, submediis; margine ventrali convexiusculo; dorsali anticè declivi, posticè subrecto et valdè declivi; extremitate lateris antici longioris rotundatâ; extremitate posticâ brevi, cuneiformi; flexurâ obsoletâ; dente laterali unico, parvo, subapproximato.* Long. 0·37; lat. 0·62 poll.

Hab. ——? Mus. Cuming.

Possessing the general contour of *T. tenera*, but more elongated and wedge-shaped. The colouring is rich and peculiar, being deep rose-colour, adorned with two broad white rays, one leaning forwards and the other with a posterior inclination. I suspect it comes to us from the Philippine Islands.

TELLINA JUVENILIS. *Tel. testâ ovato-subtrigonâ, tenui, pellucidâ, nitidâ, compressiusculâ, rubro-aurantiâ, lævigatâ, inæquilaterali; margine ventrali convexo aut convexiusculo; dorsali anticè subrecto declivi, posticè convexo et valdè declivi; latere antico longiore, subattenuato, rotundato; postico brevi et obtusè subcuneiformi;*

costâ umbonali et flexurâ subobsoletis; dente laterali parvo, antico. Long. 0·45; lat. 0·60 poll.

Hab. Philippines.

Closely resembling the Mediterranean variety of *T. tenuis*.

Tellina vestalis. *Tel. testâ oblongo-angustâ, tenuissimâ, convexiusculâ, nitidâ, lævi, intus extusque niveâ, inæquilaterali; margine ventrali subrecto, paululùm convexiusculo; dorsali anticè minimè declivi et paululùm convexiusculo, posticè prope ligamentum excavato, deinde declivi; extremitate lateris antici longioris rotundatâ; extremitate posticâ subemarginatâ, subattenuatâ, obtusè biangulatâ; flexurâ obsoletâ; dente laterali antico, approximato.* Long. 0·60; lat. 1·13 poll.

Hab. Isle of Negros; in coral sand, at seven fathoms: isle of Luzon; in sandy mud, at six fathoms.

Closely allied to the *Tellinides truncatulus* of Sowerby.

Tellina vernalis. *Tel. testâ subovali, tenuissimâ, compressiusculâ, pellucidâ, lævi, nitidissimâ, albido-roseâ, valdè inæquilaterali, utrinque rotundatâ; margine ventrali convexiusculo; dorsali utrinque paululùm convexiusculo, posticè declivi, anticè vix minimè declivi; latere antico producto, postico brevi; flexurâ obsoletâ; dente laterali minimo, antico, subapproximato.* Long. 0·40; lat. 0·63 poll.

Hab. Singapore; soft sandy mud, at seven fathoms.

The outline is somewhat similar to *T. lux*, and both the texture and colouring are most delicate.

Tellina spectabilis. *Tel. testâ ovato-trapeziformi, subtenui, ventricosâ, maximè inæquilaterali, impolitâ, intus extusque albidâ, concentricè striatâ; striis rugosis, elevatis, tenuibus; margine ventrali paululùm convexo; dorsali anticè convexo et declivi, posticè recto aut subincurvato et maximè declivi; extremitate lateris antici longioris obtusâ; extremitate posticâ truncato-cuneiformi, obtusè biangulatâ; costâ umbonali et flexurâ conspicuis; ligamento magno, haud prominente; dentibus primariis minimis, lateralibus nullis.* Long. 2·15; lat. 2·75 poll.

Hab. Bay of Manila and island of Siquijor; on coral sand, at low water. Mus. Cuming, Hanley.

Allied to the *ephippium* of Spengler, but easily distinguished by the extreme disparity of its sides.

Tellina grandis. *Tel. testâ ovali, subtrigonâ, solidâ, convexâ, subinæquivalvi, lævi, subimpolitâ, intus extusque albidâ, anticè rotundatâ; margine ventrali convexiusculo; dorsali utrinque declivi, posticè recto aut subrecto, anticè vix convexiusculo; extremitate lateris antici brevioris obtusâ; flexurâ costâque umbonali subobsoletis; ligamento magno; dentibus lateralibus nullis.* Long. 2·40; lat. 3·30 poll.

Hab. Tumbez, Peru.

A large species, which assumes the appearance of a *Lutraria*. An

extremely thin greenish ashy epidermis is perceptible near the lower margin.

Tellina Brûguieri. *Tel. testâ rotundato-trigonâ, solidâ, subæquilaterali, convexâ, impolitâ, intus extusque albidâ, sublævigatâ, anticè obtusâ, posticè rotundatâ; margine ventrali convexo aut subarcuato; dorsali posticè elevatiore, valdè declivi et paululùm convexo, anticè arcuato et declivi; natibus prominentibus, anticè incumbentibus; flexurâ costâque umbonali obsoletis; ligamento infosso; lunula parvâ; dentibus primariis maximis, lateralibus nullis.* Long. 1·50; lat. 1·80 poll.

Hab. Ilo-Ilo, isle of Panhay; hard sand.

This species is evidently represented at plate 231. figure 2. of the 'Encyclopédie Méthodique,' but as no name accompanies the delineation, I have assigned to it its present one, in honour of the illustrious author of the letter-press to that work.

Tellina gubernaculum. *Tel. testâ subovatâ, subinæquivalvi, tenui, compressiusculâ, lævi, extus intusque albidâ, valdè inæquilaterali; margine ventrali convexiusculo, anticè sursum acclinante; dorsali, anticè magis minusve convexo et declivi, posticè recto brevi, et subito declivi; extremitate lateris antici longioris attenuato rotundatâ; extremitate posticâ brevissimâ, truncato-cuneiformi; flexura costâque umbonali obsoletis; ligamento infosso; dentibus primariis parvis, lateralibus nullis.* Long. 1·45; lat. 1·90 poll.

Hab. Real Llejos, Central America; in sandy mud, seven fathoms.

Closely allied to the *truncata* of Jonas, but that species is much thicker and its shorter extremity simply wedge-shaped.

Tellina formosa. *Tel. testâ obovatâ, convexiusculâ, valdè inæquilaterali, albidâ, radiis interruptis roseis, striisque minutis confertis obliquis, undique ornatâ; margine ventrali convexo; dorsali utrinque convexiusculo, anticè subdeclivi, posticè valdè declivi; extremitate lateris antici producti rotundatâ, postici brevissimi obtusissimè angulatâ; flexurâ subobsoletâ; dentibus lateralibus nullis.* Long. 0·43; lat. 0·55 poll.

Hab. Daleguete, Zebu; sandy mud at ten fathoms.

The absence of lateral teeth, the general shape, the brilliant colouring and minute oblique striæ, unite in rendering this unique shell easily distinguishable from any species of this genus.

Tellina Sol. *Tel. testâ oblongo-ellipticâ, solidiusculâ, compressâ, nitidâ, rubro-aurantiâ, alterâ in valvulâ concentricè substriatâ, alterâ sublævigatâ; margine ventrali convexo, posticè sursum acclinante; dorsali utrinque subdeclivi, convexiusculo; latere antico longiore, ad extremitatem rotundato; extremitate posticâ in junioribus subacuminatâ, in adultis obtusè angulatâ; natibus planulatis; ligamento infosso; dente laterali unico, antico, distincto.* Long. 2·40; lat. 4·25 poll.

Hab. ——? Mus. Cuming, Metcalfe.

This truly magnificent shell unites the aspect of the *acuta* of Wood to the brilliant hues of *T. foliacea*. The concentric striæ are ex-

tremely fine and regular, but become stronger and more decided towards the lower margin, where obsolete radiating lines are likewise perceptible. The smoother valve of Mr. Cuming's superb specimen is rayed with paler streaks, but this is not the case in the few other specimens I have ever beheld of this gorgeous species. The apex is colourless and not rosy as in *acuta*.

TELLINA VIRGO. *Tel. testâ ovato-oblongâ, tenuissimâ, planulatâ, nitidissimâ, niveâ, pellucidâ, striis obliquis flexuosis subremotis in valvulâ utrâque ornatâ; margine ventrali convexiusculo; dorsali antico magis minusve declivi, convexo; latere postico breviore, subcuneiformi; flexurâ costâque umbonali obsoletis; ligamento satis prominente; dente laterali antico, parvo, subapproximato.* Long. 0·55; lat. 0·92 poll.

Hab. ——? Mus. Cuming.

Allied to the *Iris* of Say, but much larger. The remote oblique striæ entirely cease before arriving at the hinder extremity. It is the most pellucid and glassy-looking bivalve I am acquainted with.

TELLINA IMBELLIS. *Tel. testâ ellipticâ, inæquivalvi, solidiusculâ, extus intusque albidâ, nitidâ, valdè inæquilaterali; alterâ valvulâ lævi, complanatâ; alterâ convexâ et lineis concentricis elevatis, posticè striatâ; margine ventrali convexo; dorsali antico convexiusculo et paululùm declivi; extremitate lateris antici longioris rotundatâ; extremitate posticâ obtusè angulatâ; ligamento prominente; flexurâ nullâ; dente laterali antico, minimo, approximato.* Long. 0·90; lat. 1·50 poll.

Hab. ——?

Closely resembling a *Psammobia*, the minute lateral tooth being scarcely visible.

TELLINA VALTONIS. *Tel. testâ ovato-oblongâ, fragili, complanatâ, subinæquilaterali, nitidissimâ, pellucidâ, roseâ, radiis geminis albidis posticè ornatâ, lineisque minutis concentricè substriatâ; margine ventrali convexiusculo; dorsali antico subdeclivi, convexo; extremitate posticâ paululùm breviore, vix rotundato-angulatâ; flexurâ, costâque umbonali, obsoletis; dente laterali antico, parvo, subapproximato.* Long. 0·53; lat. 0·72 poll.

Hab. ——? Mus. Metcalfe.

I have named this shell in honour of W. Walton, Esq., whose rich collection has proved of great service to me in my investigation of the very numerous species of this beautiful genus. It differs from *exilis* by the absence of regular suboblique striulæ and by the hinder extremity not being decidedly wedge-shaped.

TELLINA FRIGIDA. *Tel. testâ ovali, solidiusculâ, convexâ, inæquilaterali, nitidâ, albidâ (intus candidâ), lævigatâ, utrinque rotundatâ; margine ventrali convexo; dorsali antico, subdeclivi, convexo; latere postico planè breviore; natibus inconspicuis; flexurâ, costâque umbonali, obsoletis; dentibus primariis minimis, lateralibus nullis.* Long. 0·70; lat. 1 poll.

Hab. Kamtschatka. Mus. Petit, Hanley.

I am indebted to M. Petit de la Saussaye for the possessionof this

rare species. It is closely allied to the *edentula* of Sowerby, but the beaks are more prominent in that species, and its posterior termination more angular.

TELLINA ELONGATA. *Tel. testâ oblongo-angustâ, subtenui, subventricosâ, intus extusque albâ, lævigatâ, valdè inæquilaterali, anticè rotundatâ; margine ventrali medio subretuso, anticè sursum acclinante; dorsali anticè convexiusculo et vix paululùm declivi, posticè producto, recto aut subretuso satisque declivi; latere postico brevi, truncato-acuminato hiante; ligamento subinfosso; flexurâ subobsoletâ; dentibus lateralibus nullis.* Long. 1·12; lat. 2·20 poll.

Hab. Chiquiqui, West Columbia; in sand at three fathoms.

The extremely narrow shape, and the peculiarity of its upper and lower edges being almost parallel, separate it from the majority of its section; it is however closely allied to the succeeding species.

TELLINA ASSIMILIS. *Tel. testâ* T. elongatæ *simillimâ, sed magis ventricosâ, et extremitate posticâ contortâ, subrostratâ.* Long. 0·45; lat. 0·95 poll.

Hab. Isle of Luzon; in sandy mud, six fathoms.

TELLINA INORNATA. *Tel. testâ ovato-oblongâ, subtenui, subventricosâ, impolitâ, subæquilaterali, sordidè albidâ, epidermide tenui et cinereâ indutâ, lævigatâ; marginis ventralis parte mediâ rectâ aut subretusâ; dorsalis partè anticâ convexiusculâ et paululùm declivi, parte posticâ subdeclivi; extremitate anticâ rotundatâ, posticâ attenuato-rotundatâ; flexurâ, costâque umbonali, obsoletis; dentibus lateralibus nullis.* Long. 0·82; lat. 1·30.

Hab. Conception, Chili; soft mud, six fathoms.

A fossil-like shell, which is devoid of striking characteristics, and much resembles an elongated *Edentula*.

TELLINA CYGNUS. *Tel. testâ ovatâ aut ovato-oblongâ, solidiusculâ, subæquilaterali, convexâ, extus nitidâ, intusque candidâ, concentricè substriatâ; margine ventrali convexiusculo; dorsali anticè subrecto et paululùm declivi, posticè recto et valdè declivi; extremitate anticâ rotundato-obtusâ, posticâ cuneiformi, subrostratâ; flexurâ ventrali distinctâ; ligamento infosso; superficie internâ submargaritaceâ; dentibus lateralibus nullis.* Long. 0·40; lat. 0·63 poll.

Hab. Bias, isle of Negros; coral sand, seven fathoms.

Closely resembling *corbuloides* in shape, but narrower, possessing distinct concentric striæ, and devoid of lateral teeth.

TELLINA DOMBEI. *Tel. testâ obovatâ, inæquilaterali, solidâ aut solidiusculâ, convexâ aut subventricosâ, impolitâ, lævigatâ, albidâ, natibus roseo tinctis; margine ventrali subrecto; dorsali anticè subdeclivi et convexo, posticè subrecto satisque declivi; extremitate anticâ rotundatâ, posticâ brevi, subangulatâ; ligamento infosso; costâ umbonali et flexurâ distinctis; disco interno aurantio-roseo; dentibus lateralibus nullis.* Long. 1·60; lat. 2 poll.

Hab. Panama; twelve fathoms, sandy mud.

Allied to the *umbonella* of Lamarck, but with the fold and flexure more distinctly marked.

September 10, 1844.

William Horton Lloyd, Esq., in the Chair.

A communication was read from George Gulliver, Esq., F.R.S. &c., containing additional measurements of the Blood-corpuscles of Mammalia and Birds. No. 3.*

The measurements, as in all my former ones of the blood-corpuscles, refer exclusively, unless otherwise mentioned, to the red particles or discs. The diameters, as usual, are given in vulgar fractions of an English inch; and as the numerator is always 1, it is left out, the denominators only being printed. Other particulars are explained at the head of my former communications.

Ratel (*Mellivora Capensis*, F. Cuv.).

4000
3572
3600

5333
3200

3824

Blood from a prick of the nose of a female, half-grown.

Fin-back Whale (*Balæna Boops*).

3200
3000

4570
2666

3099

I do not know that the blood-discs of any whale have been before measured. They are, like those of the porpoise, of the common circular form. Those of the whale are but slightly larger than the human blood-corpuscles, and decidedly smaller than those of the elephant and sloth.

The measurements were made from some rather imperfect specimens of the dried corpuscles, for which I am indebted to that excellent anatomist Mr. J. Quekett.

Gayal (*Bos Sylhetanus*, F. Cuv.).

4570
4000

6000
3200

4222

Blood from a vein of the ear.

Aoudad (*Ovis Tragelaphus*, Desm.).

6665
6400
6000

8000
5333

6355

Blood from a prick of the lip and from a vein of the ear of a fine adult male. The corpuscles are smaller than those of the mouflon and of the common sheep, being most nearly allied in minuteness to the corpuscles of the

* No. 2 will be found in the Proc. Zool. Soc., Feb. 13th, 1844; and No. 1 in the same Proceedings, Dec. 13th, 1842.

goat. The present measurements having been made from good samples of fresh blood, are probably better than my former measurements (Lond. and Edin. Phil. Mag. Jan. 1841, p. 31) of the corpuscles obtained from the heart of an Aoudad fifteen hours after death, when the discs may have been somewhat swollen.

Malabar Squirrel (*Sciurus maximus*, Schreb.).

4000
3555
3200

5333
2900

3633

Blood from a prick of the nose.

Two-toed Sloth (*Bradypus didactylus*, Linn.).

Average 2865, being the largest corpuscles, next to those of the elephant, yet known among mammals; measurements detailed in the Proceedings of the Zool. Soc., June 11th, 1844. Blood from a prick of the nose and from the lip.

Hairy Armadillo (*Dasypus villosus*, Desm.).

3330
3200

4572
2666

3315

Blood from a prick of the foot of a male.

Billardier's Kangaroo (*Halmaturus Billardieri*, Gould).

4000
3200

4800
3000

3623

Blood from a prick of the nose of a male.

Swift Kangaroo (*Macropus ocydromus*, Gould).

3555
3200

4570
2900

3442

Blood from a prick of the nose of a female.

Trumpeter (*Psophia crepitans*, Linn.).

L.D.	S.D.
2000	3555
1777	3200
2286	4800
1600	2900
1883	3488

Blood from a vein of the pinion.

Crested Lapwing (*Vanellus cristatus*, Temm.).

L.D.	S.D.
1895	3200
2400	4572
1714	2666
1964	3310

Blood from a vein of the pinion.

Continuation of a paper on the new species of the genus *Tellina*, by Sylvanus Hanley, Esq.:—

TELLINA MILES. *Tel. testâ* T. cuspidi *affini, sed oblongâ, rostratâ, et magis compressâ; margine antico dorsali vix paululùm declivi; ventrali convexo; valvulâ alterâ lineis elevatis concentricis undique striatâ.* Long. 0·90; lat. 1·88 poll.

Hab. ——? Mus. Metcalfe.

A beautiful shell, which reminds one slightly of the *rosea* of Spengler, and closely resembles a produced and flattened specimen of *Tellina cuspis*.

TELLINA LILIUM. *Tel. testâ ovato-oblongâ, tenuiusculâ, subventricosâ, extus intusque albâ, concentricè substriatâ; striis supra costam umbonalem elevatis; margine ventrali subrecto; dorsali anticè subrecto paululùmque declivi; latere antico producto, infernè ad extremitatem obliquè rotundato; latere postico, brevi, cuneiformi; dentibus lateralibus nullis.* Long. 0·50; lat. 0·80 poll.

Hab. Isle of Burias, sandy mud, low water; and isle of Negros, coral sand, seven fathoms: Cuming.

One of the many species which are destitute of any striking characteristics.

TELLINA PLEBEIA. *Tel. testâ subovatâ, convexâ, lævigatâ, intus extusque albidâ, umbonibus hyalinis et rubro-aurantiis; margine ventrali convexo aut subarcuato; dorsali, anticè prope nates recto et paululùm declivi, posticè recto satisque declivi; latere antico longiore, rotundato; extremitate posticâ obtusè angulatâ; ligamento infosso; dentibus lateralibus nullis.* Long. 1·15; lat. 1·70 poll.

Hab. Real Llejos, Central America; sandy mud, seven fathoms.

Very closely allied to the *umbonella* of Lamarck.

TELLINA AURORA. *Tel. testâ* T. Psammotellæ *simillimâ, convexiore autem, et umbonibus rubro-aurantiis; ligamento infosso; dentibus lateralibus nullis.* Long. 0·75; lat. 1·23 poll.

Hab. Panama; soft sandy mud, ten fathoms: Cuming.

Both this and the succeeding species are not unlike Chemnitz's figure of *T. oblonga*, but the description by no means accords.

TELLINA LUCERNA. *Tel. testâ oblongâ, subventricosâ, lævigatâ, albidâ, umbonibus aurantiis, anticè longiore et rotundatâ, posticè obtusè cuneiformi; margine ventrali subrecto; dorsali, anticè paululùm et posticè satis declivi, utrinque subrecto; ligamento subinfosso; disco interno aurantio; dentibus lateralibus nullis.* Long. 0·90; lat. 1·42 poll.

Hab. Isle of Negros and Isle of Misamis; sandy mud, low water: Isle of Panay, hard sand: Cuming.

TELLINA SCALPELLUM. *Tel. testâ oblongâ, tenuissimâ, compressâ, nitidissimâ, valdè inæquilaterali, roseâ, pellucidâ, sublævigatâ; margine ventrali subrecto; dorsali antico paululùm declivi et subrecto; latere postico brevi et obtusè subcuneiformi; extremitate anticâ rotundatâ; ligamento parvo, prominulo; dentibus lateralibus nullis.* Long. 0·25; lat. 0·50 poll.

Hab. Isle of Zebu; sandy mud, low water: Cuming.

More produced than in the majority of the smaller species, and of a peculiarly deep rose-colour.

TELLINA DIANA. *T. testâ* T. Galatheæ *simillimâ, subovatâ autem,*

punctisque nullis; margine dorsali etiam utrinque magis declivi, ventrali convexiore, et extremitate posticâ magis obtusâ. Long. 1·05; lat. 1·50 poll.

Hab. Java? Mus. Hanley, &c.

TELLINA ANCILLA. *Tel. testâ oblongo-elongatâ, convexiusculâ, nitidissimâ, candidâ, concentricè substriatâ, lineisque obsoletis radiantibus ornatâ; striolis supra costam umbonalem subobsoletam, remotioribus, distinctis, subimbricatis; margine ventrali subrecto; dorsali, anticè subdeclivi et convexiusculo, posticè subrecto et declivi; latere antico producto; postico obtusè cuneiformi; dentibus lateralibus nullis.* Long. 0·45; lat. 1 poll.

Hab. Lord Hood's Island, on fine coral-sand: Cuming.

TELLINA HIBERNA: *Tel. testâ oblongâ, solidâ, compressiusculâ, valdè inæquilaterali, subnitidâ, candidâ, lævigatâ; margine ventrali subrecto; dorsali anticè convexiusculo et paululùm declivi, posticè primùm convexo deinde subincurvato; latere antico producto; postico brevi, cuneiformi; ligamento prominulo; dente laterali antico magno, approximato.* Long. 0·45; lat. 0·75 poll.

Hab. Panama and Bay of Guayaquil; six to eleven fathoms, in sandy mud: Cuming.

Closely allied to *T. polita.*

TELLINA DESHAYESII. *Tel. testâ* T. Spengleri *simillimâ, sed albido-roseâ, et lamellis subremotis concentricè ornatâ; margine etiam ventrali magis convexo.* Long. 0·60; lat. 1·55 poll.

Hab. Red Sea? Mus. Cuming, Deshayes.

However closely resembling *T. Spengleri*, it is nevertheless with facility to be distinguished by its regular (and not oblique) concentric lamellæ.

TELLINA TULIPA. *Tel. testâ* T. Donacinæ *simillimâ, sed subæquilaterali, et margine dorsali rosei coloris experte.* Long. 0·50; lat. 0·95 poll.

Hab. ——? Mus. Cuming, Walton.

Extremely like *T. Donacina*, but almost equilateral, and devoid of the short vertical ray at the beaks and the rosy dorsal edges which are characteristic of that species.

TELLINA PHARAONIS. *Tel. testâ* T. rostratæ *simillimâ, sed solidâ, lineisque elevatis concentricè striatâ; umbonibus aurantio-roseis; sinu postico distincto.* Long. 1·20; lat. 3·20 poll.

Hab. Red Sea. Mus. Metcalfe.

This magnificent shell is one of the first fruits of the recent systematic investigation of the fauna of the Red Sea.

TELLINA SPINOSA. *Tel. testâ ovatâ, solidiusculâ, impolitâ, inæquilaterali, convexiusculâ, extus intusque albidâ, striis minutis confertissimis elevatis, concentricè asperatâ; margine ventrali arcuato, posticè sursum acclinante; dorsali posticè elevatiore convexo et declivi, anticè prope nates acutas subincurvato deinde subrecto et*

subdeclivi; latere postico brevi; extremitate anticâ rotundatâ; posticâ seriebus duabus vel tribus radiantibus spinarum serratâ; lunulâ parva, distinctâ; ligamento infosso; dente laterali antico subapproximato, postico remoto. Long. 0·60; lat. 0·80 poll.

Hab. Isle of Ticao, six fathoms.

Mr. Cuming's unique specimen of this curious shell possesses characters which cannot readily be confounded with any other species. It is to *Gargadia*, however, that it is most allied.

Tellina fimbriata. *Tel. testâ obovato-rotundatâ, solidâ, convexâ, candidâ, striis concentricis confertissimis lamellosis fimbriatis, et lineis radiantibus confertis, decussatâ; margine ventrali arcuato, posticè sursum acclinante; dorsali utrinque convexiusculo, anticè subdeclivi, posticè valdè declivi; latere antico longiore, rotundato; extremitate posticâ brevi, angulatâ; costâ umbonali valdè conspicuâ; ligamento infosso; lunulâ distinctâ; dentibus lateralibus subremotis, subæquidistantibus.* Long. 1·25; lat. 1·42 poll.

Hab. ——? Mus. Cuming.

In sculpture not unlike *T. decussata*; in form more akin to *T. ostracea.*

Tellina subtruncata. *Tel. testâ obovatâ, valdè inæquilaterali, albidâ, striis lamellosis fimbriatis confertissimè ornatâ; margine ventrali anticè arcuato, posticè subrecto et sursum acclinante; dorsali utrinque magis minusve convexo, anticè declivi, posticè maximè declivi; extremitate anticâ rotundatâ; latere postico brevissimo, subtruncato, angulato; ligamento infosso; dentibus lateralibus subæquidistantibus.* Long. 0·60; lat. 0·75 poll.

Hab. Isle of Bohol; on the reefs, low water.

I had almost regarded the first specimen of this rare shell in Mr. Cuming's collection as a monstrosity, but the examination of another specimen in Sir Edward Belcher's cabinet has satisfied me that the seemingly diseased and stunted appearance is characteristic and not accidental.

Tellina perplexa. *Tel. testâ* T. ostraceæ *affinis, subovatâ autem, striisque ejus concentricis, magis confertis et supernè haud lamellosis; margine dorsali antico paululùm declivi.* Long. 1·20; lat. 1·65 poll.

Hab. Bay of Manila; sandy mud, six fathoms: Cuming.

Rather a solid shell, which is apparently closely allied to the *lintea* of Conrad; but the curvature of the ligamental margin, as represented in the figure of that shell, by no means agrees with its direction in *perplexa.*

"Descriptions of six new species of *Voluta*," by G. B. Sowerby, Esq.:—

Voluta mammilla, Gray. *Vol. testâ ovato-oblongâ, tenui, lutescente, apice mammillari, obtusissimo, subspirali; anfractibus duobus, ultimo magno, ovali, maculis lineisque castaneis picto; aperturâ magnâ; columellâ plicis tribus.*

Shell ovate-oblong, thin, brownish-yellow, with a mammillary, subspiral, very obtuse apex; volutions two, the last of which is large, oval, marked with chestnut-coloured spots and zigzag lines; aperture large; columella with three folds.

From New Holland; a single specimen, which appears to be only a very young shell, is in the British Museum. This is a very remarkable species, forming the link that unites *Cymba* with *Melo*, the apex of this species being subspiral, while in *Cymba* the apex is amorphous.

VOLUTA PIPERITA. *Vol. testâ obovatâ, ventricosiusculâ, crassiusculâ, pallescente, quinquefasciatâ, fasciis posticâ mediând et anticâ brunneo-puncticulatis, strigisque fuscis irregularibus ornatis; fasciis duabus intermediis pallidioribus, strigis nonnullis lividis, cum strigis fuscis, fasciarum alternarum continuis; anfractibus quinque, tribus primis papillam efformantibus, papillâ lævi, posticè subgranosâ; ultimo maximo, ovali; aperturâ elongatâ, latiori, intus aurantiacâ; columellâ plicis 4, validis, labioque columellari aurantiacis.*

Shell obovate, rather ventricose and thickish; of a pale colour, with five bands, the posterior, middle and anterior of which are dotted with brown, and ornamented with irregular fuscous streaks; the two intermediate bands are paler, with livid streaks, which are continuous with the brown streaks of the alternating bands; volutions five, of which the first three form the papillary apex, which is smooth, and slightly granose posteriorly; the last volution very large, oval; aperture elongated, rather wide, orange-coloured within; columella with four distinct folds, orange-coloured as well as the columellar lip.

A single specimen only is known, which is in Mr. Norris's collection.

VOLUTA NORRISII. *Vol. testâ ovatâ, suboblongâ, ventricosâ, coronatâ, lævi, cinereo-fulvâ, maculis parvis niveis aliisque fuscis adspersâ, fasciis duabus transversis fuscis, interruptis, hîc illîc lineis interruptis, longitudinalibus notatis; spirâ brevi, apice papillari, granoso; anfractibus sex, ultimis duobus spinis brevibus acutis coronatis; aperturâ magnâ, oblongâ, intus fuscâ; columellâ quadriplicatâ, plicis duabus anticis validioribus.*

Shell ovate, rather oblong, ventricose, coronated, greyish brown, sprinkled with small snow-white and brown specks, with two transverse brown interrupted bands, here and there marked with interrupted longitudinal lines; spire short, with a papillary granose apex; volutions six, the last two crowned with short sharp spines; aperture large, oblong, brown within; columella with four folds, of which the two anterior are prominent.

Found on the reefs at low water, on Dupuch's Island, by J. C. Dring, Esq., R.N. In Mr. Cuming's collection. Wagner has figured this species for *V. nivosa*.

VOLUTA MEGASPIRA. *Vol. testâ fusiformi, turritâ, tenuiusculâ, lævi, rufescente-carneolatâ, strigis maculisque castaneis notatâ;*

spiræ anfractibus sex, subelongatis, medio ventricosiusculis, primis duobus apicem papillarem efformantibus, 3tio, 4to, 5to et 6to obtusè longitudinaliter costatis, ultimo magno, oblongo, anticè attenuato; aperturâ oblongâ, labio externo subreflexo; columellâ quinquepliciatâ, plicis posticis obtusis, parvis.

Shell fusiform, turrited, rather thin, smooth, of a reddish flesh-colour, marked with chestnut streaks and blotches; volutions of the spire six, rather elongated and ventricose in the middle, the first two forming the papillary apex, the 3rd, 4th, 5th and 6th with obtuse longitudinal ribs, the last large, oblong, attenuated anteriorly; aperture oblong, outer lip slightly reflected; columella with five folds, the posterior of which are small and obtuse.

I have only seen a single specimen, which is in Mr. Cuming's extraordinary collection; it is probably the same as Kiener's *V. lyriformis*, but it is not the same as Broderip's, which is identical with Swainson's *Mitra lyriformis*. Its papillary apex closely resembles that of *V. fulminata*.

Voluta Guildingii. *Vol. testâ oblongâ, crassâ, fulvescente, lineolis saturatioribus aliisque albis pictâ; spirâ acuminatâ, apice obtuso; anfractibus 5 ad 6, subventricosis, longitudinaliter costatis, interstitiis costarum transversim striatis, ultimo magno, lævigatiusculo; aperturâ mediocri, labio externo extus incrassato, albicante, intus dente parvo instructo; columellâ plicis quinque ad sex parvis, anticis duabus validioribus.*

Shell oblong, thick, fulvous, marked with little white lines and others of a darker colour; spire acuminated, with an obtuse apex; volutions five to six, rather ventricose, longitudinally ribbed, interstices of the ribs with transverse striæ, the last volution large, rather smooth; aperture middle-sized, outer lip externally thickened, whitish, furnished with a small tooth internally; columella with five or six small folds, of which the two anterior are more prominent.

This is the smallest known species of Volute; it was discovered at St. Vincent's by the late Rev. Lansdown Guilding. In Mr. Cuming's and Mr. Metcalfe's collections.

Voluta Cylleniformis. *Vol. testâ parvâ, ovatâ, crassâ, lævisculâ, albicante, maculis parvis flavicantibus sparsim ornatâ; spirâ subconicâ, anfractibus sex, posticè coarctatis, ad suturam granosis, anticè longitudinaliter costatis, ultimo magno, anticè transversim striato; canali parvo, reflexo; aperturâ oblongâ, labio externo extus incrassato, margine interno intus dente parvo instructo; labio columellari anticè ruguloso, dentibus tribus parvulis munito.*

Shell small, ovate, thick, rather smooth, whitish, sprinkled with small yellowish specks; spire somewhat conical, with six volutions, which are contracted posteriorly, granose at the sutures and longitudinally ribbed anteriorly; the last volution is large and anteriorly transversely striated; canal small, slightly reflected; aperture oblong, outer lip externally thickened, its internal edge furnished with a small tooth; columellar lip rugulose anteriorly, furnished with three small teeth.

The only specimen I have seen of this curious little shell is in the collection of W. Metcalfe, Esq. In general appearance it nearly resembles a *Cyllene*.

September 24, 1844.

No business was transacted.

October 8, 1844.

Richard C. Griffith, Esq., in the Chair.

Extract of a letter from Dr. E. D. Dickson, Corr. Memb., dated Tripoli, 23rd of July, 1844:—

"I am at present engaged in collecting Bats for the Society, and will endeavour to prepare a skeleton or two of the *Cursorius Isabellinus* and *Otis Houbara*. I may also perhaps obtain the egg of these birds, since it has occasionally been met with by the natives.

"There are no lions, deer, or wild boars in this part of Barbary, nor have I ever heard of the wild hunting-dog. The only species of dog indigenous in Tripoli is the Arab shepherd dog, of which I could easily send you specimens, if desirable. Tunis is the proper place for wild boars, where they are so plentiful that I am told they constitute the chief sport of its European residents."

Various Skins of Mammalia from Chile were laid before the Meeting, and Mr. Waterhouse read some notes relating to them with which he had been favoured, in a letter from Mr. Thomas Bridges, Corr. Memb., who had formed the collection.

"The specimens," Mr. Waterhouse observed, "contained two species of foxes, both of which were quite distinct from the *Canis fulvipes* from Chiloe. The one approaches most nearly to the *Canis Magellanicus*, and might possibly be a variety of that animal, differing in having a more slender appearance; but this arises perhaps entirely from its fur being shorter, a difference which would probably arise from dissimilarity of climate, the *C. Magellanicus* being from a colder, and humid part of South America. The Chile animal, in having a more slender appearance, approaches considerably to the *Canis Azaræ*; from this however it may be distinguished by the absence of the black on the chin, in having the ears of a deeper and richer rust-colour, and there is the same difference observable in the colouring of the legs. The hind-legs want the black patch, which is situated considerably above the heel, and is very conspicuous in *C. Azaræ*. The tail is longer and of a brilliant rust-colour beneath; in *C. Azaræ* it is pale in the same part. This, according to Mr. Bridges, is the *Culpeo* of the natives, and is no doubt the animal so called by Molina.

"The second species of fox of the collection Mr. Waterhouse regards as the *Canis Azaræ*. It is smaller, Mr. Bridges observes, than the Culpeo, and less common and mischievous; more shy in its manners, and, according to his observations, confines itself more to the lower parts of the country, inhabiting the provinces of Valparaiso, Aconcagua, and Colchagua, where it is abundant. It is well known to the natives under the name of 'Chilla.'

"The following species of Rodents were also contained in the collection, viz. *Myopotamus coypus, Poephagomys ater, Octodon Cumingii, Mus Darwinii, Mus megalonyx* (a new species, the characters of which Mr. Waterhouse pointed out), and the Mountain Viscacha (*Lagotis Cuvieri*, Bennett). Several specimens of this last-mentioned animal were procured by Mr. Bridges on the Chile side of the Andes, and upon comparison they prove to be specifically identical with an individual formerly sent by the same gentleman and which was found in the vicinity of Mendoza. The Viscacha, Mr. Bridges' notes state, 'confines itself to the elevated parts of the Andes, always inhabiting rugged and precipitous mountains where there are natural caves or immense stones rolled in confusion, amongst which it makes its abode.' It has a very extended range, he having found it in Bolivia in south lat. 20° to 22°, whilst the specimens laid before the Meeting were from the province of Aconcagua, near 'Los ojos de Agua.' Mr. Bridges further remarks that it seldom leaves its abode during the daytime, but comes out to feed upon the herbage either before sunrise or late in the evening.

"Several specimens of *Didelphis elegans* were also sent home by Mr. Bridges, who states that they were procured for him by the natives in the province of Aconcagua, where they were caught in traps baited with meat, and which were placed for that purpose in the vicinity of old hedges and vineyards. Mr. Bridges also calls attention in his letter to the differences observed in the sexes of this animal, the female being considerably smaller than the male, and remarkable for having the tail very thick and fleshy. It is known to the natives by the names 'Comadrejo' and 'Llaca.'"

The following is Mr. Waterhouse's description of the new species of *Mus* (which he places in the section *Hesperomys*) contained in the collection:—

HESPEROMYS MEGALONYX. *Hesp. suprà cinerascenti-fuscus, subtùs cinereo-albus; auribus mediocribus; pedibus anticis unguibus magnis armatis; caudâ brevi, pilis minutis obsitâ.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin	4	4
——— *caudæ*	1	6
——— *auribus*	0	$3\frac{1}{2}$
——— *tarsi digitorumque*	0	$11\frac{1}{2}$
——— ab apice rostri ad basin auris	1	$2\frac{1}{2}$

Hab. Chile.

This little mouse evidently belongs to the genus *Hesperomys*, but it differs from any species hitherto described in having stronger fore-feet, and these furnished with long claws, exceeding the toes in length. The inner toe or thumb is furnished with a distinct pointed claw. The fur is very soft, and in the upper parts of the body nearly of a uniform grey-brown tint, though the hairs of the ordinary fur are annulated with pale brown; at the base these hairs are of a deep slate-grey colour. The under parts of the body are grey-white, but the hairs are deepish grey at the root, and on the chest there is a brownish mark. The chin is white; the feet are pale brown, but the

hairs on the toes are dirty white. The tail is clothed with short brown hairs. The ears, which are rather small, are well-clothed with moderately long hairs, and these are variegated with pale brown and dusky; they are much hidden by the long fur of the head.

From Mr. Bridges' notes I learn that this little animal was found near the margin of the Lake of Quintero.

Mr. Waterhouse also characterized a new species of *Octodon* contained in a former collection sent home by Mr. Bridges:—

Octodon Bridgesii. *Oct. corpore suprà flavescenti-fusco nigroque penicillato; subtùs flavescente; pedibus albis; auribus magnis posticè emarginatis; caudâ, quoad longitudinem, corpus ferè æquante, nigrâ, subtùs sordidè albâ, dimidio apicali pilis longis vestitâ.*

	unc.	lin.		unc.	lin.
Longitudo ab apice rostri ad caudæ basin ..	8	0	vel	8	6
——— *caudæ*	5	6	,,	5	8
——— *tarsi digitorumque*	1	$6\frac{1}{2}$	,,	1	$6\frac{3}{4}$
——— *auris*	0	$6\frac{1}{2}$	,,	0	$6\frac{3}{4}$

Hab. Chile.

The general hue of this animal is brownish, a tint produced by the admixture of brownish ochre and black: the hairs of the fur are deep slate-grey next the skin, and on the back black externally, but most of them broadly annulated with deep ochre towards the point; the last-mentioned colour prevails on the sides of the body, where numerous long interspersed white hairs are observable, as well as on the rump. The under parts of the body are of a cream-yellow. The ears are rather large, deeply emarginated behind, and clothed internally with small pale hairs, excepting towards the margin, where they assume a dusky hue; externally the ears are furnished with minute dusky hairs, but at the base they are white. The head, in the region of the ear, is very pale; the throat, inner side of the legs and the tarsi are white; the tail is about equal to the body in length; the basal half is tolerably well clothed with short hairs, which are black on the upper surface and dirty white on the under; on the apical half the hairs are longer (averaging rather more than a quarter of an inch in length) and almost entirely black. The fur is long and moderately soft.

The *Octodon Bridgesii* differs from the *O. Cumingii* (or *O. Degus*, as it should be called) in being considerably larger, of a less bright colour, and in having the tail longer and less distinctly tufted at the apex; the feet moreover are white, or very nearly so.

The dimensions given are taken from two specimens, one in the British Museum collection and the other in that of the Zoological Society, which were brought to this country by Thomas Bridges, Esq., a very zealous collector and good observer, after whom I have named the species. The skulls of these two specimens agree with each other, and differ considerably from those of the *O. Cumingii*. In the first place they are about one-third larger, less arched above; the nasal bones are narrower in proportion, the frontal bones smaller

and more contracted in front, and the palate is also more contracted in front. The molar teeth of the upper jaw have the inner fold of enamel deeper. In the lower jaw the molar teeth have the lateral angles more produced, and their transverse diameter is consequently greater in proportion. The coronoid process is distinctly larger in proportion. Other differences of size and proportion will be perceived upon comparing the following dimensions:—

	O. Cumingii.		*O. Bridgesii.*	
	in.	lin.	in.	lin.
Total length of cranium	1	$6\frac{3}{4}$	1	$9\frac{1}{2}$
Greatest width	0	$10\frac{1}{2}$	1	$0\frac{1}{2}$
Length of nasal bones	0	7	0	$8\frac{1}{2}$
Length of frontal bones	0	$6\frac{1}{4}$	0	$6\frac{2}{3}$
Width of interorbital space	0	5	0	$4\frac{1}{2}$
Total length of zygomatic arch	0	$8\frac{1}{2}$	0	11
Length from front of superior incisors to the molar teeth	0	$5\frac{1}{4}$	0	$6\frac{1}{4}$
Length of the four molar teeth taken together	0	$4\frac{1}{3}$	0	$5\frac{1}{4}$
Width of incisor teeth of upper jaw	0	$1\frac{2}{3}$	0	$1\frac{3}{4}$
Width of palate between foremost molars	0	$1\frac{1}{4}$	0	$1\frac{1}{3}$
Width of palate between hinder molars	0	2	0	$2\frac{2}{3}$
Length of ramus of lower jaw	0	$11\frac{1}{3}$	1	$1\frac{3}{4}$
Height of ditto in a vertical line, dropped from the condyle	0	$5\frac{2}{3}$	0	7

Mr. Waterhouse observed, that the skull in the genera *Octodon* and *Schizodon* differs from that of the nearly allied genera of *Abrocoma* and *Poephagomys*, as well as the *Echymys* group, in having a small vertical plate of bone which rises from the upper surface of the anterior root of the zygomatic arch, and which serves to protect, externally, the infra-orbital nerve. The superior incisor tooth enters the superior maxillary bone, and passes beyond the intermaxillary suture by about one-sixth of the whole length of the tooth; whilst in *Abrocoma* the incisor is shorter, terminating at the suture mentioned, and thus approaches the genus *Lagotis*, as well as in several other characters which he had before noticed. *Poephagomys* is remarkable for having the superior incisor tooth extended backwards and outwards, covered by a thin fold of bone, and terminating on the outer surface of the palatal portion of the skull, close to the third molar tooth.

Notwithstanding the great superficial resemblance which exists between these animals and the *Muridæ*, it will be evident upon examination that they belong to a different section of the Rodent order, a section the species of which is readily distinguished, as he had elsewhere pointed out, by the structure of the skull and lower jaw; it is not, however, in these parts alone that differences exist between the *Octodontidæ* and the *Muridæ*, for there is a dissimilarity in the form of the muzzle, which he should take an early opportunity of showing by means of drawings and descriptions, made either from the living animals or from specimens preserved in spirit, and that

not only the *Octodontidæ*, but the whole of the great section *Hystricina*, established by himself chiefly upon characters furnished by the crania, possess peculiarities which will serve to distinguish them from other groups of Rodents. In this great section, moreover, we find the tibia and fibula invariably distinct, and not echylosed, as in the *Muridæ*, which should, I now think, embrace the *Myoxidæ*, but not the genus *Anomalurus*, which Prof. Wagner is inclined to place in the last-mentioned section, that genus having the tibia and fibula distinct, as in the Sciurine and Hystricine groups.

Mr. Fraser brought before the Meeting the following species of Chilian Birds, not included in the former collection. (See Proceedings of Zoological Society, 1843, p. 108.)

Milvago megalopterus, Meyen; *Synallaxis flavogularis*, Gould; *Sturnella militaris*, Vieill.; *Attagis Gayi*, Less.; *Aphriza Townsendii*, Aud.; *Calidris arenaria*, Ill.; *Cyanopterus fretensis*, Eyton; *Dafila pyrogaster*, Eyton; *Dafila urophasianus*, Eyton; *Phalacrocorax albigula*, Brandt.

To the last-mentioned bird the following note was attached:—"Guanayre of the natives. A very scarce bird; found along the shores of Chile in rocky places. T. B."

Mr. Fraser also described a new bird from Chile, for which he proposed the name of *Leptopus Mitchellii**.

LEPTOPUS.

Rostrum longum, tenue, rectum; nares basales; alæ mediocres; primariæ tres ferè æquales, secunda longissima; cauda subrotundata; tarsi mediocres; digiti longi et tenues; nullus digitus posterior; ptilosis junioris seniori dissimilis.

The bill of this bird is of the same formation as that of *Totanus chloropygius*, Vieill., while the feet resemble those of *Hiaticula tricollaris*.

LEPTOPUS MITCHELLII. *Lep. capite fuscescente lined albâ circa verticem; collo ferrugineo; corpore supernè cinereo-fusco purpureis metallicis coloribus ornato; fasciâ albâ apud pectus; subtùs fasciis parvis albis et nigris alternis; rostro saturatè viridi; tarsis flavis.*

Tot. long. 7; alæ, $4\frac{1}{2}$; cauda, $2\frac{1}{4}$; rostrum, 1; tarsi, $\frac{7}{8}$; digito medio, 1 poll.

Hab. Chile.

Another specimen, which I take to be the young of the above, has an undefined white line passing from eye to eye round the back of the head, the whole upper surface barred and mottled irregularly with ferruginous and blackish brown; cheeks and throat mottled with soot-colour, barred on the breast in a similar manner to the adult, which barring is almost lost on the belly; vent and thighs white.

* If the name *Leptopus* proves to have been previously used, I would propose *Leptodactylus* in its stead.

"Description of a new species of *Solarium*, from the collection of Mr. Cuming," by R. B. Hinds, Esq., R.N.

SOLARIUM FULIGINOSUM. *Sol. testâ orbiculato-conicâ, lævigatâ, fuligineo-fusco ornatâ; anfractibus inferioribus lævibus, subtumidis, superioribus longitrorsum plicatis, areâ medianâ pallidâ, strigis latis obliquis fuscis pictâ; ad peripheriam carinatâ, suprà areâ angustâ planulatâ maculis fuscis quadratis articulatâ; ad basin paulisper tumidâ, pallidâ, lævigatâ; aperturâ quadratâ; umbilico patulo, crenis rectis fuscis armato.* Diam. 21; umbilic. $5\frac{1}{2}$ lin.

Hab. ——?

The only specimen which is known to us is about the size of *S. formosum*, and is therefore materially smaller than the finer specimens of *S. perspectivum* or *S. trochleare*. The character of its ornation is however so very distinct from either of these, that it would mislead to push the comparison further. The species is perhaps rather thinner and lighter than usual, the inferior whorls and base are somewhat more tumid, and at the same time smooth; but the larger whorls are peculiarly decorated on their middle area with broad dark-brown flames, and are oblique as they proceed from the inferior portion upwards and forwards towards the left. The crenules are solid, straight, and of a dark-brown colour.

An extensive collection of Shells was exhibited which had been collected principally at Singapore and Borneo, and presented to the Society by James Brooke, Esq., Corr. Mem.

October 22, 1844.

Professor Owen, V.P., in the Chair.

A paper by Sylvanus Hanley, Esq., was read, containing descriptions of new species of *Cyrena, Venus,* and *Amphidesma.*

CYRENA RADIATA. *Cyr. testâ rotundato-cordatâ, crassâ, solidâ, inæquilaterali, tumidâ, subnitidâ, concentricè et subimbricatim sulcatâ; epidermide olivaceo-fuscescente, et marginem convexum aut subarcuatum versus, luteo-virescente radiisque nigrescentibus ornatâ; margine dorsali postico declivi, convexiusculo; lunulâ nullâ; natibus acutis, incurvatis, integris; ligamento parum prominente; superficie internâ purpureâ; dentibus lateralibus distinctis, brevibus, minutissimè rugulosis (haud crenatis autem), antico approximato.*
Long. 150; lat. 1·70 poll.
Hab. Central America. Mus. Hanley, Cuming, Sowerby.
This and the *variegata* of D'Orbigny are remarkable for being the only radiated *Cyrenæ* at present known to us. The latter species is decidedly depressed, whilst the *radiata* is peculiarly swollen.

CYRENA SORDIDA. *Cyr. testâ suborbiculari, crassâ, subinæquilaterali, ventricosâ aut tumidâ; epidermide olivaceo-fuscescente et marginem ventralem convexum versus, luteo-virescente, concentricè rugulosâ; margine dorsali postico, convexiusculo, declivi; natibus erosis, satis prominentibus; ligamento subinfosso; lunulâ nullâ; superficie internâ albidâ; dentibus lateralibus brevibus obtusis, antico magis approximato.*
Index Test. Sup. t. 14. f. 51. Long. 1·50; lat. 1·60 poll.
Hab. North America. Mus. Hanley.
The link between *Carolinensis* and *radiata,* uniting the interior and membranaceous wrinkles of the former to the general outline of the latter.

CYRENA PHILIPPINARUM. *Cyr. testâ maximâ, compressâ, obovatâ, valdè inæquilaterali, ponderosâ, anticè plicato-sulcatâ, epidermide olivaceo-fuscescente, indutâ; margine ventrali convexiusculo; ligamentali subdeclivi, et angulum obtusum cum margine postico formante; natibus integris, approximatis, incumbentibus; ligamento pergrandi, valdè prominente; superficie internâ posticè et infernè purpureâ, supernè albido-cærulescente; dentibus cardinalibus crassissimis; lateralibus supra crenatis aut denticulatis, antico valdè approximato.*
Index Test. Sup. t. 14. f. 60. Long. 4; lat. 4·75 poll.
Hab. Philippines. Mus. Cuming, Hanley.
There are a few narrow diverging folds on the posterior slope, but this character is by no means peculiar to the species, being equally

possessed by *Keraudreni*, *obesa* and *rotundata*. The ligament is dull yellowish, variegated with rich green. The young are of a uniform bright grass-green, and exhibit more decidedly than the adult the vestiges of an incipient lanceolate lunule.

Cyrena placens. *Cyr. testâ suborbiculari, subventricosâ, inæquilaterali, nitidâ, concentricè sulcato-striatâ, epidermide virido-flavescente indutâ; margine ventrali convexo; dorsali, utrinque declivi et convexiusculo; natibus erosis; ligamento fulvo, depresso, angusto; lunulâ nullâ; superficie internâ purpureâ; dentibus lateralibus minutissimè rugulosis haud autem crenatis, antico brevi et subapproximato.*

Index Test. Sup. t. 14. f. 52. Long. 1·50; lat. 1·75 poll.

Hab. ——? Mus. Hanley.

A beautiful and rare species, of which I have never seen but my own specimen and that in the Jardin des Plantes at Paris. The sulci are close and regular, and the outline of the shell, although not very unlike that of *radiata*, is convex in front of the beaks, thus rendering the front extremity broad and somewhat obtuse.

Venus subnodulosa. *Ven. testâ ovatâ, crassiusculâ, subæquilaterali, satis convexâ, concentricè costatâ; costis confertis, anticè mediocre obtusis, posticè in breves lamellas conversis, undique a sulcis radiantibus decussatis; margine ventrali convexo aut subarcuato; dorsali, utrinque subdeclivi; pube et lunulâ oblongo-cordatâ, prominentibus; ligamento infosso, angustissimo; margine interno undique crenulato; superficie internâ purpureo pictâ.*

Var. α. *Testâ albidâ, livido-brunneo variegatâ.*

Var. β. *Testâ fulvo-fuscescente, natibus albidis; sulcis subremotis.*

Index Test. Sup. t. 16. f. 19. Long. 0·58; lat. 0·75 poll.

Hab. San Nicholas, Philippines. Mus. Cuming, Hanley.

This species bears some resemblance in sculpture to *V. Marica*, but the shape is quite different. The concentric ribs are rendered subnodulous by the radiating grooves. Only a few specimens of this rare shell were procured by Mr. Cuming in the Philippine Islands.

Venus Chemnitzii. *Ven. testâ rhombeo-cordatâ, crassâ, ventricosâ, valdè inæquilaterali, albidâ, brunneo subradiatim maculatâ et strigatâ, radiatim costellatâ, concentricè lamelliferâ; lamellis numerosis, brevissimis, undique crispis; costellis angustis confertissimis; margine ventrali convexo intusque crenulato; dorsali postico subrecto et minimè declivi; latere postico supernè angulato; antico brevi, attenuato, rotundato; lunulâ fuscâ, cordatâ; ligamento angusto, infosso; superficie internâ albidâ, immaculatâ.*

Index Test. Sup. t. 16. f. 20. Long. 1·75; lat. 2·50 poll.

Hab. San Nicholas, Philippines (Cuming). Mus. Cuming, Hanley.

This beautiful species bears a strong resemblance to the shell delineated in the sixth volume of the 'Conchylien Cabinet,' fig. 384, which is commonly quoted for the *reticulata* of Linnæus equally with the two preceding figures; although Chemnitz, without separating it from that species, specifies the absence of the orange tinge upon the

teeth, the peculiar characteristic of that well-known shell. There is a slight shade of orange beneath the umbones internally, and the teeth are similar to those of *puerpera*.

VENUS LACERATA. *Ven. testâ* V. puerperæ *affini, minus autem ventricosâ et margine ventrali posticoque magis arcuatis; margine ligamentali subrecto et minimè declivi; lamellis concentricis confertioribus, et posticè asperrimis; superficie externâ albidâ, lineis ferrugineis aut brunneis angulatim strigatâ; extremitate posticâ intus extusque immaculatâ.*

Index Test. Sup. t. 16. f. 23. Long. 2·50; lat. 2·50 poll.

Hab. Moluccas? Mus. Hanley.

The fringed lamellæ become so crowded at the hinder extremity of this rare and beautiful shell as to form a kind of raised reticulation. It is a much rounder species than the *V. Listeri*, to which it also bears a considerable resemblance.

VENUS SCABRA. *Ven. testâ ovato-cordatâ, inæquilaterali, subventricosâ, pallidè brunneâ, radiatim costellatâ; costellis confertis et concentricè squamiferis; margine ventrali valdè arcuato; dorsali utrinque convexiusculo et anticè brevi; natibus acutis et anticè incumbentibus; lunulâ subinconspicuâ; pube haud excavatâ; superficie internâ, lividâ et posticè saturatius tinctâ; margine interno crenato.*

Index Test. Sup. t. 16. f. 24. Long. 0·50; lat. 0·70 poll.

Hab. Catbalonga, Philippines. Mus. Cuming, Hanley.

A rare species, which is somewhat allied to *decorata* and *ovata*, but distinguishable from either by the greater convexity of its lower margin. The radiating ribs are peculiarly strong upon the umbones, from whence they separate into two or three smaller ones, which become more densely armed with the concentric rows of scales as they approach the lower margin.

VENUS ROBORATA. *Ven. testâ cordato-trigonâ, solidâ, validè inæquilaterali, magis minusve ventricosâ, albidâ (intus purpureo posticè infectâ), concentricè cingulatâ; cingulis multis, lævibus, obtusis; interstitiis lævibus; margine ventrali arcuato (intus leviter crenulato); dorsali postico convexo et valdè declivi; lunulâ profundâ, cordatâ; pube lævi, excavatâ; sulco radiante obtusissimo, lunulam alteram, ad extremitatem anticam simulante.*

Index Test. Sup. t. 16. f. 25. Long. 1; lat. 1 poll.

Hab. Van Diemen's Land. Mus. Hanley, Metcalfe.

Not at all unlike the *dysera* of Chemnitz, but the concentric ribs are in that species distant and membranaceous, whilst in ours they are thick, obtuse, and rather crowded.

VENUS LYRA. *Ven. testâ rotundato-cordatâ, ventricosâ, valdè inæquilaterali, albidâ, lineis maculisque brunneis angulatim variegatâ, concentricè costellatâ; costellis confertissimis lævibus, medio subimbricatis, anticè et posticè membranaceis; interstitiis glabris; margine ventrali arcuato, intusque crenato; lunulâ cordatâ, brunneâ, profundè impressâ; pube excavatâ; superficie internâ albidâ.*

Index Test. Sup. t. 16. f. 21. Long. 1·20; lat. 1·40 poll.

Hab. Gulf of Guinea (Rang). Mus. Hanley, Cuming.

In contour, colouring and general sculpture this rare shell approaches the *cincta* of Chemnitz (f. 387), but whilst that species is girt with but a few broad belts, ours is adorned with at least forty. It is sometimes called *V. cingulata* of Lamarck, but not only is the expression "annulis crenatis" utterly at variance with its characteristics, but an examination also of the typical specimens of the Jardin des Plantes has proved to me its complete distinctness from that species. Its teeth are those of the section *Dosina*.

VENUS DECIPIENS. *Ven. testâ parvâ, rotundato-subtrigonâ, compressâ, inæquilaterali, solidâ, pallidè fulvâ, radiis latis rufo-brunneis variegatâ, concentricè costatâ; costis glabris, subremotis, depressis, posticè sublamellosis, et supra pubem impressam porrectis; interstitiis subconcavis, lævibus; margine ventrali subarcuato, intusque subcrenato; dorsali, utrinque declivi, posticè convexo, anticè brevi, subrecto; lunulâ lanceolatâ; ligamento angustissimo, infosso.*

Index Test. Sup. t. 16. f. 22. Long. 0·75; lat. 0·90.

Hab. Australia? Mus. Hanley, Cuming.

So extremely like the young of *fasciata* as with difficulty to be distinguished. Its form, however, is proportionably broader between the lateral extremities, the valves are much more compressed, and the interstitial spaces decidedly broader. The hinder terminations of the lamellar ribs, which project beyond the escutcheon in compressed tubercles, do not appear to become obsolete by age, as in *fasciata*.

AMPHIDESMA CARNICOLOR. *Amph. testâ suborbiculari, convexâ aut subventricosâ, subtenui, subæquilaterali, albido-roseâ aut carneâ, undique concentricè lamellatâ; lamellis multis, membranaceis, ad margines earum serratis; interstitiis rugis radiantibus minutis, confertissimè ornatâ; margine ventrali rotundato, intusque integro; dorsali, utrinque brevi, subrecto et subæqualiter declivi; pube impressâ; superficie internâ aurantiâ.*

Index Test. Sup. t. 12. f. 28. Long. 1; lat. 1 poll.

Hab. Philippines. Mus. Cuming, Hanley.

Exquisitely sculptured, but so minutely as to baffle the unassisted eye.

November 12, 1844.

Professor Owen, Vice-President, in the Chair.

Extract of a letter from the President, the Right Hon. the Earl of Derby, to the Secretary:—

"Knowsley, Oct. 17.—A circumstance has just occurred here which I cannot help flattering myself will tend to throw light upon a matter in the history of the *Macropodidæ* which has been often disputed. I allude to the manner in which the young animal after birth attains its lodgement in the mother's pouch.

"My superintendent tells me that one of our female Bettongias was seen to part with a young one. She was observed to place herself erect in one of the angles of the place where she was confined, backing as it were into the corner, and in this situation produced the young one, which after its birth she took up in her fore-paws and deposited in the pouch. This latter process the superintendent witnessed himself.

"She had received the male so lately as the 19th of September, and the parturition took place on the 16th of October. We will take particular notice when the young quits the pouch.

"Of course this is not a decisive proof that all of the tribe adopt the same process, yet I think we may fairly conclude from analogy that they do."

"Oct. 19.—It may be observed that the period of utero-gestation is a very short one, even under a month. Something peculiar in the manner of the animal placing herself in the corner was observed by the person who fed her, he stopped and watched her, and thus witnessed the birth, immediately after which she turned round to the young one, and getting it up in her fore-paws, applied them to the mouth of the pouch, opened it with them, and as soon as the little one was deposited she put her head in after it; when her nose reappeared it was rather stained with blood. In five minutes she was jumping about the place as if nothing had happened."

A specimen of *Chamæleon* from the Cape of Good Hope was exhibited by Mr. Fraser.

Mr. Weaver, of Birmingham, exhibited and presented to the Society specimens of the following insects:—*Hipparchia Melampus**, *Leucaria littoralis, Sperantia sylvaria, Cleodora* ——?

* Taken on the mountains of Perthshire, about 3000 feet above the level of the sea.

November 26, 1844.

William Horton Lloyd, Esq., in the Chair.

A specimen of the *Phalangista gliriformis* was exhibited by the Secretary.

A communication was read from Joseph James Forrester, Esq., of Oporto, which was accompanied by a donation of nine specimens of *Echini* from the Portuguese coast, and of the following insects:—*Saturnia Pyri, Brachyglossa Atropos, Deilephila Euphorbiæ, D. Elpenor*; and also a group of *Pollicipes Cornucopia.*

Conclusion of a paper by Sylvanus Hanley, on the new species in the genus *Tellina*:—

TELLINA VIRGULATA. *Tel. testâ* T. Donacinæ *simillimâ, sed paululum angustiore, striisque exilioribus ornatâ; extus intusque albidâ roseo pereleganter radiatâ; radiis latis, haud interruptis; margine dorsali albido.* Long. 0·30; lat. 0·70 poll.

Hab. ——? (Cuming.)

TELLINA OWENII. *Tel. testâ ovato-oblongâ, solidiusculâ, subimpolitâ, compressâ, æquilaterali, albidâ, concentricè et confertissimè striatâ; margine ventrali valdè arcuato; dorsali utrinque subdeclivi, anticè subrecto, posticè incurvato et lamellis subdentato; extremitate anticâ rotundatâ; latere postico acuminato, subrostrato; costâ umbonali conspicuâ; natibus acutis; ligamento infosso; disco interno, aurantio; dentibus lateralibus subæquidistantibus.* Long. 1·25; lat. 2 poll.

Hab. Africa. Mus. Zool. Soc., Brit. Mus.

A very rare and beautiful shell, whose contour is that of *squalida* and sculpture that of *Pharaonis*. I have named it in honour of its discoverer, Captain Owen.

TELLINA SEMEN. *Tel. testâ ovatâ aut ovali, crassâ, inæquilaterali, subventricosâ, nitidâ, albidâ (intus submargaritaceâ), anticè rotundatâ, posticè obtusâ, concentricè striatâ; striis anticè subimbricatis confertissimisque, posticè remotioribus et elevatis; margine ventrali convexo; dorsali utrinque magis minusve convexo, posticè declivi, anticè declivi aut subdeclivi; latere antico multo longiore; ligamento minimo, prominulo; flexurâ subobsoletâ; dentibus lateralibus conspicuis, postico magis approximato.* Long. 0·25; lat. 0·50 poll.

Hab. Corregidor; sandy mud, twelve fathoms. (Cuming.)

Almost a *Donax*, but possessing a slight flexuosity which is not to be met with in that genus.

Tellina nobilis. *Tel. testâ ovali, solidiusculâ, convexâ, inæquilaterali, nitidissimâ, lævigatâ, intus extusque roseâ; margine ventrali convexiusculo, medio plerumque subrecto; dorsali, anticè vix declivi et convexiusculo, posticè subdeclivi et subrecto aut convexiusculo; latere antico longiore, ad extremitatem obtusè rotundato; postico obtusè angulato; natibus obtusis; flexurâ costâque umbonali subobsoletis; ligamento prominulo; dentibus cardinalibus parvis, lateralibus nullis.* Long. 1; lat. 1·50 poll.

Hab. Orion, province of Bataan, isle of Luzon; fine black sand, at low water. Mus. Cuming, Hanley.

The extreme link between *Tellina* and *Psammobia*, and not readily confounded with any of its division, owing to the general absence of colour in those Tellens which are destitute of lateral teeth.

Tellina puella. *Tel. testâ obovatâ, inæquilaterali, tenui, ventricosâ, lævi, nitidiusculâ, extus intusque albido-roseâ; margine ventrali anticè arcuato, posticè sursum acclinante; dorsali, anticè convexo, paululumque declivi, posticè convexiusculo et valdè declivi; latere antico longiore, rotundato; postico brevi, angustato, angulato; costâ umbonali subobsoletâ; flexurâ ventrali, satis conspicuâ; natibus obtusis; ligamento prominulo; dentibus parvis; lateralibus remotis, subæquidistantibus.* Long. 0·5; lat. 0·6 poll.

Hab. Senegal. Cuming, Metcalfe.

Not very unlike a thin *Solidula*, but provided with lateral teeth.

Tellina chinensis. *Tel. testâ ovali, solidiusculâ, convexâ, subinæquilaterali, impolitâ, intus extusque candidâ, lævigatâ; margine ventrali subrecto; dorsali, anticè convexiusculo et paululum declivi, posticè subrecto satisque declivi; extremitate posticâ obtusâ; latere antico longiore, rotundato; ligamento — ?; costâ umbonali obsoletâ; dentibus lateralibus nullis.* Long. 0·62; lat. 1 poll.

Hab. China. Mus. Britannicum.

Tellina ala. *Tel. testâ ovatâ, solidiusculâ, subinæquivalvi, subæquilaterali, nitidâ, convexiusculâ, extus intusque albidâ (radio brevi pallidè aurantio in adultis ornatâ), concentricè substriatâ; margine ventrali magis minusve convexo; dorsali anticè convexo et subdeclivi, posticè declivi et prope nates subretuso; latere antico, rotundato, longiore; postico angulato, subrostrato; flexurâ costâque umbonali conspicuis; ligamento subinfosso; cardine, dentibus primariis parvis, et nonnunquam dente laterali antico rudimentali, instructo.*

Var. *Testâ ovato-trigonâ, solidâ, convexâ, lævi aut sublævigatâ, nequaquam subrostratâ; flexurâ costâque umbonali subinconspicuis.* Long. 1·20; lat. 1·75 poll. Var. long. 1·20; lat. 1·50 poll.

Hab. Ceylon? Mus. Metcalfe, Cuming, Hanley.

An extremely variable species, with somewhat the aspect of *Nymphalis*, but easily distinguished by its lesser convexity, and in general by the presence of a pale orange streak on either side of the umbones, or in the young by the slight rostrum and the possession of regular concentric striæ.

Tellina Irus. *Tel. testâ ovatâ aut obovatâ, crassâ (in adultis), subventricosâ, subæquilaterali, impolitâ, extus intusque albidâ, concentricè rugulosâ; rugis interruptis minimis, confertissimis, subelevatis; margine ventrali magis minusve arcuato; dorsali anticè convexo et subdeclivi, posticè convexiusculo, elongato et declivi; latere antico paululum breviore, rotundato; postico infernè angulato; lunulâ (in adultis) parvâ, profundâ; ligamento infosso; costâ umbonali subobsoletâ; dentibus satis magnis.* Long. 1·10; lat. 1·40 poll.

Hab. ——? Mus. Cuming, Walton.

Evidently a perforating species, and allied to the *Petricola ochroleuca* of Lamarck, the true *Tellina fragilis* of Linnæus's own collection.

December 10, 1844.

William Yarrell, Esq., Vice-President, in the Chair.

A letter was read from Joseph James Forrester, Esq., of Oporto, announcing to the Society that he, in conjunction with his friends, the Viscount Santa Martha and Colonel Owen, was engaged in forming a collection of the Skins of Mammals and Birds, from the Oporto and Alto Douro districts. The Secretary observed that among those already obtained was a Genet, a fact of much importance to naturalists, as from the days of Buffon no information had been obtained of its existence in the Peninsula.

— Cadell, Esq., presented to the Society a young Three-toed Sloth, *Bradypus tridactylus*, preserved in spirits, and the skin of the mother, which had died on the voyage home, within a few days' sail of England.

Mr. Gould exhibited specimens of *Echini* from Western Australia, for the purpose of comparison with those sent from Oporto by Joseph James Forrester, Esq., and laid upon the table on the last evening of meeting.

Descriptions of new species of *Mitra* and *Cardium*, by Lovell Reeve, Esq.:—

CARDIUM.

CARDIUM INCARNATUM. *Card. testâ gibboso-globosâ, longitudinaliter costatâ, costis quatuor et viginti, rotundis, complanatis, margines versus medio obsoletè brevispinosis, interstitiis angustis, subprofundis, transversim striatis; pallidè incarnatâ, radiis roseis transversis hic illic ornatâ.*

Conch. Icon., *Cardium*, pl. 1. f. 2.

Hab. Bay of Manila (found in sandy mud at the depth of six fathoms); Cuming.

A warm flesh-tinted shell, of which Mr. Cuming collected a few odd valves in the above-mentioned locality, and has lately received several perfect pairs.

CARDIUM MINDANENSE. *Card. testâ subobliquè cordiformi, longitudinaliter costatâ, costis novem et viginti, squamiferis, squamis numerosis, confertis, posticè fornicatis, costarum interstitiis subprofundis; albidâ, fusco hic illic nebulosâ; intus posticè vividè purpurascente.*

Conch. Icon., *Cardium*, pl. 4. f. 19.

Hab. Cagayan, island of Mindanao, Philippines (found among sand at low water); Cuming.

The vaulted structure of the scales in this species is about intermediate in its character between that of the scales of the *Cardia consors* and *isocardia*.

CARDIUM AUSTRALIENSE. *Card. testâ transversè ovatâ, Donaciformi, medio subcontractâ, posticè flexuoso-angulatâ, subrostratâ, anticè compresso-attenuatâ; dimidio postico radiatim sulcato, antico lævigato, nitente; albidâ, areâ posticâ strigis brevibus fuscis utrinque ornatâ.*

Conch. Icon., *Cardium*, pl. 5. f. 24.

Hab. Port Lincoln, South Australia; Harvey.

This shell may be chiefly distinguished from the *Cardium Donaciforme*, to which it is in many respects allied, by the contracted flexuous prolongation of the posterior portion, and by the peculiarity of one half of the shell being conspicuously grooved, whilst the other half is smooth and shining.

CARDIUM OVIPUTAMEN. *Card. testâ obliquè ovatâ, tenui, ventricosâ, radiatim tenuissimè striatâ; niveâ, opacâ, strigis lineisve rosaceo-fuscescentibus exilibus undatis concentricè nebulosâ, epidermide pallidâ margines versus indutâ; marginibus intus subtiliter crenulatis.*

Conch. Icon., *Cardium*, pl. 7. f. 36.

Hab. ——?

The general appearance of this and the following species is very like that of the *Cardium serratum*; both however are of a less oblique form, and the *Cardium oviputamen* under consideration is more ventricose.

The concentrically waved pinkish brown marks above noticed, though faintly indicated, are nevertheless characteristic, as distinguished from those of a different pattern, in the following species.

CARDIUM VITELLINUM. *Card. testâ obliquè ovatâ, tenuiculâ, radiatim striatâ; lutescente-albâ, maculis parvis numerosis rosaceo-fuscescentibus umbones versus copiosè lentiginosâ, epidermide luteâ indutâ; marginibus intus crenulatis.*

Conch. Icon., *Cardium*, pl. 7. f. 37.

Hab. ——?

This shell is of a less ventricose ovate structure than the preceding, and farther distinguished by its different tinge and style of colouring.

CARDIUM HYSTRIX. *Card. testâ subquadrato-cordatâ, posticè concavo-angulatâ, radiatim costatâ, costis ad duas et triginta, angustis, compressis, posticis squamulis brevibus, cæteris spinis squamæformibus erectis, umbones versus subinflexis, elegantissimè ornatis; costarum interstitiis striis elevatis transversim subtiliter cancellatis; albidâ, costarum interstitiis pallidè rosaceis, lineâ vividè coccineâ utrinque pictis; intus purpureo-rufescente.*

Conch. Icon., *Cardium*, pl. 8. f. 40.

Var. *β. Testâ extus omninò niveâ.*

Hab. Island of Corrigidor, Philippines (found in coarse sand at the depth of about seven fathoms); Cuming.

The exquisite delicacy and beauty of this shell is remarkable; each rib is surmounted with a close-set row of slender scale-like spines, and the interstices are minutely cancellated; they are moreover tinged with pink, and down each side of the ribs is a bright scarlet line.

There is another very beautiful small specimen of the *Cardium hystrix* in the collection of Miss Saul; and Mr. Cuming is also in possession of two of the white variety.

Cardium rubicundum. *Card. testâ oblongo-ovatâ, vix obliquâ, radiatim costatâ, costis acutè convexis, septem et triginta, quarum anticâ squamoso-crenatâ, medianâ utrinque obtuso-squamatâ, posticâ tuberculatâ; rubicundâ, umbones versus albicante rubido-fusco maculatâ; marginibus intus vividè rubris.*

Conch. Icon., *Cardium*, pl. 9. f. 44.

Hab. Zanzibar, east coast of Africa.

An extremely pretty species, remarkable for its vivid colouring and for the elaborate character of its sculpture.

Cardium assimile. *Card. testâ oblongo-ovatâ, obliquè radiatim costatâ, costis quinque et triginta, basi latis, approximatis, summitatem versus attenuatis, anticis crenatis, postremis tuberculatis, medianis lævibus, lateraliter subtilissimè impresso-serratis; pallidè purpureo-rufescente, umbones versus albicante, maculis sparsis variegatâ.*

Conch. Icon., *Cardium*, pl. 9. f. 45.

Hab. Zanzibar, east coast of Africa.

This species approximates very closely to the *Cardium subelongatum*, yet there are differences which cannot be overlooked; it has a greater number of ribs and the ribs are of another structure.

Mitra.

Mitra Norrisii. *Mitr. testâ elongato-ovatâ, crassâ, solidâ, spirâ subobtuso-acuminatâ; striis transversis et longitudinalibus, elevatis, confertis, undique subtilissimè reticulatâ aut clathratâ, transversis prominentioribus; eburneâ, epidermide corneâ, tenui, nigerrimâ; columellâ sexplicatâ.*

Conch. Icon., *Mitra*, pl. 1. f. 6.

Hab. —— ?

I have much pleasure in dedicating this fine species, so entirely distinct from any hitherto described, to Thomas Norris, Esq., a worthy and esteemed patron of the natural sciences, whose magnificent collection of Mitres has so greatly contributed to the completeness of my monograph in the work above referred to. It is impossible to convey an adequate idea of the finely reticulated sculpture of this unique shell by a lithographed figure, it being so fine that the interstices of the net-work resemble minute punctures.

Mitra Dennisoni. *Mitr. testâ fusiformi, spirâ attenuato-acuminatâ, anfractibus subconcentricè costatis, transversim sulcatis,*

sulcis angustis, costas super plus minusve obsoletis; rubido-aurantiâ, zonâ unicâ albidâ cingulatâ, cærulescente-olivaceo inter costas peculiariter tinctâ; columellâ quadriplicatâ.

Conch. Icon., *Mitra*, pl. 3. f. 14.

Hab. Puteao, province of Albay, island of Luzon, Philippines (found on mud-banks at low water); Cuming.

I dedicate this fine species with much pleasure, at the particular request of Mr. Cuming, to J. Dennison, Esq., a gentleman who has acquired considerable fame in the conchological world on account of the very choice and select character of his collection of shells.

MITRA FLOCCATA. *Mitr. testâ elongato-ovatâ, crassiusculâ, lævigatâ, punctorum seriebus undique cinctâ; lutescente-spadiceâ, albo longitudinaliter floccatâ; columellâ quadriplicatâ, labro prope basin crenato.*

Conch. Icon., *Mitra*, pl. 3. f. 16.

Hab. ——?

The specimen here figured, from the collection of Mr. Cuming, is the only one of the species I am acquainted with.

MITRA SOLIDA. *Mitr. testâ ovato-elongatâ, crassâ, solidâ, spirâ subturritâ; anfractibus numerosis, convexis, lævigatis, transversim sulcatis, sulcis angustis, striis subtilissimis prope suturas decussatis; spadiceo-fulvâ, albo sparsim et irregulariter floccatâ; columellâ quinqueplicatâ.*

Conch. Icon., *Mitra*, pl. 3. f. 18.

Hab. ——?

This interesting species may be recognized by its many convex, deep-sutured whorls; and the whorls, being longitudinally striated near the sutures, exhibit a slight cancellated appearance.

MITRA INQUINATA. *Mitr. testâ fusiformi-oblongâ, subangustâ, spirâ acuminatâ, transversim impresso-striatâ, striis puncturatis; eburneâ, rubido-fusco longitudinaliter inquinatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 5. f. 29.

Hab. ——?

Though a species of very simple character, it is quite distinct from any hitherto described.

MITRA GRACILIS. *Mitr. testâ elongatâ, spirâ valdè productâ, suturis subprofundis; anfractibus transversim subtilissimè costatis, costis angustis irregularibus, interstitiis liris obtusis minutissimis pulcherrimè decussatis; albidâ, fuscescente pallidè fasciatâ, costis fusco articulatis; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 5. f. 31.

Hab. Island of Ticao, Philippines (found in sandy mud at the depth of six fathoms); Cuming.

A most delicately sculptured shell, with somewhat the character of the *Mitra granatina* about it.

MITRA DECLIVIS. *Mitr. testâ elongato-turritâ, basi truncatâ, spirâ*

acuminatâ; anfractibus supernè angulato-declivibus, lævibus, transversim exilissimè impressis; cinereo-carneâ, epidermide nigerrimâ; columellâ quadriplicatâ.

Conch. Icon., *Mitra*, pl. 6. f. 44.

Hab. —— ?

This shell appears to be quite distinct from the *Mitra glabra*; there is no appearance of transverse brown lines, the whorls are angularly bent next the suture, and the spire is more sharply acuminated.

Mitra coccinea. *Mitr. testâ elongato-fusiformi, spirâ acuminatâ; anfractibus longitudinaliter obtuso-costatis, interstitiis transversim elevato-striatis, anfractûs ultimi costis subevanidis; vividè coccineâ aut lutescente, balteo unico albo cingulatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 7. f. 49.

Hab. Islands of Masbate and Luzon, Philippines (found on the reefs at low water); Cuming.

This species may be easily recognized by its peculiarity of colouring,—bright scarlet, encircled by a simple white belt.

Mitra tumida. *Mitr. testâ abbreviato-fusiformi, spirâ brevi, apice acuto; anfractibus tumidis, supernè plano-angulatis, longitudinaliter rudè costatis, costis ad angulum noduloso-tumidis; albidâ aut virescente, anfractibus ad angulum rufo tinctis, ultimo balteo nigro latiusculo cingulato; columellâ tri- aut quadriplicatâ; aperturæ fauce nigricante-fuscâ.*

Conch. Icon., *Mitra*, pl. 8. f. 51.

Hab. New Holland.

A few specimens of this peculiarly swollen shell were lately brought from New Holland in H.M.S. *Beagle*.

Mitra rupicola. *Mitr. testâ abbreviato-fusiformi, in medio obesiusculâ, spirâ attenuatâ; anfractibus supernè angulatis, costis latiusculis obtusis longitudinalibus et transversis decussatis, ad decussationem nodosis; carneâ, epidermide fuscâ, corneâ, crassâ, ad apicem erosâ, indutâ; columellâ triplicatâ.*

Conch. Icon., *Mitra*, pl. 8. f. 53.

Hab. St. Elena, West Columbia (dredged from a rocky bottom at the depth of fourteen fathoms); Cuming.

A new and very distinct species, at present unique in the collection of Mr. Cuming.

Mitra balteolata. *Mitr. testâ fusiformi, spirâ acuminato-turritâ; anfractibus transversim elevato-striatis, longitudinaliter costatis, costis confertis, anfractûs ultimi subevanidis; balteolis nigris duobus in medio cingulatis, supra cinereo-albidâ, lineâ unicâ fuscâ circum-ornatâ, infra aurantiâ, interdum cinereo-viridescente tinctâ, apice fusco; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 8. f. 54.

Hab. Mollucca and Philippine Islands (found at the islands of Zebu and Burias, under stones at low water); Cuming.

Allied to the *Mitra plicata*.

MITRA CHALYBEIA. *Mitr. testâ elongato-ovatâ, basin versus sulcatâ; anfractibus convexis, lævigatis, juxta suturas rudè subtilissimè crenulatis; cinereo-cærulescente alboque longitudinaliter strigatâ, transversim indistinctè fasciatâ, lineis rubido-fuscis æquidistantibus undique cingulatâ; columellâ rufo-aurantiâ, quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 9. f. 59.

Hab. —— ?

A new and very characteristic species, at present unique in the collection of H. Cuming, Esq.

MITRA FULGURITA. *Mitr. testâ cylindraceo-elongatâ, subangustâ, transversim impresso-striatâ, striis puncturatis; pallidè spadiceo-fulvâ, strigis angustis albis longitudinalibus ornatâ; columellâ quinqueplicatâ, subumbilicatâ.*

Conch. Icon., *Mitra*, pl. 9. f. 61.

Hab. —— ?

An interesting new species, marked with white lightning-like longitudinal streaks.

MITRA LIGNARIA. *Mitr. testâ oblongo-ovatâ, crassiusculâ, spirâ acuminato-productâ; anfractibus supernè depressis, longitudinaliter subobliquè obtuso-costatis, transversim subtiliter liratis, liris binis; rubido-aurantiâ, epidermide fuscâ indutâ; columellâ quadriplicatâ; aperturâ breviusculâ.*

Conch. Icon., *Mitra*, pl. 9. f. 64.

Hab. St. Elena, West Columbia (dredged from rocky ground at the depth of about fourteen fathoms); Cuming.

This shell has somewhat the character of the *Mitra rupicola* found in the same locality; the spire is however longer, the aperture consequently shorter, and the sculpture is of a different character.

MITRA LACUNOSA. *Mitr. testâ oblongo-ovatâ, spirâ breviusculâ, transversim sulcatâ, sulcis confertis, regularibus, profundè puncturatis; longitudinaliter lacunosâ, lacunis subconcentricè undatis; albicante, aurantio-fuscescente prope apicem maculatâ, anfractu ultimo fasciâ latiusculâ aurantio-fuscescente cingulato; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 10. f. 65.

Hab. —— ?

This species is characterized, independently of its peculiar style of colouring, by numerous longitudinal waved grooves or gutters having the appearance of sea-breaks.

MITRA PELLIS-SERPENTIS. *Mitr. testâ oblongo-ovatâ, crassâ, solidâ, spirâ subacuminatâ, liris plano-granulatis transversis et longitudinalibus subtilissimè decussatâ; intus extusque lutescente; columellâ quadriplicatâ; labro supernè contracto, intus striato-crenulato.*

Conch. Icon., *Mitra*, pl. 10. f. 66.

Hab. Islands of Mindoro and Bohol, Philippines (found under stones at low water); Cuming.

The granular coriaceous sculpture of this shell varies considerably in different individuals.

Mitra Cumingii. *Mitr. testâ ovatâ, utrinque attenuatâ, spirâ acuminato-turritâ; anfractibus supernè angulatis, longitudinaliter costatis, costis numerosis, ad angulum mucronatis, liris transversis angustis cancellatis, interstitiis impressis; aurantio alboque peculiariter maculato-variegatâ, maculis aurantiis nigro-lineatis; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 10. f. 67.

Hab. Matnog, province of Albay, island of Luzon (found on the reefs); Cuming.

I dedicate this species to H. Cuming, Esq., as being one of the most beautiful and characteristic of the many interesting new Mitres collected by that indefatigable naturalist during his researches amongst the Philippine Islands.

Mitra rubiginosa. *Mitr. testâ elongato-ovatâ, subfusiformi, transversim crebrisulcatâ, sulcis puncturatis; albâ, rubiginoso-tinctâ; columellâ quinqueplicatâ, plicis infimis subobscuris.*

Conch. Icon., *Mitra*, pl. 10. f. 68.

Hab. Island of Ticao, Philippines (found on the reefs at low water); Cuming.

The iron-mould spots on this shell exhibit rather a tessellated style of arrangement.

Mitra interlirata. *Mitr. testâ subelongatâ, spirâ acutâ, transversim liratâ, liris numerosis, acutiusculis, lirâ minore intercurrente, interstitiis striis longitudinalibus elevatis cancellatis; albâ, maculis perpaucis distantibus aurantio-fuscescentibus tinctâ; columellâ subumbilicatâ, quinqueplicatâ, plicis infimis subobscuris; basi leviter ascendente; aperturâ longiusculâ.*

Conch. Icon., *Mitra*, pl. 10. f. 70.

Hab. Island of Masbate, Philippines (found in sandy mud at the depth of four fathoms); Cuming.

The narrow intermediate ridge forms a prominent feature in this species.

Mitra Zebuensis. *Mitr. testâ subfusiformi, nitidâ, basin versus sulcatâ, liris planiusculis, confertis, subtilissimè cancellatâ, liris longitudinalibus fortioribus; albidâ, anfractuum parte superiori maculis grandibus perpaucis castaneo-fuscis ornatâ; columellâ quinqueplicatâ.*

Conch. Icon., *Mitra*, pl. 10. f. 73.

Hab. Island of Zebu, Philippines (found on the reefs at low water); Cuming.

The brown spots being situated around the upper part of the whorls give an irregular tessellated character to the spire.

Mitra infecta. *Mitr. testâ ovatâ, basi recurvâ, spirâ acuminatâ; anfractibus striis impressis cinctis, ultimo tumidiusculo; pallidè flavâ, maculis castaneo-fuscis pictâ; columellâ obsoletè sexplicatâ.*

Conch. Icon., *Mitra*, pl. 11. f. 75.

Hab. Island of Annaa, Pacific Ocean (found on the reefs at low water); Cuming.

A solid, rather ventricose shell, with a peculiar twist at the base.

MITRA ACUPICTA. *Mitr. testâ acuminato-turritâ, anfractibus convexis, numerosis, longitudinaliter crebrilirutis, transversim impresso-striatis; albidâ, apice basique rosaceis, liris punctis cæruleis et fuscis profusè variegatis; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 11. f. 76.

Hab. Zanzibar, east coast of Africa.

The surface of this beautiful shell has the appearance of being curiously embroidered with small coloured beads.

MITRA OBESA. *Mitr. testâ abbreviato-ovatâ, solidâ, supernè valdè obesâ, spirâ brevissimâ, sulcis spiralibus et radiantibus decussatim impressâ; anfractu ultimo basin versus sulcato, supra lævigato; albâ, lineis rubido-fuscis remotiusculis cingulatâ, epidermide vividè viridescente omninò indutâ; columellâ sexplicatâ.*

Conch. Icon., *Mitra*, pl. 12. f. 87.

Hab. ——?

I have no information concerning the locality of this extremely interesting species, of which there is an example in the collection of Thomas Norris, Esq.

MITRA USTULATA. *Mitr. testâ elongatâ, spirâ angusto-acuminatâ, transversim subtilissimè striatâ; albidâ, lineis capillaribus fuscescentibus remotiusculis cingulatâ, maculis grandibus ustulato-fuscis nebulosâ; columellâ sexplicatâ.*

Conch. Icon., *Mitra*, pl. 13. f. 89.

Hab. ——?

This species is at present unique in the collection of Thomas Norris, Esq.

MITRA CREBRILIRATA. *Mitr. testâ acuminato-turritâ, longitudinaliter subobliquè liratâ, liris angustis, crebris, interstitiis impresso-cancellatis; olivaceâ vel olivaceo-fuscâ, lineâ unicâ pallidâ infra suturas plerumque cinctâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 13. f. 92.

Mitra rosea, Kiener (not of Duclos).

Hab. Ceylon.

Figured by M. Kiener for the *Mitra rosea* of Duclos, which is the *Voluta ignea*, Wood, *Mitra subulata*, Lamarck.

MITRA POLITA. *Mitr. testâ acuminato-turritâ, lævigatâ, politâ, ad basin sulcatâ, prope apicem subtilissimè plicato-costatâ; fuscâ vel cinereo-fuscâ, lineâ unicâ pallidè flavicante cingulatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 13. f. 94.

Hab. Islands of Zebu and Luzon, Philippines (found in mud on the shore at low water, and at the depth of six or seven fathoms); Cuming.

At the desire of one or two gentlemen whose opinions in conchological matters cannot be lightly esteemed, I have described the *Mitræ polita* and *crebrilirata* as new and distinct species; it must be admitted, however, that I have felt strongly inclined to regard the former as the Eastern analogue of the *Mitra ebenus, smooth variety*, of the Mediterranean, and the latter as the analogue of the *Mitra ebenus, ribbed variety*, of the same region.

MITRA VARIABILIS. *Mitr. testâ oblongo-ovatâ, medio subobesâ, lævigatâ, transversim subtilissimè punctato-striatâ; lutescente-olivaceâ, lineis fuscis capillaribus remotiusculis cinctâ, anfractu ultimo zonâ unicâ cærulescente-albâ medio ornato; columellâ quadriplicatâ; aperturæ fauce olivaceo-fuscâ.*

Conch. Icon., *Mitra*, pl. 13. f. 95.

Hab. Torres Strait (found under stones at low water); Dring.

The variable character of this species consists in its being sometimes flaked or indistinctly streaked with bluish white.

MITRA CYLINDRACEA. *Mitr. testâ cylindraceo-ovatâ, utrinque attenuatâ, sulcis capillaribus puncturatis, supernè remotiusculis, cingulatâ; lutescente-olivaceâ, maculis albis irregularibus infra suturas ornatâ, anfractu ultimo in medio maculato-fasciato; columellâ quadriplicatâ; aperturæ fauce fuscescente.*

Conch. Icon., *Mitra*, pl. 13. f. 97.

Hab. ——?

The painting of this shell is not much unlike that of the *Mitra variabilis*.

MITRA PULLATA. *Mitr. testâ fusiformi, spirâ acuminato-turritâ; anfractibus supernè subangulatis, transversim impresso-striatis, longitudinaliter plicato-costatis, costis supernè obtuso-mucronatis; aurantio-lutescente, lineâ subtilissimâ fuscâ cingulatâ, anfractu ultimo fasciâ latâ nigricante-fuscâ ornatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 14. f. 102.

Hab. Island of Ticao, Philippines (found on the reefs); Cuming.

The *Mitra pullata* is exactly intermediate between the *Mitræ balteolata* and *plicata*, differing sufficiently from both to constitute a distinct species.

MITRA OLEACEA. *Mitr. testâ oblongo-ovatâ, Bucciniformi, spirâ brevi; anfractibus convexis, lævigatis, epidermide corneâ olivaceo-fuscâ nitidâ indutâ; columellâ quadriplicatâ, basi truncatâ; labro in medio leviter contracto.*

Conch. Icon., *Mitra*, pl. 14. f. 105.

Hab. ——?

There is a peculiarity in the form of this species which distinguishes it from any other of the Melania-like group.

MITRA OBELISCUS. *Mitr. testâ acuminato-turritâ, spirâ acutâ; anfractibus longitudinaliter costatis, costis angustis, crebris, interstitiis impresso-cancellatis; lutescente-fuscâ, lineâ unicâ albâ cingulatâ; columellâ quadriplicatâ, basi contorto-recurvâ.*

Conch. Icon., *Mitra*, pl. 15. f. 107.

Hab. Bais, island of Negros, Philippines (found among coarse sand and stones at the depth of seven fathoms); Cuming.

The whorls are numerous in this species and rather contiguous.

MITRA FUNEREA. *Mitr. testâ abbreviato-fusiformi, spirâ acutâ; anfractibus rotundis, liris transversis et longitudinalibus creberrimè decussatis, anfractu ultimo lævigato, ad basin sulcato; fuscâ, balteo unico angusto flavicante cingulato; columellâ triplicatâ, basi recurvâ.*

Conch. Icon., *Mitra*, pl. 15. f. 108.

Hab. Pasacao, South Camarinos, island of Luzon, Philippines (found in sandy mud at the depth of six fathoms); Cuming.

The whorls of the spire have a peculiar rounded decussated appearance, with the yellow belt just falling in the sutural depression.

MITRA VARIEGATA. *Mitr. testâ suboblongo-ovatâ, transversim regulariter sulcatâ, anfractuum limbo superiori subobsoletè crenulato; albidâ, olivaceo-spadiceo nebulatâ et variegatâ; columellâ quinqueplicatâ.*

Conch. Icon., *Mitra*, pl. 15. f. 111.

Hab. Islands of Ticao and Mindanao, Philippines (found on the reefs at low water); Cuming.

The whorls of this shell are very slightly angulated, and the clouded variegated painting only appears below the angle.

MITRA CÆRULEA. *Mitr. testâ subfusiformi-oblongâ, transversim regulariter sulcatâ, sulcis angustis, puncturatis; cærulescente-albicante, anfractu ultimo, fasciâ latissimâ cærulea, marginibus albimaculatis, cincto; basi et aperturæ fauce aurantio-fuscescentibus; columellâ quinqueplicatâ, umbilicatâ.*

Conch. Icon., *Mitra*, pl. 15. f. 113.

Hab. Islands of Ticao and Capul, Philippines (found on the reefs at low water); Cuming.

The white flake-like spots which appear on the upper edge of the blue band of the last whorl are just visible on the whorls of the spire above the sutures.

MITRA FULGETRUM. *Mitr. testâ subfusiformi, solidiusculâ; anfractibus supernè leviter angulatis, transversim impresso-sulcatis, sulcis angustis, subtilissimè puncturatis; rubido-castaneâ, strigis albis prominentibus undatis longitudinaliter ornatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 15. f. 115.

Hab. Island of Burias, Philippines (found under stones at low water); Cuming.

The white longitudinal waved streaks are very strikingly depicted.

MITRA PRETIOSA. *Mitr. testâ fusiformi, spirâ acuminato-turritâ, transversim subtiliter costatâ, longitudinaliter confertim impresso-sulcatâ; suturis subprofundis; albidâ, rubido-fusco balteatâ et punctatâ.*

Conch. Icon., *Mitra*, pl. 15. f. 116.

Hab. ——?

In painting this shell reminds one of the *Mitra crenifera*; the sculpture is however of a quite different pattern.

MITRA GRUNERI. *Mitr. testâ abbreviato-fusiformi, subharpæformi, spirâ brevi, turritâ, acutâ; longitudinaliter acutè costatâ, costis supernè mucronato-tuberculatis, anfractuum parte superiori plano-angulatâ; olivaceo-viridescente, lineis tribus rubido-fuscis subdistantibus inter costas seriatim pictâ; columellâ quinqueplicatâ.*

Conch. Icon., *Mitra*, pl. 16. f. 119.

Hab. Island of Masbate, Philippines (found on the reefs at low water); Cuming.

It is somewhat a matter of surprise that this very characteristic species, which is not uncommon, has never been described. I dedicate it with much pleasure to E. L. G. Gruner, Esq., of Bremen.

MITRA CALIGINOSA. *Mitr. testâ ovato-fusiformi, solidiusculâ, spirâ breviusculâ; anfractibus convexis, lævigatis, transversim impresso-striatis; albâ, epidermide corneâ nigricante undique indutâ; columellâ quinqueplicatâ.*

Conch. Icon., *Mitra*, pl. 16. f. 121.

Hab. ——?

I have no locality for this species, which is a rather solid white shell, closely enveloped by a dark blackish epidermis.

MITRA FUNICULATA. *Mitr. testâ abbreviato-fusiformi, spirâ breviusculâ; anfractibus supernè subangulatis, liris angustis elevatis subdistantibus undique funiculatis, interstitiis striis subtilissimè cancellatis; roseo-albicante, epidermide fuscescente indutâ, liris fuscescente-punctatis; columellâ quadriplicatâ, plicis infimis subobscuris; aperturâ longiusculâ.*

Conch. Icon., *Mitra*, pl. 16. f. 122.

Hab. Isle of Plata, West Columbia (found in coral sand at the depth of fourteen fathoms); Cuming.

A species intermediate between the *Mitræ circulata* and *sulcata*.

MITRA CONCENTRICA. *Mitr. testâ acuminato-ovatâ, subfusiformi, longitudinaliter concentricè costatâ, costis supernè mucronatis, interstitiis impresso-striatis; albidâ, ferrugineo-fusco hinc et hinc maculato-tinctâ, ad basinque fasciatâ; columellâ quinqueplicatâ; aperturæ fauce striatâ.*

Conch. Icon., *Mitra*, pl. 17. f. 128.

Hab. Isle of Annaa, Pacific Ocean (found on the reefs at low water); Cuming.

This species is very closely allied to the *Mitra mucronata*, from which it only differs in the concentric disposition of the ribs, and in their being denuded of tubercles.

MITRA SENEGALENSIS. *Mitr. testâ fusiformi, spirâ acutè acuminatâ; anfractibus lævigatis, supernè tumidiusculis; livido-olivaceâ,*

flammulis perpaucis albidis longitudinaliter ornatâ; columellâ triplicatâ; aperturæ fauce livido-castaneâ.

Conch. Icon., *Mitra*, pl. 17. f. 129.

Hab. Senegal; Petit.

A very characteristic species, quite distinct from any hitherto described.

MITRA IMPRESSA. *Mitr. testâ elongatâ, sub-Terebræformi, longitudinaliter subtiliter costellatâ, costellis lævigatis, interstitiis transversim peculiariter impresso-sulcatis; fuscescente-rubidâ, macularum serie unicâ subindistinctâ cingulatâ, costellis albidis; columellâ quinqueplicatâ, basi leviter recurvâ.*

Conch. Icon., *Mitra*, pl. 17. f. 130.

Hab. ——?

A truly interesting species, of which this is the only specimen I have seen. It is of a deep brick-red colour, covered with close whitish longitudinal ribs, each whorl being encircled round the middle with an indistinct row of spots of a darker red.

MITRA SOLIDULA. *Mitr. testâ oblongo-ovatâ, crassâ, solidâ, spirâ brevi, obtusâ, prope apicem subtilissimè concentricè sulcatâ; anfractibus convexis, lævigatis, transversim exiliter striatis; olivaceo-fuscâ, plicis albis; columellâ concavo-expansâ, callositate albicante supernè armatâ, quadriplicatâ; labro peculiariter planulato, supernè canaliculato, intus crenulato.*

Conch. Icon., *Mitra*, pl. 18. f. 133.

Hab. Island of Corrigidor, bay of Manila (found under stones at low water); Cuming.

This is a species of an interesting group of shells, of which the *Mitra Ziervogeliana* forms the type, distinguished by their solid structure, the prominent development of the columellar plaits, the presence of a callosity, and the peculiar flattened surface of the outer lip.

MITRA LIVIDA. *Mitr. testâ subquadrato-ovatâ, spirâ breviusculâ, acutâ; anfractibus lævigatis, longitudinaliter costatis, costis tumidis, infernè evanidis; livido-olivaceâ, balteo unico angusto cingulatâ, costis olivaceo-lutescentibus; columellâ quadriplicatâ; labro leviter sinuato; aperturæ fauce pallidè lividâ, striatâ.*

Conch. Icon., *Mitra*, pl. 18. f. 134.

Hab. ——?

I am much indebted to M. Deshayes for the loan of this very interesting species, of which I know no other specimens.

MITRA CHOAVA. *Mitr. testâ ovatâ, solidâ, glabrâ, spirâ brevi; nigricante-fuscâ, plicis albis; columellâ concavâ, callositate armatâ, quadriplicatâ; labro peculiariter planulato, supernè canaliculato, intus crenulato.*

Conch. Icon., *Mitra*, pl. 18. f. 135.

Hab. Isle of Johanna, Mozambique Channel; Hennah.

The characters of the *Mitra choava* are very similar to those of the

Mitræ solidula and *anthracina*; each species may, however, be fully distinguished by its difference of form and other minor peculiarities.

MITRA ANTHRACINA. *Mitr. testâ acuminato-ovatâ, spirâ acutâ, glaberrimâ; anthracinâ; columellâ subconcavâ, quadriplicatâ, callositate parvâ, supernè armatâ; labro peculiariter planulato, supernè leviter canaliculato, intus crenulato.*

Conch. Icon., *Mitra*, pl. 18. f. 137.

Hab. Island of Ticao, Philippines (found on the reefs at low water); Cuming.

Very closely allied to the *Mitra solidula*, but of a more elongated form, with a smooth shining surface.

MITRA ROBUSTA. *Mitr. testâ ovatâ, crassâ, spirâ brevi, subobtusâ; anfractibus tumidiusculis, transversim sulcatis, basin versus præcipuè, longitudinaliter concentricè plicato-rugosis; rubido-fuscâ; columellâ concavâ, quadriplicatâ, callositate armatâ; labro incrassato, planulato, supernè canaliculato, intus crenulato.*

Conch. Icon., *Mitra*, pl. 18. f. 140.

Hab. ——?

This species partakes of the characters of the *Mitræ Woldemarii* and *Ziervogeliana* in about equal proportions.

MITRA PULCHELLA. *Mitr. testâ acuminato-ovatâ, spirâ subturritâ, longitudinaliter costellatâ, costellis angustis, planis, confertiusculis, basin versus subgranosis, transversim impresso-striatis; aurantio-lutescente, fasciâ purpurascente inter costas ornatâ; columellâ quinqueplicatâ.*

Conch. Icon., *Mitra*, pl. 19. f. 142.

Hab. Island of Barbadoes, West Indies; Humphreys.

The painting of this shell has a very pretty appearance.

MITRA HISTRIO. *Mitr. testâ subovatâ, spirâ breviusculâ, longitudinaliter costatâ, costis subobtusis, basin versus granulosis, interstitiis transversim striatis; vividè coccineâ, suturis nigris, nigro interdum nebulosâ, balteo albo angusto, balteoque nigro, cingulatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 19. f. 144.

Hab. ——?

A gaily-coloured scarlet shell more or less banded and bedaubed with black.

MITRA RUBRITINCTA. *Mitr. testâ oblongo-ovatâ, crassiusculâ, acutè acuminatâ, transversim undique sulcatâ; albâ, maculis grandibus aurantio-rubris supra infraque seriatim nebuloso-tinctâ; columellâ quadriplicatâ; labro crenulato.*

Conch. Icon., *Mitra*, pl. 19. f. 147.

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

The surface of this shell is characteristically grooved throughout.

Mitra speciosa. *Mitr. testâ obeso-ovatâ, utrinque attenuatâ, transversim impresso-striatâ, longitudinaliter costellatâ, costellis planiusculis, basin versus granulosis; rosaceo-albicante, costis fasciâ latissimâ fuscâ aut purpurascente-fuscâ tinctis, apice rosaceo; columellâ quadriplicatâ, plicâ superâ valdè maximâ.*

Conch. Icon., *Mitra*, pl. 19. f. 148.

Hab. Island of Capul, Philippines (found on the reefs); Cuming.

This shell, at a glance, has very much the appearance of the *Mitra pulchella*, but upon examination it will be observed that the dark band which encircles the one is painted on the ribs, whilst in the other it appears in the interstices.

Mitra cavea. *Mitr. testâ ovatâ, glabrâ, longitudinaliter costellatâ, costellis obtusis; cinereo-nigricante, costis macularum albicantium serie unicâ ornatis; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 19. f. 149.

Hab. ——?

The specimen here described, from the collection of Thomas Norris, Esq., is the only example of the species I have seen.

Mitra telescopium. *Mitr. testâ ovato-fusiformi, lævigatâ, nitidâ, transversim punctato-striatâ; anfractibus contiguis, ultimo basin versus subcontracto, suturis conspicuis, profundis; cærulescente-albâ, anfractu ultimo infernè rufo-castaneo, spiræ apice nigricante; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 20. f. 80.

Hab. Island of Ticao, Philippines (found on the reefs at low water); Cuming.

This new and very characteristic shell exhibits the same peculiarly contracted structure as the *Mitra abbatis*, and the whorls have the same contiguous telescope-like appearance.

Mitra ignobilis. *Mitr. testâ subobeso-fusiformi, basi leviter recurvâ, spirâ acuminatâ, transversim undique sulcatâ, sulcis confertis, subsuperficiariis; albicante, maculis grandibus ustulato-fuscis seriatim nebulosâ; columellâ sexplicatâ, plicis infimis, subobscuris.*

Conch. Icon., *Mitra*, pl. 20. f. 152.

Hab. Island of Ticao, Philippines (found on the reefs at low water); Cuming.

In order not to confound this species with one of very similar appearance, the *Mitra ustulata*, it is important to notice that the surface of the former is grooved throughout, whilst that of the latter is very finely striated and marked with rather distant brown hair lines.

Mitra decurtata. *Mitr. testâ abbreviato-ovatâ, subventricosâ, crassâ, solidâ, spirâ brevi, apicem versus acutâ; lævigatâ, infernè sulcatâ; nigerrimo-fuscâ, punctis albidis perpaucis prope basin, lineâque albâ conspicuâ infra suturas cinctâ; columellâ quadriplicatâ; aperturâ amplâ; labro supernè sinuato et contracto.*

Conch. Icon., *Mitra*, pl. 20. f. 154.

Hab. ——?

A fine new species, of which I have seen several examples in an excellent state of preservation.

MITRA BADIA. *Mitr. testâ acuminato-ovatâ, transversim subtilissimè striatâ; undique badiâ; columellâ quadriplicatâ, plicâ infimâ subobscurâ; aperturâ breviusculâ.*

Conch. Icon., *Mitra*, pl. 20. f. 157.

Hab. ——?

This is rather an unsatisfactory species, though certainly not referable to any hitherto described.

MITRA CADAVEROSA. *Mitr. testâ ovato-turritâ, spirâ acutâ; anfractibus transversim impresso-striatis, supra et infra plus minusve angulatis, longitudinaliter costatis, costis ad angulos exasperato-mucronatis; albâ, balteo angusto fuscescente inter costas cingulatâ; columellâ quadriplicatâ; aperturæ fauce striatâ.*

Conch. Icon., *Mitra*, pl. 21. f. 160.

Hab. Philippine and Lord Hood's Islands (found under stones at low water); Cuming.

However closely this shell may approximate to the *Mitra exasperata*, it is uniformly white, and always exhibits a strong peculiarity in the band which appears in the interstices and not upon the summit of the ribs.

MITRA CARNICOLOR. *Mitr. testâ subabbreviato-fusiformi, liris parvis subobtusis, alternis majoribus, undique cingulatâ, liris striis impressis longitudinaliter incisis; extus pallidè carneolo-fuscescente, intus rosaceâ; columellâ quinqueplicatâ, plicâ infimâ subobscurâ.*

Conch. Icon., *Mitra*, pl. 21. f. 164.

Hab. ——?

A neatly sculptured delicately tinted shell, quite distinct from any hitherto-described species.

MITRA HINDSII. *Mitr. testâ lanceolato-fusiformi, spirâ acutissimè turritâ; anfractibus supernè angulatis, infra angulum leviter contractis, transversim carinato-costatis, costâ super angulum prominentiore, interstitiis concavis, subtilissimè elevato-striatis; lutescente, costis spadiceis, epidermide tenui indutâ; columellâ quadriplicatâ, plicis duabus inferioribus ferè obsoletis; aperturæ fauce subrosaceâ.*

Conch. Icon., *Mitra*, pl. 21. f. 165.

Hab. Gulf of Nicoya (found in mud at the depth of about seventeen fathoms); Hinds.

This beautiful species, which I have the pleasure of dedicating to a most zealous labourer in the field of conchological research, may be recognised by its graceful form and by the keel-like elevation of the ribs.

MITRA LATRUNCULARIA. *Mitr. testâ abbreviato-fusiformi, tenuiculâ, basi truncatâ; transversim undique sulcatâ, sulcis angustis, crebris, punctatis; albidâ, rubido-castaneo tessellatâ et fasciatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 21. f. 166.
Hab. ——?
A slight thin shell closely grooved throughout, the grooves being minutely punctured and the intermediate ridges prettily tessellated with white and reddish brown.

MITRA DESHAYESII. *Mitr. testâ subfusiformi, spirâ turritâ, anfractibus supernè angulatis, ad angulum nodosis, infra lævibus; livido-viridescente, nodis aurantio-coccineis, strigis in medio interruptis e nodis descendentibus; columellâ quadriplicatâ.*
Conch. Icon., *Mitra*, pl. 22. f. 170.
Hab. ——?
I have two examples of this extremely interesting species from the collection of M. Deshayes, and two from that of Thomas Norris, Esq.

MITRA PRUINOSA. *Mitr. testâ ovato-fusiformi, spirâ acuminatâ, lineis impressis longitudinalibus et transversis decussatim exsculptis; spadiceo-fuscescente, strigis niveis brevibus angustis e suturis subirregulariter descendentibus; columellâ quadriplicatâ.*
Conch. Icon., *Mitra*, pl. 22. f. 171.
Hab. ——?
This is another peculiarly characteristic species for which I have no locality.

MITRA SOLANDRI. *Mitr. testâ ovato-oblongâ, crassiusculâ, spirâ elevatâ, apice subobtuso; undique sulcatâ, sulcis latiusculis, confertis, peculiariter subtilissimè corrugatis, liris intermediis angustis, carinæformibus; pallidè fusco alboque fasciatâ; columellâ quadriplicatâ.*
Hab. ——?
An ancient species described many years since in manuscript by Dr. Solander under a name that is occupied.

MITRA FLAMMIGERA. *Mitr. testâ fusiformi, spirâ acutè acuminatâ, suturis impressis; anfractibus supernè tumidiusculis, transversim undique liratis, liris alternis majoribus, interstitiis lineis impressis decussatis; albidâ, flammis latiusculis spadiceis longitudinalibus pictâ; columellâ quinqueplicatâ.*
Conch. Icon., *Mitra*, pl. 22. f. 173.
Hab. ——?
The sculpture of this attractive species approaches very nearly to that of the *Mitra interlirata*, from which it differs more materially in form.

MITRA LORICATA. *Mitr. testâ fusiformi, utrinque attenuatâ, spiræ anfractibus plano-convexis; fortiter noduloso-granosis, granis regularibus, seriatim creberrimè digestis; albidâ, maculis perpaucis aurantio-fuscescentibus hic illic fasciatim tinctâ; columellâ quinqueplicatâ.*
Conch. Icon., *Mitra*, pl. 22. f. 174.
Hab. ——?
The entire surface of this species, from the collection of W. Metcalfe, Esq., is very strongly closely granulated.

Mitra maculosa. *Mitr. testâ oblongo-ovatâ, spirâ breviusculâ, suturis impressis; anfractibus transversim punctato-striatis, parte superiori lutescente-albâ fuscescente partim tinctâ, infra castaneo-fuscâ albipunctatâ; columellâ quinqueplicatâ; labro intus supernè sinuato.*

Conch. Icon., *Mitra*, pl. 22. f. 175.

Hab. Australia and island of Annaa, Pacific Ocean (found at the latter place on the reefs); Cuming.

This species may be recognised by its peculiarity of colouring, the upper portion of the whorls being nearly white, stained just here and there with brown, the lower chestnut-brown speckled with white dots.

Mitra proscissa. *Mitr. testâ oblongo-ovatâ, utrinque attenuatâ, spiræ anfractibus contiguis, suturis impressis; transversim undiquè liratis, liris latiusculis, obtuso-convexis, confertis, interstitiis angustis, subtilissimè cancellatis; albidâ, maculis aurantio-fuscescentibus bifasciatim tinctâ.*

Conch. Icon., *Mitra*, pl. 22. f. 177.

Hab. ——?

It may be as well to caution the reader against confounding this shell with the *Mitra ferruginea*, a name which I have seen erroneously attached to it in one or two important collections.

Mitra rotundilirata. *Mitr. testâ oblongo-ovatâ, utrinque attenuatâ, transversim undique liratâ, liris rotundis, confertis, interstitiis angustis, striis elevatis decussatis; aurantio-castaneâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 23. f. 178.

Hab. ——?

The ridges of this shell are peculiarly rounded, and impart a kind of crimped appearance to the lip.

Mitra Ruppellii. *Mitr. testâ fusiformi-ovatâ, basim versus leviter contractâ, transversim undique liratâ, liris subrotundis, interstitiis lævibus; castaneo-fuscâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 23. f. 179.

Hab. Red Sea; Rüppell.

An interesting species, in which the ridges are almost as rounded as in the former; they are however wider apart, and the interstices are not crossed with raised striæ.

Mitra Ticaonica. *Mitr. testâ ovatâ, crassâ, solidâ, spirâ brevi, suturis profundis; anfractibus transversim undique exiliter sulcatis, juxta suturas læviusculis; spadiceo-brunneâ, aperturæ fauce vividè purpureo-fuscâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 23. f. 181.

Hab. Island of Ticao, Philippines (found on the reefs at low water); Cuming.

A very characteristic stout solid species, with a dark purple-brown richly-enamelled mouth.

MITRA PLANILIRATA. *Mitr. testâ oblongo-ovatâ, spirâ subacuminatâ, transversim undique sulcatâ, liris intermediis peculiariter planulatis; fuscâ; columellâ quadriplicatâ.*
Conch. Icon., *Mitra*, pl. 23. f. 184.
Hab. —— ?
This species may be easily distinguished from those which it so nearly resembles in general appearance by its peculiarly flattened ridges.

MITRA PEREGRA. *Mitr. testâ oblongo-ovatâ, spirâ suboblusâ; transversim fortiter sulcatâ, sulcis pertusis; rubidâ, liris transversis profusè albimaculatis; columellâ quinqueplicatâ.*
Conch. Icon., *Mitra*, pl. 24. f. 186.
Hab. Island of Masbate, Philippines (found under stones at low water); Cuming.
This species, which appears to be figured by Kiener for the *Mitra nucleola*, may be connected by a series of intermediate varieties with the *Mitra cucumerina*.

MITRA ASTRICTA. *Mitr. testâ oblongo-ovatâ, basi truncatâ; anfractibus lævibus, cinereo-fuscis, fasciâ albidâ infra suturam, lineisque fuscescentibus parallelis crebris undique cinctis; columellâ quadriplicatâ; labro subeffuso.*
Conch. Icon., *Mitra*, pl. 24. f. 188.
Hab. —— ?
The entire surface of this shell is enlaced with fine brown lines.

MITRA SINENSIS. *Mitr. testâ cylindraceo-oblongâ, crassâ, spirâ brevissimâ, acutâ; transversim crebriliratâ, liris angustis, prominentibus, granosis, lineisque longitudinalibus impressis exilibus decussatâ; fuscâ; columellâ decemplicatâ, callositate conspicuâ supernè armatâ; intus fuscâ, nitidè encausticâ.*
Conch. Icon., *Mitra*, pl. 24. f. 190 *b*.
Mitra crenulata (pars), Kiener, Icon., f. 105 *a*.
Hab. Coast of China.
This fine species, though one of great rarity, has been probably confounded hitherto with the *Mitra crenulata*, an error into which I had myself fallen, until the arrival of a magnificent specimen most liberally forwarded to me for inspection by M. Gruner of Bremen, and which has been invaluable as the means of establishing a new and very important species. It differs entirely from the *Mitra crenulata*, independent of colouring and size, in the character of its sculpture, whilst the columella has an additional number of plaits and is armed with a remarkable callosity at the summit.

MITRA GLANS. *Mitr. testâ ovatâ, subcylindraceâ, supernè obesâ, crassâ, solidâ, spirâ brevissimâ, partim occultâ; longitudinaliter obtuso-costellatâ, costellis fortiter granulosis; vividè aurantio-fuscâ, granulis albidis, intus albâ; columellâ octoplicatâ.*
Conch. Icon., *Mitra*, pl. 24. f. 191.
Hab. Island of Masbate, Philippines (found on the reefs at low water); Cuming.

Characterized by its very distinctly granulated sculpture, and by its short obese form.

MITRA UNDULOSA. *Mitr. testâ cylindraceo-ovatâ, crassâ, spirâ brevissimâ; læviusculâ, lineis exiliter impressis undique cinctâ; albâ, lineis fuscis cingulatâ, undulisque fuscis angustis longitudinalibus variegatâ; columellâ octoplicatâ.*

Conch. Icon., *Mitra*, pl. 24. f. 192.

Hab. Island of Ticao, Philippines (found among coral sand on the reefs at low water); Cuming.

The lineated character of the painting is so different from that of the *M. crenulata*, that I cannot refrain from separating it as a distinct species.

MITRA NANUS. *Mitr. testâ abbreviato-ovatâ, spirâ brevi, acutâ, transversim undique sulcatâ, sulcis basin versus profundioribus; rubido-fuscâ, balteo angusto flavicante, peculiariter albimaculato, cinctâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 24. f. 193.

Hab. ——?

Distinguished by its narrow yellow belt, which has a peculiar white knotted appearance.

MITRA PORPHYRITICA. *Mitr. testâ obeso-ovatâ, basi subgranosâ, spirâ acutè turritâ; longitudinaliter plicato-costatâ, costis angulatis; anfractibus supra albicantibus, infra olivaceo-cinereis, albizonulatis; columellâ quadriplicatâ; aperturâ brevi.*

Conch. Icon., *Mitra*, pl. 25. f. 195.

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

A short stout species, with a sharp angularly turreted spire, encircled with bands of a peculiarly livid olive-ash-colour.

MITRA VIRGATA. *Mitr. testâ oblongo-ovatâ, spirâ brevi, apice acuminatâ; lævigatâ, nitidâ, basin versus impresso-striatâ; nigerrimo-fuscâ, virgis albis longitudinalibus flexuosis, interdum medio interruptis, ornatâ, anfractu ultimo zonulâ pallidâ angustâ nonnunquam supernè cingulato; columellâ quadriplicatâ; labro medio contracto, supernè sinuato.*

Conch. Icon., *Mitra*, pl. 25. f. 197 *a* and *b*.

Mitra retusa, var., Gray; Zool. Beechey's Voyage.

Hab. Island of Luzon, Philippines (found under stones and in crevices of rocks); Cuming.

This species is exactly intermediate between the *Mitræ paupercula* and *retusa*.

MITRA CHRYSALIS. *Mitr. testâ ovatâ, spirâ brevi, subretusâ; transversim undique sulcatâ; fuscâ aut fuscescente, anfractu ultimo maculis interruptis medio uniseriatim cincto; columellâ quadriplicatâ; labro medio contracto.*

Conch. Icon., *Mitra*, pl. 25. f. 200.

Hab. ——?

May be distinguished from the young of the *Mitra cucumerina* by its peculiarly contracted lip.

MITRA CONCINNA. *Mitr. testâ ovatâ, basi contractâ, spirâ turritâ; anfractibus supernè angulatis, longitudinaliter costatis, costis angulum super granoso-mucronatis, liris parvis obtusis transversim decussatis, liris transversis vividè luteis, interstitiis nigricante-castaneis; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 26. f. 203.

Hab. Island of Masbate, Philippines (found under stones at low water); Cuming.

A bright prettily painted species, very closely approximating in form and sculpture to the *Mitra crocata*.

MITRA VENUSTULA. *Mitr. testâ ovatâ, spirâ acuminatâ, anfractibus convexis, longitudinaliter granoso-costatis, vividè luteis, zonulis angustis nigerrimo-castaneis duabus tribusve cingulatis; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 26. f. 204.

Hab. Island of Masbate, Philippines (found under stones at low water); Cuming.

The whorls of this species have not the same angular structure as those of the preceding, nor are the ribs granosely pointed at the upper extremity.

MITRA FLAVESCENS. *Mitr. testâ ovatâ, spirâ subacuminatâ, anfractibus longitudinaliter costatis, costis supernè subnodosis, liris granosis decussatis; flavescente, zonâ fuscâ medio albilineatâ cinctâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 26. f. 207.

Hab. Island of Masbate, Philippines (found under stones at low water); Cuming.

Allied to the preceding species by its style of sculpture, but differng in form and pattern of colouring.

MITRA VARIATA. *Mitr. testâ ovatâ, basi contractâ, spirâ turritâ; anfractibus supernè angulatis, longitudinaliter costatis, costis latiusculis, obtuso-prominentibus, interstitiis transversim impresso-striatis; luteâ, ustulato-fusco variè fasciatâ et lineolatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 26. f. 209.

Hab. ——?

This shell exhibits a beautiful variation of colour; the ribs are not crossed with granose ridges, like those of the *Mitræ concinna, crocata,* and *flavescens,* but have the interstices engraved with fine impressed striæ.

MITRA AFFINIS. *Mitr. testâ ovatâ, spirâ acuminato-turritâ; anfractibus longitudinaliter obtuso-costatis, costis liris planiusculis transversis decussatis; aurantio-rubrâ, fasciâ luteo-albicante cingulatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 26. f. 211.

Hab. Island of Masbate, Philippines (found under stones at low water); Cuming.

The specific differences of this shell are not of an unimportant character; the cross ridges are somewhat flattened, the white band is broader, and the granules are of the same uniform colour as the ground.

MITRA TURBEN. *Mitr. testâ oblongo-ovatâ, basi attenuatâ, spirâ obtuso-rotundatâ, suturis subprofundis; longitudinaliter creberrimè plicato-costellatis, costellis interstitiisque transversim impresso-striatis; aurantio-lutescente; columellâ quinqueplicatâ, plicis prominentibus; aperturâ intus striatâ.*

Conch. Icon., *Mitra*, pl. 27. f. 213.

Hab. Philippine Islands (found under stones at low water); Cuming.

It is a curious fact that the whole of the specimens of this species collected by Mr. Cuming have the lower portion of the lip broken away.

MITRA CITRINA. *Mitr. testâ ovato-conicâ, supernè rotundatâ, solidiusculâ, spirâ brevi, apicem versus subtiliter sulcatâ, apice elato, acuto; lævigatâ, aurantio-citrinâ, livido-castaneo variè tinctâ; columellâ quinqueplicatâ; aperturâ longissimâ.*

Conch. Icon., *Mitra*, pl. 27. f. 215 *a* and *b*.

Hab. —— ?

A new and very remarkable Cone-like species, in the collection of Thomas Lombe Taylor, Esq., of Starston, Norfolk.

December 24, 1844.

No business was transacted.

INDEX.

The names of New Species and of Species newly characterized are printed in Roman Characters: those of Species previously known, but respecting which novel information is given, are printed in *Italics*: those of Species respecting which Anatomical Observations are made, are printed in CAPITALS.

Page

Abrocoma 156
Acanthylis bicolor, Gray 99
Ægotheles leucogaster, *Gould* 106
Alauda arvensis, Linn. 66
—— *brachydactyla*, Temm. 66
—— *cristata?* Linn. 66
Alcedo ispida, Linn. 64
Amadina Gouldiæ, *Gould* 5
Amphidesma 159
Amphidesma carnicolor, *Hanley* ... 162
—— scabrum, *Hanley* 17
—— Zebuense, *Hanley* 17
Anatina truncata 91
Andropadus gracilirostris, *Strick.* ... 101
—— latirostris, *Strick.* 100
Anous ——? 36
—— *stolidus* 35
Anthus pratensis, Bechst. 66
Antilope scripta 123
Aphriza Townsendii, Aud. 157
Aptenodytes minor 58
—— undina, *Gould* 57
Arca ambigua, *Reeve* 47
—— angicostata, *Reeve* 46
—— anomala, *Reeve* 39
—— *antiquata* 43
—— *Brasiliana* 45
—— *bullata* 125
—— bullata, *Reeve* 126
—— cælata, *Reeve* 126
—— cepoides, *Reeve* 47
—— chalcanthum, *Reeve* 44
—— cistula, *Reeve* 41
—— clathrata, *Reeve* 44
—— cometa, *Reeve* 127
—— compacta, *Reeve* 41
—— contraria, *Reeve* 45
—— cornea, *Reeve* 40
—— crebricostata, *Reeve* 46
—— crenata, *Reeve* 45
—— cunealis, *Reeve* 124
—— cuneata, *Reeve* 42
—— cymbæformis, *Reeve* 41
—— *cymbæformis* 47

Page

Arca disparilis, *Reeve* 46
—— Donaciformis, *Reeve* 125
—— fasciata, *Reeve* 125
—— ferruginea, *Reeve* 43
—— Gambiensis, *Reeve* 42
—— gibbosa, *Reeve* 40
—— globosa, *Reeve* 45
—— gubernaculum, *Reeve* 40
—— Hankeyana, *Reeve* 47
—— hians, *Reeve* 47
—— holoserica, *Reeve* 39
—— *imbricata* 126
—— *inæquivalvis* 45
—— *incongrua* 45
—— inflata, *Reeve* 41
—— Japonica, *Reeve* 42
—— *lacerata* 124
—— *lactea* 127
—— lateralis, *Reeve* 127
—— lima, *Reeve* 125
—— loricata, *Reeve* 46
—— Luzonica, *Reeve* 44
—— maculosa, *Reeve* 40
—— minuta, *Reeve* 127
—— *Modiolæformis*, Desh. 124
—— *mutabilis* 124
—— myristica, *Reeve* 43
—— navicella, *Reeve* 127
—— *Noæ* 126
—— obliqua, *Reeve* 43
—— obtusa, *Reeve* 123
—— occlusa, *Reeve* 47
—— ocellata, *Reeve* 125
—— olivacea, *Reeve* 127
—— ovata, *Reeve* 44
—— pertusa, *Reeve* 41
—— pilula, *Reeve* 39, 40
—— pulchella, *Reeve* 128
—— *pusilla* 126
—— radiata, *Reeve* 43
—— *reversa* 46
—— rotundicostata, *Reeve* 44
—— rufescens, *Reeve* 45
—— *scapha* 40

Page
Arca sculptilis, *Reeve* 128
—— secticostata, *Reeve* 43
—— setigera, *Reeve* 124
—— striata, *Reeve* 128
—— symmetrica, *Reeve* 127
—— *symmetrica* 128
—— tenebrica, *Reeve* 126
—— tenella, *Reeve* 124
—— vellicata, *Reeve* 42
—— virescens, *Reeve* 124
—— volucris, *Reeve* 126
—— Zebuensis, *Reeve* 128
ARCTOMYS EMPETRA, Schreb. 8
Ardea cinerea, Linn. 66
—— *comata*, Pall. 67
—— *garzetta*, Linn. 67
—— MINUTA, Linn. 10
Atrichia clamosa, *Gould* 2
Attagis Gayi, Less. 157
BALÆNA BOOPS, Auct. 96, 145
Bifrontia, Desh. 24
BOS SYLHETANUS, F. Cuv. 145
Botaurus stellaris, Steph. 67
Brachyglossa Atropos 164
Bradypus didactylus 93, 95
—— DIDACTYLUS, Linn. 96, 146
—— *tridactylus* 167
Buccinum chlorostoma 48
Budytes neglecta, Cuv. 66
Byssoarca pusilla, Sow. 126
Calidris arenaria, Ill. 157
Camelus Sivalensis, Hors. 88
Canis Azaræ 153
—— BENGALENSIS, Shaw 7
—— CINEREO-ARGENTEUS, Schreb. 7
—— *fulvipes* 153
—— *Magellanicus* 153
CAPRA CAUCASICA, Guld. 8
—— HIRCUS, var. 8
Cardium assimile, *Reeve* 169
—— Australiense, *Reeve* 168
—— *consors* 168
—— *Donaciforme* 168
—— hystrix, *Reeve* 168
—— incarnatum, *Reeve* 167
—— *isocardia* 168
—— Mindanense, *Reeve* 167
—— oviputamen, *Reeve* 168
—— rubicundum, *Reeve* 169
—— *serratum* 168
—— *subelongatum* 169
—— vitellinum, *Reeve* 168
CASTOR FIBER, Linn. 9
Cebus 81
Cercopithecus pileatus 3
—— *radiatus* 83
—— *ruber* 83
CERVUS VIRGINIANUS, Ray 7
Chætura bicolor, Gray 99
Chamæleon 163

Page
Charadrius hiaticula, Linn. 67
—— *pluvialis*, Linn. 67
Chione 110
Circe scripta 109
Circus rufus, Briss. 64
Cirrus, Sow. 24
Cleodora 163
Colossochelys Atlas, *Falconer* ... 54, 84
—— *Atlas*, Falconer 85
COLUMBA LEUCOCEPHALA, Ray 10
—— MYSTACEA, Temm. 10
COLUMBÆ 10
Columbella achatina, *G. B. Sow.* ... 50
—— aspersa, *G. B. Sow.* 49
—— atomella, *G. B. Sow.* 53
—— atramentaria, *G. B. Sow.* 51
—— blanda, *G. B. Sow.* 51
—— Broderipii, *G. B. Sow.* 53
—— catenata, *G. B. Sow.* 52
—— chlorostoma, *G. B. Sow.* 48
—— coniformis, *G. B. Sow.* 49
—— decussata, *G. B. Sow.* 51
—— dichroa, *G. B. Sow.* 50
—— dormitor, *G. B. Sow.* 53
—— Duclosiana, *G. B. Sow.* 48
—— fabula, *G. B. Sow.* 50
—— Guildingii, *G. B. Sow.* 53
—— guttata, *G. B. Sow.* 50
—— impolita, *G. B. Sow.* 51
—— jaspidea, *G. B. Sow.* 50
—— Kraussii, *G. B. Sow.* 53
—— Ligula, *G. B. Sow.* 49
—— miser, *G. B. Sow.* 50
—— monilifera, *G. B. Sow.* 53
—— nigricans, *G. B. Sow.* 52
—— nivea, *G. B. Sow.* 51
—— obscura, *G. B. Sow.* 49
—— parva, *G. B. Sow.* 52
—— pœcila, *G. B. Sow.* 48
—— Puella, *G. B. Sow.* 52
—— pusilla, *G. B. Sow.* 53
—— rudis, *G. B. Sow.* 48
—— rugulosa, *G. B. Sow.* 51
—— splendidula, *G. B. Sow.* 49
—— subulata, *G. B. Sow.* 52
—— suffusa, *G. B. Sow.* 52
—— Ticaonis, *G. B. Sow.* 51
—— venusta, *G. B. Sow.* 49
—— vulpecula, *G. B. Sow.* 50
Columbus coronatus 136
Corbula adusta, *Hinds* 26
—— aurita, *Hinds* 26
Corbula, Bruguières 26
Corbula carnosa, *Hinds* 26
—— crispa, *Hinds* 26
—— procera, *Hinds* 26
Cossypha poensis, *Strick.* 100
—— *reclamator*, Vieill. 100
Criniger 101
Crocodilus longirostris 85

Page
Cryptospira 76
Cuculus canorus, Linn. 66
Curruca cinerea, Bechst. 65
—— *melanocephala*, Lath. 65
—— *orphea*, Gould 65
Cursorius Isabellinus 66, 153
Cyanopterus fretensis, Eyton 157
Cyllene 152
Cymba 150
Cynocephalus 81
Cypselus parvus, Licht. 99
Cyrena 64, 159
Cyrena Carolinensis 159
—— *Keraudreni* 160
—— *obesa* 160
—— Philippinarum, *Hanley* 159
—— placens, *Hanley* 160
—— radiata, *Hanley* 159
—— *radiata* 159, 160
—— *rotundata* 160
—— sordida, *Hanley* 159
Cytherea 109
Cytherea argentea 110
—— cor, *Hanley* 110
—— Hindsii, *Hanley* 110
—— *læta* 109
—— obliquata, *Hanley* 109
—— *obliquata* 109
—— *pellucida* 109
—— Philippinarum, *Hanley* 110
—— plebeia, *Hanley* 109
—— varians, *Hanley* 109
Dafila pyrogaster, Eyton 157
—— *urophasianus*, Eyton 157
DASYPUS SEX-CINCTUS, Auct. 96
—— VILLOSUS, Desm. 96, 146
Deilephila Elpenor 164
—— *Euphorbiæ* 164
Delphinula 25
Dermestes lardarius 36
Didelphis elegans 154
Didus solitarius, Gmelin 77
Donacina 71
Dosina 162
Echini 164
Echymys 156
Edentata 94
Edentula 144
ELEPHAS INDICUS, Cuv. 96
Emys tectum 85
ERETHIZON DORSATUM, F. Cuv. ... 9
Eulabeornis castaneoventris, *Gould*. 56
Euomphalus, Sow. 24
FELIS BENGALENSIS, Desm. 7
—— LEO 54
—— *Melanura* 128
Fringilla Canariensis 1
GALLINÆ 10
Gallinula chloropus, Lath. 67
GARRULUS CRISTATUS, Vieill. 9

Page
Geopelia placida, *Gould* 55
—— tranquilla, *Gould* 56
Glauconome angulata, *Reeve* 20
—— cerea, *Reeve* 21
—— curta, *Reeve* 20
—— corrugata, *Reeve* 20
—— radiata, *Reeve* 20
—— rugosa, *Reeve* 19
—— straminea, *Reeve* 20
—— virens, *Hanley* ..... } 18
Solen virens, *Linn.* ..... } 18, 19
GRALLATORES 10
GRANIVORÆ 9
HALMATURUS BILLARDIERI, Gould 146
—— dama, *Gould* 33
—— Houtmanni, *Gould* 31
—— *manicatus* 35
—— *Thelidis* 33
Hapale Jacchus 82
Hapalotis albipes 104
—— longicaudata, *Gould* 104
Helicites, Schlot. 24
Hesperomys megalonyx, *Waterh.* ... 154
Himantopus melanopterus, Meyer ... 67
Hipparchia Melampus 163
Hirundinidæ 99
HYDROCHÆRUS CAPYBARA, Erxl. ... 96
Hypsiprymnus platyops, *Gould* 103
—— SETOSUS, Ogilb. 9
Hystricina 157
Ieracidea occidentalis, *Gould* 105
Ibis Falcinellus, Temm. 67
—— RUBER, Lacep. 10
Iguanodon 54
INSECTIVORÆ 9
Labyrinthodon 54
Lagopus ferrugineus, *Fraser* 37
Lagorchestes albipilis 33
—— hirsutus, *Gould* 33
Lagotis Cuvieri, Benn. 154
Laniidæ, *Laniinæ* 102
Lanius excubitor? Linn. 64
—— *rufus*, Briss. 65
Leptodactylus 157
Leptopus Mitchellii, *Fraser* 157
Lernea Sprattæ, Pennant 38
Lerneonema monillaris, Milne Edw. 38
Leucaria littoralis 163
Limosa melanura, Leisl. 67
Lithodomus canaliferus, *Hanl.* 16
—— plumula, *Hanl.* 17
Lophyrus Victoriæ, *Fraser* 136
Loris 89
Loris gracilis 4
LOXIA CŒRULEA, Linn. 10
Macacus Sinicus, F. Cuv. 3
Macropodidæ 163
Macropus gracilis, *Gould* 108
—— *lunatus* 103
—— *ocydromus*, *Gould* 33

Page
MACROPUS OCYDROMUS, Gould ... 146
Mactroides, Born, Chemn. 110
Malurinæ 100
Malurus Acaciæ? Rüpp. 66
—— pulcherrimus, *Gould* 106
Marginella Australis, *Hinds* 75
—— *avena*, Valenc. 75
—— Belcheri, *Hinds* 73
—— blanda, *Hinds* 76
—— *cærulescens* 74
—— *Cleryii* 73
—— constricta, *Hinds* 74
—— fusiformis, *Hinds* 75
—— imbricata, *Hinds* 76
—— *interrupta* 76
—— livida, *Hinds* 73
—— *maculosa*, Kiener 76
—— muralis, *Hinds* 76
—— musica, *Hinds* 73
—— nitida (Volvarina), *Hinds* 75
—— nivosa, *Hinds* 74
—— nodata, *Hinds* 73
—— piperata, *Hinds* 72
—— pruinosa, *Hinds* 74
—— *prunum* 74
—— sagittata, *Hinds* 76
—— sapotilla, *Hinds* 74
—— scripta, *Hinds* 73
—— tricincta, *Hinds* 76
—— vitrea, *Hinds* 75
MARSUPIATÆ 9
Mastodon elephantoides 88
Megalosaurus 54
Megapodiinæ 77
Megascolex cæruleus, *Templeton* ... 89
MELLIVORA CAPENSIS, F. Cuv. ... 145
Melo 150
Milvago megalopterus, Meyen 157
Mitra 167
Mitra abbatis 180
—— acupicta, *Reeve* 174
—— affinis, *Reeve* 186
—— *anthracina* 179
—— astricta, *Reeve* 184
—— badia, *Reeve* 181
—— balteolata, *Reeve* 171
—— *balteolata* 175
—— cadaverosa, *Reeve* 181
—— caliginosa, *Reeve* 177
—— carnicolor, *Reeve* 181
—— cavea, *Reeve* 180
—— chalybeia, *Reeve* 172
—— choava, *Reeve* 178
—— chrysalis, *Reeve* 185
—— *circulata* 177
—— citrina, *Reeve* 187
—— coccinea, *Reeve* 171
—— cœrulea, *Reeve* 176
—— concentrica, *Reeve* 177
—— concinna, *Reeve* 186

Page
Mitra crebrilirata, *Reeve* 174, 175
—— *crenulata* 184, 185
—— *crocata* 186
—— *cucumerina* 184, 186
—— Cumingii, *Reeve* 173
—— cylindracea, *Reeve* 175
—— declivis, *Reeve* 170
—— decurtata, *Reeve* 180
—— Dennisoni, *Reeve* 169
—— Deshayesii, *Reeve* 182
—— *ebenus* 175
—— *exasperata* 181
—— *ferruginea* 183
—— flammigera, *Reeve* 182
—— flavescens, *Reeve* 186
—— floccata, *Reeve* 170
—— fulgetrum, *Reeve* 176
—— fulgurita, *Reeve* 172
—— funerea, *Reeve* 176
—— funiculata, *Reeve* 177
—— *glabra* 171
—— glans, *Reeve* 184
—— gracilis, *Reeve* 170
—— *granatina* 170
—— Gruneri, *Reeve* 177
—— Hindsii, *Reeve* 181
—— histrio, *Reeve* 179
—— ignobilis, *Reeve* 180
—— impressa, *Reeve* 178
—— infecta, *Reeve* 173
—— inquinata, *Reeve* 170
—— interlirata, *Reeve* 173
—— *interlirata* 182
—— lacunosa, *Reeve* 172
—— latruncularia, *Reeve* 181
—— lignaria, *Reeve* 172
—— livida, *Reeve* 178
—— loricata, *Reeve* 182
—— *lyriformis*, Swains. 151
—— maculosa, *Reeve* 183
—— *mucronata* 177
—— nanus, *Reeve* 185
—— Norrisii, *Reeve* 169
—— *nucleola* 184
—— obeliscus, *Reeve* 175
—— obesa, *Reeve* 174
—— oleacea, *Reeve* 175
—— *paupercula* 185
—— pellis-serpentis, *Reeve* 172
—— peregra, *Reeve* 184
—— planilirata, *Reeve* 184
—— *plicata* 171, 175
—— polita, *Reeve* 174
—— *polita* 175
—— porphyritica, *Reeve* 185
—— pretiosa, *Reeve* 176
—— proscissa, *Reeve* 183
—— pruinosa, *Reeve* 182
—— pulchella, *Reeve* 179, 180
—— pullata, *Reeve* 175

Page
Mitra retusa 185
—— robusta, *Reeve* 179
—— *rosea*, Duclos 174
—— rotundilirata, *Reeve* 183
—— rubiginosa, *Reeve* 173
—— rubritincta, *Reeve* 179
—— rupicola, *Reeve* 171, 172
—— Ruppellii, *Reeve* 183
—— Senegalensis, *Reeve* 177
—— Sinensis, *Reeve* 184
—— Solandri, *Reeve* 182
—— solida, *Reeve* 170
—— solidula, *Reeve* 178, 179
—— speciosa, *Reeve* 180
—— *subulata*, Lam. 174
—— *sulcata* 177
—— telescopium, *Reeve* 180
—— Ticaonica, *Reeve* 183
—— tumida, *Reeve* 171
—— turben, *Reeve* 187
—— undulosa, *Reeve* 185
—— ustulata, *Reeve* 174
—— *ustulata* 180
—— variabilis, *Reeve* 175
—— variata, *Reeve* 186
—— variegata, *Reeve* 176
—— venustula, *Reeve* 186
—— virgata, *Reeve* 185
—— *Woldemarii* 179
—— Zebuensis, *Reeve* 173
—— *Ziervogeliana* 178, 179
Modiola arcuatula, *Hanley* 16
—— biradiata, *Hanley* 15
—— *discrepans* 16
—— Metcalfii, *Hanley* 14
—— *Modiolus* 15, 16
—— *Owenii* 16
—— Philippinarum, *Hanley* 15
—— sordida, *Hanley* 16
—— striatula, *Hanley* 14
—— strigata, *Hanley* 15
—— subramosa, *Hanley* 14
—— *sulcata*, Lam. 15
Moschus Stanleyanus, Gray ... 7
Motacilla neglecta, Gould 66
Muridæ 156
Mus Darwinii 154
—— Messorius, Shaw 8
—— *sylvaticus* 105
Muscicapa albicollis, Temm. 64
—— Fraseri, *Strick.* 101
—— *grisola*, Linn. 64
—— *latirostris*, Swains. 102
Muscicapidæ, *Muscicapinæ* 101
Myadora, Gray 91
Myadora brevis, *Reeve* 93
—— crassa, *Reeve* 92
—— curvata, *Reeve* 93
—— oblonga, *Reeve* 93
—— ovata, *Reeve* 92

Page
Myadora Pandoræformis, *Reeve* ... 93
—— plana, *Reeve* 92
—— *plana* 93
—— striata, *Reeve* 93
—— *striata* 92
—— *tincta*, Reeve 92, 93
—— trigona, *Reeve* 92
Myopotamus Coypus, Desm. 96
—— *Coypus* 154
Myoxidæ 157
Mytilacea 14
Mytilus granulatus, *Hanl.* 17
Nassa 121
Neæra 62
Neæra, Gray 97
Neæra cochlearis, *Hinds* 98
—— lyrata, *Hinds* 97
—— tenuis, *Hinds* 97
Octodon 156
Octodon Bridgesii, *Waterh.* 155
—— *Cumingii* 154, 155
—— *Degus* 155
Octodontidæ 156
Odostomia eulimoides, *Hanl.* 18
—— Rissoides, *Hanl.* 18
—— turrita, *Hanl.* 18
Omalaxis, Deshayes 24
Omnivoræ 9
Oriolus galbula, Linn. 65
Orpheus rufus 9
Otis Houbara 66, 153
Ovis Tragelaphus 95
—— Tragelaphus, Desm. 145
Pachycephala Gilbertii, *Gould* 107
Pandora brevis 91
Papio 81, 82
Papio Rhæsus 83
Parus major, Linn. 9
Perameles arenaria, *Gould* 104
Perdix Bonhami, Fraser 10
—— *petrosa*, Lath. 66
Petricola ochroleuca, Lam. 166
Phænospira 72
Phalacrocorax albigula, Brandt ... 157
Phalangista gliriformis 164
Phascogale calurus, *Gould* 104
—— *penicillata* 105
—— crassicaudata, *Gould* 105
Phoca vitulina, Linn. 96
Phœnicura ruticilla, Swains. 65
Phylloscopus 99
Pithecus Satyrus, Geoff. 96
Plyctolophus citrino-cristatus, *Fras.* 38
—— *sulphureus* 38
Podiceps Australis, *Gould* 135
—— *cristatus* 135
Poephagomys 156
Poephagomys ater 154
Pollicipes Cornucopia 164
Prinia icterica, *Strick.* 100

Page
Prinia olivacea, *Strick.* 99
Procellaria leucoptera, *Gould* 57
—— Solandri, *Gould* 57
Procellaridæ 57
Psammobia 60, 165
Psittacus Timneh, *Fraser* 38
PSOPHIA CREPITANS, Linn. 146
Psophodes nigrogularis, *Gould* 5
Puffinus carneipes, *Gould* 57
Pycnonotinæ 100
Pycnonotus flaviriclus, Strick. 101
Pyrgita domestica? Cuv. 66
Rallidæ 56
Rana esculenta 109
Ranella albivaricosa, *Reeve* 136
—— *anceps* 139
—— *bitubercularis* 140
—— *cælata* 137
—— *caudata*, Say 116
—— coriacea, *Reeve* 137
—— cuspidata, *Reeve* 139
—— *foliata* 137
—— *granifera*, Kiener 138
—— hastula, *Reeve* 139
—— livida, *Reeve* 138
—— *Muriciformis* 116, 139
—— nobilis, *Reeve* 137
—— plicata, *Reeve* 138
—— ponderosa, *Reeve* 137
—— *pulchra* 137
—— pustulosa, *Reeve* 137
—— rosea, *Reeve* 139
—— *scrobiculator* 138
—— siphonata, *Reeve* 138
—— triquetra, *Reeve* 139
—— tuberosissima, *Reeve* 139
—— venustula, *Reeve* 138
Rhynchaspis 1
Ringicula Australis, *Hinds* 97
—— caron, *Hinds* 97
—— exserta, *Hinds* 97
—— grandinosa, *Hinds* 96
—— propinquans, *Hinds* 96
RODENTIA 8
Salicaria galactotes, Gould 65
—— *phragmitis*, Selb. 65
Saturnia pyri 164
Saxicola —— ? 65
Saxicola Deserti, Rüpp. 65
—— *Œnanthe*, Gould 65
—— *rubetra*, Bechst. 65
Scalaria aculeata, *G. B. Sow.* 12
—— acuminata, *G. B. Sow.* 31
—— *alata* 11
—— alata, *G. B. Sow.* 10
—— aurita, *G. B. Sow.* 26
—— bicarinata, *G. B. Sow.* 30
—— bullata, *G. B. Sow.* 27
—— Catanauensis, *G. B. Sow.* 27
—— *communis* 12

Page
Scalaria concinna, *G. B. Sow.* 28
—— connexa, *G. B. Sow.* 28
—— dubia, *G. B. Sow.* 13
—— Elenensis, *G. B. Sow.* 29
—— fasciata, *G. B. Sow.* 11
—— friabilis, *G. B. Sow.* 27
—— fusca, *G. B. Sow.* 30
—— gracilis, *G. B. Sow.* 12
—— hexagona, *G. B. Sow.* 29
—— hyalina, *G. B. Sow.* 11
—— immaculata, *G. B. Sow.* 26
—— imperialis, *G. B. Sow.* 13
—— indistincta, *G. B. Sow.* 27
—— irregularis, *G. B. Sow.* 13
—— laxata, *G. B. Sow.* 11
—— Lyra, *G. B. Sow.* 13
—— marmorata, *G. B. Sow.* 11
—— Mindoroensis, *G. B. Sow.* 30
—— Mitræformis, *G. B. Sow.* 12
—— multicostata, *G. B. Sow.* 28
—— *muricata*, Kiener 13
—— obtusa, *G. B. Sow.* 29
—— ovalis, *G. B. Sow.* 29
—— Philippinarum, *G. B. Sow.* 12
—— polita, *G. B. Sow.* 30
—— pulcherrima, *G. B. Sow.* 28
—— pyramidalis, *G. B. Sow.* 12
—— replicata, *G. B. Sow.* 11
—— similis, *G. B. Sow.* 27
—— statuminata, *G. B. Sow.* 30
—— subtilis, *G. B. Sow.* 28
—— venosa, *G. B. Sow.* 13
—— *vestalis*, Hinds 27
Schizodon 156
Schizostoma, Bronn 24
SCIURUS LISTERI, Ray 8
—— MAXIMUS 146
Semnopithecus Leucoprymnus Cephalopterus 1
Semnopithecus Nestor 1
Siliquaria anguina 67
Solarium, Lam. 22
Solarium asperum, *Hinds* 23
—— cælatum, *Hinds* 25
—— dealbatum, *Hinds* 24
—— dorsuosum, *Hinds* 23
—— fenestratum, *Hinds* 25
—— formosum, *Hinds* 22
—— fragile, *Hinds* 24
—— fuliginosum, *Hinds* 158
—— fulvum, *Hinds* 24
—— *granulatum* 23
—— perdix, *Hinds* 22
—— *perspectivum* 22, 23, 158
—— placentale, *Hinds* 22
—— purpuratum, *Hinds* 25
—— quadriceps, *Hinds* 23
—— trochleare, *Hinds* 25
—— *trochleare* 158
—— virgatum, *Hinds* 24

Page
Solariella, Searles Wood 24
Solenacea 19
Solidula 165
Sperantia sylvaria 163
Stenopidæ 5
Sterna fuliginosa 36
Stryx nyctea 19
Sturnella militaris, Vieill. 157
Synallaxis flavogularis, Gould 157
Talegalla 77
Tchitrea, Less. 102
Tellina acuta, Wood 62, 142
—— ala, *Hanley* 165
—— ancilla, *Hanley* 148
—— asperrima, *Hanley* 59
—— assimilis, *Hanley* 144
—— Aurora, *Hanley* 147
—— Bruguieri, *Hanley* 142
—— *Burnetti* 69
—— casta, *Hanley* 63
—— *casta* 63
—— *carnaria* 68
—— Chinensis, *Hanley* 165
—— Columbiensis, *Hanley* 71
—— Corbuloides, *Hanley* 70
—— *corbuloides* 144
—— *crucigera* 60, 72
—— Culter, *Hanley* 69
—— Cumingii, *Hanley* 59
—— cuspis, *Hanley* 72
—— *cuspis* 147
—— Cycladiformis, *Hanley* 70
—— cygnus, *Hanley* 144
—— cyrenoidea, *Hanley* 64
—— *decussata*, Lam. 68, 149
—— *depressa*, Lam. 72
—— Deshayesii, *Hanley* 148
—— Diana, *Hanley* 147
—— Discus, *Hanley* 63
—— Dombeyi, *Hanley* 144
—— *Donacina* 148, 164
—— eburnea, *Hanley* 61
—— elongata, *Hanley* 144
—— felix, *Hanley* 71
—— fimbriata, *Hanley* 149
—— *foliacea* 142
—— formosa, *Hanley* 142
—— *fragilis*, Linn. 166
—— frigida, *Hanley* 143
—— *Gargadia* 71
—— grandis, *Hanley* 141
—— gubernaculum, *Hanley* 142
—— Guildingii, *Hanley* 60
—— Hiberna, *Hanley* 148
—— hilaris, *Hanley* 140
—— imbellis, *Hanley* 143
—— inæqualis, *Hanley* 71
—— incarnata, *Hanley* 68
—— *incarnata* 72
—— inornata, *Hanley* 144

Page
Tellina insculpta, *Hanley* 70
—— Irus, *Hanley* 166
—— Jubar, *Hanley* 60
—— juvenilis, *Hanley* 140
—— laceridens, *Hanley* 61
—— Lilium, *Hanley* 147
—— *lintea*, Conrad 149
—— Listeri, *Hanley* 69
—— lucerna, *Hanley* 147
—— lux, *Hanley* 140
—— *lux* 141
—— Lyra, *Hanley* 68
—— *margaritacea*, Lam. 72
—— *Mexicana* 59
—— micans, *Hanley* 72
—— miles, *Hanley* 146
—— nobilis, *Hanley* 165
—— nux, *Hanley* 62
—— *nymphalis* 165
—— *oblonga* 147
—— *ostracea* 149
—— Owenii, *Hanley* 164
—— perplexa, *Hanley* 149
—— Pharaonis, *Hanley* 148
—— *Pharaonis* 164
—— Philippinarum, *Hanley* 69
—— *Philippinarum* 140
—— pinguis, *Hanley* 63
—— plebeia, *Hanley* 147
—— *polita* 148
—— princeps, *Hanley* 62
—— Prora, *Hanley* 61
—— *psammotella* 140
—— pudica, *Hanley* 62
—— puella, *Hanley* 165
—— *pulcherrima* 59, 60
—— pumila, *Hanley* 69
—— *punicea* 61
—— Rastellum, *Hanley* 59
—— regia, *Hanley* 61
—— robusta, *Hanley* 63
—— Rodon, *Hanley* 140
—— rubescens, *Hanley* 60
—— scalpellum, *Hanley* 147
—— Senegalensis, *Hanley* 68
—— sincera, *Hanley* 68
—— Sol, *Hanley* 142
—— *solidula* 69
—— Souleyeti, *Hanley* 71
—— Sowerbii, *Hanley* 62
—— *Sowerbii* 71
—— spectabilis, *Hanley* 141
—— *Spengleri* 59, 148
—— spinosa, *Hanley* 148
—— *splendida*, Anton 68
—— *squalida* 164
—— subtruncata, *Hanley* 149
—— *tenera* 140
—— *tenuis* 70, 141
—— *truncata* 142

Page
Tellina tulipa, *Hanley* 148
—— *umbonella*, Lam. 144, 147
—— undulata, *Hanley* 72
—— Valtonis, *Hanley* 143
—— vernalis, *Hanley* 141
—— verrucosa, *Hanley* 60
—— vestalis, *Hanley* 141
—— *virgata* 60
—— virgo, *Hanley* 143
—— virgulata, *Hanley* 164
Tellinides purpurascens 62
—— *truncatulus*, Sow. 141
Tephrodornis Indica, Gray 102
—— *ocreatus*, Strick. 102
Testudo Indica 55
Tetrao Cupido 123
—— *umbellus* 123
Torinia, Gray 24
Trigona 110
Tringa variabilis 67
Triton acuminatus, *Reeve* 116
—— ægrotus, *Reeve* 114
—— angulatus, *Reeve* 120
—— anomalus, *Hinds* 22
—— antiquatus, *Hinds* 21
—— aquatilis, *Reeve* 114
—— *Australis* 113
—— bacillum, *Reeve* 120
—— bracteatus, *Hinds* 21
—— *canaliferus* 112, 113
—— *cancellinus* 115, 121
—— carduus, *Reeve* 121
—— *clavator* 111
—— concinnus, *Reeve* 120
—— crispus, *Reeve* 118
—— *cynocephalus* 114, 115
—— decapitatus, *Reeve* 119
—— decipiens, *Reeve* 121
—— digitale, *Reeve* 120
—— eburneus, *Reeve* 118
—— egregius, *Reeve* 119
—— elongatus, *Reeve* 117
—— encausticus, *Reeve* 115
—— exaratus, *Reeve* 116
—— exilis, *Reeve* 111
—— eximius, *Reeve* 119
—— ficoides, *Reeve* 116
—— fictilis, *Hinds* 21
—— gallinago, *Reeve* 110
—— gemmatus, *Reeve* 117
—— gracilis, *Reeve* 117
—— grandimaculatus, *Reeve* 113
—— lativaricosus, *Reeve* 120
—— *lotorium* 113
—— moritinctus, *Reeve* 115
—— *niveus* 116
—— obscurus, *Reeve* 117
—— pagodus, *Reeve* 121

Page
Triton Pfeifferianus, *Reeve* 112
—— pictus, *Reeve* 121
—— *Quoyi* 118
—— Ranelloides, *Reeve* 111
—— *retusus* 115
—— ridens, *Reeve* 115
—— *rubecula* 117
—— sarcostoma, *Reeve* 113
—— Sauliæ, *Reeve* 112
—— *scrobiculator*, Lam. 138
—— sculptilis, *Reeve* 118
—— Sinensis, *Reeve* 113
—— siphonatus, *Reeve* 119
—— tessellatus, *Reeve* 120
—— Thersites, *Reeve* 115
—— tortuosus, *Reeve* 118
—— trilineatus, *Reeve* 114
—— truncatus, *Hinds* 21
—— *truncatus* 120
—— *tuberosus* 115
—— *variegatus* 113
—— verrucosus, *Reeve* 118
—— *vespaceus* 117
—— vestitus, *Hinds* 21
—— *viperinum* 118
VANELLUS CRISTATUS, Temm. 146
Veneridæ 19
Venus 159
Venus Chemnitzii, *Hanley* 160
—— *cingulata*, Lam. 162
—— decipiens, *Hanley* 162
—— *decorata* 161
—— *dysera*, Chemn. 161
—— *fasciata* 162
—— lacerata, *Hanley* 161
—— *Listeri* 161
—— Lyra, *Hanley* 161
—— *Marica* 160
—— *ovata* 161
—— *puerpera* 161
—— *reticulata*, Linn. 160
—— roborata, *Hanley* 161
—— scabra, *Hanley* 161
—— subnodulosa, *Hanley* 160
—— *variabilis*, Sow. 110
VIDUA PARADISÆA, Cuv. 10
Voluta Cylleniformis, *Gray* 151
—— *fulminata* 151
—— Guildingii, *Gray* 151
—— *ignea*, Wood 174
—— *lyriformis*, Kiener 151
—— mammilla, *Gray* 149
—— megaspira, *Gray* 150
—— *nivosa* 150
—— Norrisii, *Gray* 150
—— piperita, *Gray* 150
Volvarina 75

END OF PART XII.

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LIST

OF

CONTRIBUTORS,

With References to the several Articles contributed by each.

BALFOUR, JOHN OSBORNE, Esq. *page*
Australian Birds' Skins, presented by 21

CLARK, Dr.
Letter from 1

DICKSON, E. D., Esq., M.D.
Letter from, containing an offer to present to the Society five Birds of Carthage (*Pterocles guttatus?* Temm.) . . . 13

FITTON, EDWARD, Esq.
Note on the White-winged Crossbill (*Loxia leucoptera*) . 91

FORRESTER, J. J., Esq., K.C.V.V.
Letter from, accompanying a donation of three Specimens of *Salamandra maculosa*, Bonap. 11
Donation of two Specimens of *Salamandra*, a Tree-Frog, and a *Scolopendra cingulata* 18

FRASER, Mr. L.
Exhibition of two Birds from Chile 1
Exhibition of Birds' Skins, presented to the Society by Lieut.-Col. Owen, K.C.A. 13
Descriptions of three New Species of Birds in the Society's collection 16

GOULD, JOHN, Esq.
On three new Species of Birds from China; and on a small Mammal and new Grallatorial Bird from Western Australia. 1
Descriptions of a new Trogon and seven New Birds from Australia 18
Descriptions of four New Species of Birds from Australia. 62
Description of a new Tern 76

GOULD, JOHN, Esq. page
Descriptions of five New Species of Mammals 77
Descriptions of three New Species of Birds from Australia . 80
On the genus *Anous*, Leach 103
Descriptions of two new Birds from New South Wales . 104

GULLIVER, GEORGE, Esq.
On the Size of the Red Corpuscles of the Blood in the Vertebrata, with copious Tables of Measurements 93

HANLEY, SYLVANUS, Esq.
Descriptions of three New Species of Shells, belonging to the genus *Artemis* 11
Descriptions of six New Species of *Donax*, in the collection of Hugh Cuming, Esq. 14
Descriptions of two New Species of *Donax* 17
Descriptions of three New Species of Bivalve Shells, of the genera *Cytherea* and *Venus* 21
Descriptions of New Species of *Ostrea*, in the collection of Hugh Cuming, Esq. 105

HODGSON, BRYAN H., Esq.
On Nepalese Birds 22

INGARFIELD, —, Esq.
Donation of a Specimen of *Cancer Norvegicus* 13

LOWE, the Rev. R. T.
Letter from, accompanying a specimen of *Zeus conchifer*, Lowe 103

OGILBY, WILLIAM, Esq.
Exhibition of *Tyrrhaptes paradoxus* and five Mammals from the Altai Mountains of Siberia 75

OLIVE, JEREMIAH, Esq.
Donation of Birds' Skins from Australia 75

OWEN, Professor.
Observations on the living *Echidna* exhibited at the Menagerie of the Society in May 1845 80
On the existence of two Species of Wombat (*Phascolomys*) 82

PFEIFFER, Dr. L.
Descriptions of New Species of *Helix* and a new *Glandina*, in the collection of Hugh Cuming, Esq. 38
Descriptions of New Species of Land-shells, from the collection of Hugh Cuming, Esq. 43
Descriptions of twenty-two New Species of Land-shells, in the collection of Hugh Cuming, Esq. 63
Description of a New Species of *Amphipeplea* 68
Descriptions of twenty-two New Species of *Helix* . . . 71

PFEIFFER, Dr. L. page

Remarks on the genus *Achatinella*, Swainson, and descriptions of six New Species from the collection of Hugh Cuming, Esq. 89

Descriptions of fourteen New Species of *Helix*, from the collection of Hugh Cuming, Esq. 123

Descriptions of thirty-six New Species of *Helix*, from the collection of Hugh Cuming, Esq. 126

Descriptions of New Species of Land-shells from Jamaica, collected by Mr. Gosse 137

PHILIPPI, Dr. RA

Descriptions of a New Species of *Trochus*, and of eighteen New Species of *Littorina*, in the collection of Hugh Cuming, Esq. 138

PONTET, —, Jun., Esq.

Donation of a Skin of a *Boa constrictor* 43

RÉCLUZ, M. C. A.

Déscription de quelques nouvelles Nérites Fluviatiles, du cabinet de H. Cuming, Esq. 119

Déscription d'une nouvelle espèce de *Conovulus* . . . 122

REEVE, LOVELL, Esq.

Descriptions of eighty-nine new species of *Mitra*, chiefly from the collection of Hugh Cuming, Esq. 45

Descriptions of New Species of *Murex* 85

Descriptions of New Species of Shells 108

On the Growth and Re-calcification of the Shell in *Cypræa* 133

STARK, JAMES, Esq., M.D.

On *Tetrao medius* 13

TEMPLETON, Dr., Roy. Art.

Letter from 11

THOMPSON, W, Esq.

On the *Larus capistratus* of Temminck 68

WATERHOUSE, G. R., Esq.

On New Species of Bats collected in the Philippine Islands, and presented to the Society by Hugh Cuming, Esq. 3

WYLLIE, JAMES, Esq.

Donation of Fish from the Hot Springs of Thermopylæ . 17

YARRELL, WILLIAM, Esq.

Note on the Herring (*Clupea Harengus*) 91

PROCEEDINGS

OF THE

ZOOLOGICAL SOCIETY OF LONDON.

January 14, 1845.

William Yarrell, Esq., in the Chair.

A letter was read from Dr. Clark of Cambridge, describing the morbid appearances which presented themselves on the dissection of a young Orang Outan which died lately in the Gardens.

Mr. Fraser exhibited specimens of two species of Birds from Chile, procured by Mr. Thomas Bridges, Corresponding Member. One was the *Sterna Inca*, Less., which, according to Mr. Bridges, is called "Mouja" by the natives. The other was a specimen of a Little Bittern, *Ardeola exilis*, Bonap., called by the natives "Aspergala."

Mr. Gould exhibited to the Meeting a number of Birds from China, being the first collection forwarded from Amoy to this country.

He described the following new species:—

Corvus pastinator. *Cor. plumis ptilose saturatè purpurascente-nigrâ; caudâ virescenti; scapulariis tectricibusque caudæ maculâ semilunari nigrâ ad apices ornatis; rostro tarsisque nigris.*

The entire plumage deep shining purplish black or plum-colour, glossed with a greenish hue on the tail-feathers; the scapularies and upper tail-coverts with an obscure crescent-shaped mark of black at the tip; bill and feet shining black.

Total length 18 inches; bill, $2\frac{3}{8}$; wing, 12; tail, 7; tarsi, $2\frac{1}{8}$; middle toe and claw, $2\frac{1}{8}$.

Hab. Chusan.

Remark.—This species is closely allied to the Rook of Europe, but differs from it in the hue of the plumage, which is of a beautiful purple or plum-colour where the European bird is green; the bill is also straighter and the face much less denuded, the fleshy base of the nostrils being the only part destitute of feathers; the feet and claws are also larger.

Mergus Orientalis. *Mer.* (Fœm.) *capite cristâ colloque rubiginoso-rubris; mento albo; corpore superiore, caudâ, alis, lateri-*

busque griseis; primariis ferrugineo-nigris; secundariis albis; corpore inferiore pallide cervino; tectricibus caudæ albidis.

Female.—Head, neck and crest dark rust-red; chin white; all the upper surface, wings, tail and flanks grey; primaries brownish black; secondaries pure white; under surface cream-colour, fading into white on the under tail-coverts.

Total length 23 inches; bill, $2\frac{1}{2}$; wing, $9\frac{3}{4}$; tail, 5; tarsi, 2.

Hab. Amoy.

Remark.—Nearly allied to the Goosander of Europe, but smaller in size and more delicate in colour than that bird. I believe a male of this bird is in the British Museum; the female is in my own collection, and is the only one I have seen. The specimen in the Museum assimilates as closely to the male of the European bird as the one here described does to the female.

Pica serica. *P. capite, collo, pectore et tectricibus caudæ saturatè nigris; tectricibus alarum cinereo-cæruleis, ventre et scapulariis albis; caudâ metallicè nigro-viridi; rostro et pedibus nigris.*

Head, throat, chest, upper part of the back, upper and under tail-coverts deep black; secondaries and greater wing-coverts shining steel-blue; spurious wing and edges of the base of the outer webs of the primaries shining deep green; inner webs of the primaries white; the tips of the primaries and the margins of the inner webs for a short distance from the tip black; scapularies and belly pure white; tail greenish black, with bronze reflexions; bill and feet black.

Total length about 19 inches; bill, 2; wing, 8; tail about 12; tarsi, $2\frac{1}{4}$.

Hab. Amoy.

Closely allied to the common Magpie, but differs in the wings being blue instead of green, in the rather less extent of the white, and in having a longer bill and much longer tarsi.

Mr. Gould also exhibited to the Meeting a small species of Mammal, which he characterized as

Dromicia concinna. *Drom. maculâ nigrâ ante oculos; corpore supernè et parte exteriore crurum pallidè brunneis; crurum parte interiore et corpore subtùs distinctè albis.*

Before the eye a mark of black; all the upper surface, the outer side of the limbs and the tail, pale sandy brown; all the under surface and the inner side of the limbs white; the two colours distinctly separated, or not blending into each other.

Length of the head and body, $3\frac{3}{4}$ inches; of the tail, $3\frac{1}{4}$; of the ear, $\frac{1}{2}$.

Hab. Western Australia.

Very nearly allied to the *Dromicia* of Van Diemen's Land, but distinguished from that animal by its much smaller size, by the distinct separation of the colours of the upper and under surface, and by the absence of any enlargement at the base of the tail.

Also a new Grallatorial bird, which he named

Fulica Australis. *Ful. capite colloque nigris; supernè griseo-*

nigro, subtùs fuliginoso; iridibus rubris; rostro cinereo-cæruleo; vertice viridi-albo; tarsis pedibusque griseis.

Head and neck black; all the upper surface greyish black; under surface sooty black; irides bright red; bill light bluish grey; crown of the head greenish white; legs and feet French grey.

Total length 14 inches; bill, $1\frac{1}{4}$; wing, 8; tail, $2\frac{1}{4}$; tarsi, $2\frac{1}{4}$.

Hab. Western Australia.

"Descriptions of species of Bats collected in the Philippine Islands, and presented to the Society by H. Cuming, Esq." By G. R. Waterhouse, Esq.

The following descriptions and notices, added to those given in the Proceedings for May 1843, include all the species of the order Cheiroptera collected by Mr. Cuming in the Philippine Islands; and it is necessary to state, with regard to the descriptions alluded to, that they are all drawn up from specimens preserved in spirit; and although every care has been taken to ascertain the true colouring of the fur as nearly as possible by repeated examinations of the specimens, mounted as they were in clear spirits of wine, the colours may not prove to be exactly as I have supposed.

The following table displays some of the more prominent characters of the species of *Vespertilio* (generally so difficult to determine) about to be described:—

A. Wing-membrane extending to the distal end of tibia.
- *a.* Ears moderate, or rather small, rounded; tragus rather short, rounded at the apex; heel-cartilage short.
  - *a.* 1. Nostrils separated by a moderately wide space, and opening sublaterally ..... 1. *Vesp. tristis.*
  - *a.* 2. Nostrils with a narrow space between them (a distinct notch, however, in that space), and opening almost in front ..... 2. *Vesp. Eschscholtzii.*
- *b.* Ears large and pointed; tragus long, narrow and pointed; heel-cartilage long.
  - *b.* 1. Hind-foot very large ..... 3. *Vesp. macrotarsus.*
  - *b.* 2. Hind-foot small ..... 4. *Vesp. pellucidus.*

B. Wing-membrane extending to base of toes.
- *a.* Ears short, rounded at apex; tragus short, subpointed ..... 5. *Vesp. Meyeni.*
- *b.* Ears large, pointed; tragus long, attenuated and pointed ..... 6. *Vesp. rufo-pictus.*

VESPERTILIO TRISTIS. *Vesp. vellere molli, nigricanti-fuliginoso; auribus mediocribus, rotundatis; tragis mediocribus arcuatis, apice rotundatis; rostro brevi obtuso; alis angustis.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin....	2	5
——— *caudæ*	2	5

	unc.	lin.
Longitudo *antibrachii*	2	1
——— *auris*	0	$3\frac{2}{3}$
Alarum amplitudo	13	0

The fur is dense in this species, but not long; dense fur extends on to the head, and leaves but a small portion of the muzzle, which is covered with shorter hair: the general colour is sooty black, and the hairs appear to be uniform to the root; those on the belly are slightly tinted with greyish at the point. The incisor teeth are $\frac{2-2}{6}$. The forehead is much arched; the muzzle short and obtusely rounded, very broad and hairy; the lower lip has a narrow transverse naked area at the tip; the nostrils are sublateral, moderately separated, and there is a slight depression between them. The ears are moderate, rounded, but with the upper, or anterior, margin nearly straight; the tragus is curved, and rather obtusely rounded at the point, about $2\frac{1}{2}$ lines in length, and $1\frac{3}{4}$ line in width. The wings are rather narrow, and have the membranes black; they extend to the heel of the hind-foot, which has the metatarsus narrow and long, the distance from the heel to the base of the toes exceeding the toes in length; the toes are shortish and equal, the nails are also short and but little curved; the heel-cartilage is short, bent back, and not easily brought in a right angle with the tibia, as in many of the species of the present genus. The hind-legs are rather long; the interfemoral membrane ample, naked above and below, excepting quite at the base; the tail is enclosed to the point in this membrane; the thumb is moderate.

Vespertilio Eschscholtzii. *Vesp. vellere longo fusco-nigricante, corpore subtùs pilis apicibus cinerascentibus; artubus fuscis; auribus brevibus; tragis angustis, ad apicem rotundatis, anticè emarginatis.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin	2	0
——— *caudæ*	2	0
——— *antibrachii*	1	9
——— *auris*	0	$3\frac{1}{2}$
Alarum amplitudo	12	0

Incisor teeth $\frac{2-2}{6}$; the outermost incisor of the upper jaw is smaller than the inner one. The forehead is much arched, and separated, as it were, from the muzzle by a deep transverse depression; on each side of the head is a naked groove, which runs over the eye. The muzzle is short and rounded, naked at the tip only, the other parts moderately well clothed with hairs: the nostrils open almost in front, and are more than usually approximated; their upper boundary is prominent, and there is a deep groove between them. On the inner side of the upper lip are two small fleshy folds, and some compressed tubercles situated toward the angle of the mouth; the lower lip has a narrow triangular naked area at the tip. The ears are short, broad and rounded, but have the upper margin subtruncated; on the inner side are two transverse ridges; the lower part of the

ear is extended forwards to the angle of the mouth. The tragus is narrow, curved, rounded at the point, indistinctly emarginated on the outer side, and about $2\frac{2}{3}$ lines in length. The wings are rather narrow, and extend along the hind-leg to the distal end of the tibia only. The hind-legs are moderate; the metatarsus narrow and long, the distance from the heel to the base of the toes exceeding the toes in length; the toes are rather short and nearly equal. The interfemoral membrane is ample, naked, excepting at the base; the heel-cartilage is short; the tail enclosed in the interfemoral membrane to the point; the thumb is very small.

Of the species described in this paper, *Vespertilio Eschscholtzii* approaches most nearly to the *V. tristis*; it is much smaller, however, than that animal, has the thumb smaller in proportion, and its colouring is less dark. Among the species of M. Temminck's Monograph our *V. tristis* most nearly resembles, in the form of its head and ears, the *V. blepotis* (pl. 53. fig. 2.); the *V. Eschscholtzii* (of which Mr. Cuming brought home several specimens) is at least one-third smaller.

VESPERTILIO MACROTARSUS. *Vesp. suprà cinereus, subtùs albicans; auribus longis, angustis, ad apicem acutis, posticè ferè rectis; trago elongato, attenuato, acuto; alis amplis fuscis, ad basin pallidioribus.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin....	2	3
——— ——— ad basin auris	0	5
——— *caudæ*	1	10
——— *antibrachii*.....	1	$9\frac{1}{3}$
——— *pollicis*	0	$3\frac{3}{4}$
——— *auris*	0	$6\frac{1}{2}$
——— pedis postici a calce ad apicem digiti	0	$6\frac{1}{2}$
Alarum amplitudo	11	0

The fur on the back is apparently dusky grey next the skin, and pale ashy grey externally, and on the under parts the hairs are grey at the base and whitish at the point. The incisors are $\frac{2-2}{6}$; the pair of incisors on either side of upper jaw nearly equal. The forehead is convex, and separated from the muzzle by a transverse depression: the muzzle somewhat produced and pointed, the mesial portion above and in front naked, the naked portion above extending about two lines from the tip, and separated from the somewhat swollen cheeks by a longitudinal groove on each side: between the nostrils, which are widely separated and pierced almost laterally, is a shallow groove. The lips have small scattered hairs, excepting at the tip, where they are naked; on the chin is a naked wart somewhat removed from the apex. The ears are largish and rather narrow, pointed, and have the hinder margin nearly straight. The tragus is narrowish, attenuated, and pointed at the apex. The wings are ample, and the membranes encroach on the back so as to reduce the portion covered with fur to a narrow strip of about half an inch

in width; they extend along the hind-leg to the heel only; the thumb is comparatively long; the hind-foot very large, and having the toes equal, excepting the outer one (according to the natural position of the foot, but the toe corresponding to the inner toe in most other animals), which is rather shorter. The interfemoral membrane is moderately ample, and does not extend quite to the tip of the tail, a portion of about one line in length being free. The heel-cartilage is very long.

In the large size of the hind-foot the present species approaches the *V. Hasseletii* of Temminck's Monograph, but it does not appear that that species has the wings encroaching on the back as in *V. macrotarsus*; the ears are much larger, the thumb also larger, tail longer, &c. The proportions, as compared with those of M. Temminck's *V. macrodactylus* and *V. brachypterus*, differ considerably, though both these species have the hind-foot large; the larger ears, longer thumb, and more ample wing will serve to distinguish it.

VESPERTILIO PELLUCIDUS. *Vesp. vellere longo, pallidè rufo, corpore subtùs cinerascenti-albo; alis fuscis, pellucidis; auribus magnis, apice acutis, posticè emarginatis; trago elongato, attenuato; rostro producto, depresso, subacuto.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin....	1	8
——— *caudæ*	1	$9\frac{1}{2}$
——— *antibrachii*.....	1	3
——— *auris*	0	7
Alarum amplitudo	9	6

The fur in this animal is long, of a delicate pale rufous on the upper parts of the body, but slightly tinted with grey next the skin; the under parts are ashy white. The incisor teeth are as usual $\frac{2-2}{6}$; the two innermost of the upper jaw are widely separated, long-pointed, and resemble canine teeth; the outer pair are very small. The forehead is considerably arched; the muzzle produced, pointed and depressed, and has a slight concavity above; the nostrils are widely separated, pierced laterally, and have a slight depression between them; the tip of the muzzle is naked. The lower lip has a small, smooth, naked space at the tip. The ears are of a very pale brown colour, large, transparent, pointed, and strongly emarginated behind; the tragus is very long and slender (its length being about $4\frac{2}{3}$ lines, and width at the base less than 1 line), and decreases gradually in width from the base to the point; close to its root, externally, is a slightly prominent angle. The wings are large and supported by very delicate and slender bones, very transparent, and extend slightly on to the toe of the hind-foot. The hind-legs are long and slender; the foot small; the metatarsus shorter than the toes, which are slender and very nearly equal, if we except the one to which the wing is slightly attached, which is distinctly shorter than the rest. The interfemoral membrane is ample, and presents a few scattered hairs: the heel-cartilage long. The tail is long, and enclosed in the membrane to

the point; the fourth vertebra from the base has much flesh about it, which forms a small lump,—perhaps this is accidental. The thumb is slender, but rather long.

This species is remarkable for having long and extremely slender limbs, and for the transparency of its flying-membranes. I could read this writing through the wing-membranes, moistened as they were with the spirit, at a distance of more than a quarter of an inch.

Vespertilio Meyeni. *Vesp. intensè rufescenti-fuscus, pilis ad basin albescentibus; corpore subtùs cinereo lavato; brachiis rufescentibus; rostro brevi, obtuso; auribus subtriangulis, ad apicem rotundatis, posticè emarginatis; tragis arcuatis, angustis, ad apicem subacutis.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin....	1	7
——— *caudæ*.....	0	11
——— *antibrachii*.....	1	1
——— *auris*.....	0	$2\frac{3}{4}$
Alarum amplitudo.....	6	6

This species has the usual number of incisors $\left(\frac{2-2}{6}\right)$; the innermost pair of the upper jaw are larger than the external pair, and bifid at the apex. The forehead is moderately arched; the muzzle is broad and but sparingly clothed with hairs, swollen at the sides; two longitudinal grooves mark the usual external boundaries of the nasal bones; and these grooves, at first shallow, become deeper behind, where they are curved outwards towards the eyes, over which is a small fleshy tubercle; the upper part of the nose (between the two grooves mentioned) is almost naked, but a few minute scattered hairs are observed at the tip, and even in front, and along the edge of the upper lip. The lower lip presents a very small triangular naked patch at the tip. The nostrils are rather widely separated, and open obliquely outwards. The ears are short, subtriangular, have the extreme point rounded, and the posterior border slightly emarginated; on the inner side are three or four transverse rugæ. The tragus is narrow, subpointed, and has a notch in the middle of the external margin. The wings are somewhat narrow, and have the membranes of a very dark brown colour, the limbs being of a dusky purplish red tint; the membrane of the wing extends to the base of the toes. The thumb is small; the hind-legs shortish; the metatarsus short, being about equal in length to the toes, which are very nearly equal, the outer one being but a trifle shorter than the others. The interfemoral membrane is by no means ample, brown above and very pale beneath, where pale scattered hairs are observable, especially near the tail; above, this membrane appears to be naked, excepting at the base. The heel-cartilage is moderate, and on the lower or outer side of this cartilage is an obtusely-angular piece of membrane, about 2 lines in length and 1 line in breadth. The tail has the extreme point free.

I have attached to this and one of the foregoing species the names

of two able naturalists who have contributed to our knowledge of the zoological productions of the Philippine Islands.

The *V. Meyeni* apparently approaches most nearly to the *V. tralatitius* of Temminck's Monograph, but has the muzzle broader and more rounded, the ears less pointed, the tail, antibrachium and tibiæ shorter, the latter considerably so; the foot is also shorter and broader than represented in M. Temminck's figure of that species. The colouring (so far as one may judge from specimens preserved in spirit) also differs.

VESPERTILIO RUFO-PICTUS. *Vesp. suprà ochraceis, pilis ad basin cinereis; corpore subtùs flavescenti-albo; alis nigrescentibus, areâ magnâ ad basin, brachiis, membranâque interfemorali rufis; auribus longis, angustis, acutis, posticè distinctè emarginatis; tragis attenuatis, acutis.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin	2	3
——— *caudæ*	1	11
——— *antibrachii*	1	11
——— *auris*	0	$5\frac{3}{4}$
Alarum amplitudo	13	6

Fur moderate; on the upper parts of the body pale grey at the root, and of a delicate yellow colour externally; on the under parts of the body yellowish white, scarcely tinted with grey at the root. The wing-membranes are black, excepting in the region of the bones of the fingers and a large area at the base, at which parts they are of a bright red colour; a straight line drawn obliquely across the wing from the thumb to the heel would mark the boundary of the red basal portion. The small strip of membrane above the arm is red, clouded with black. The limbs and interfemoral membrane are also red, and the naked tip to the muzzle, as well as the ears, are very pale flesh-colour. The hinder toes are dusky at the tip.

The forehead is but little arched; the muzzle is produced, but somewhat rounded at the tip, which is the only part which is naked, and even here a few minute scattered hairs are observable in the middle. Above the nose are two longitudinal grooves. The lower lip has a semicircular naked space at the tip, and a tubercle is observed between this point and the throat. The nostrils are lateral, and the space between them is slightly depressed. The ears are long, rather narrow and pointed, and distinctly emarginated behind. The tragus is about $4\frac{1}{4}$ lines long, narrow, attenuated and pointed. The wings are very ample and extend to the base of the toes. The thumb is long; the hind-legs moderately long; the metatarsus shorter than the toes (claws not included), and these are very nearly equal. The interfemoral membrane is moderately ample, well clothed with hair at the base, and a few longish scattered hairs are observable on other parts, especially on the upper surface. The heel-cartilage is long, extending to within about four and a half lines of the tail.

This species very much resembles the *Vespertilio pictus* of Pallas, but is much larger, and differs in the form and proportions of its ears.

Taphozous Philippinensis. *Taph. vellere brevi fuscescente vel castaneo, corpore subtùs pallidiore; pilis ad basin albescentibus; auribus mediocribus.*

	unc.	lin
Longitudo ab apice rostri ad caudæ basin	3	$1\frac{1}{2}$
———— *caudæ*	0	8
———— ab apice rostri ad basin auris	0	5
———— *auris*	0	6
———— *antibrachii*	2	7
———— *tibiæ*	0	11
Alarum amplitudo	13	6

This species approaches most nearly to the *Taphozous saccolaimus*, but differs in being considerably smaller, in having the muzzle shorter and more pointed, the ears larger, and the feet considerably smaller; the colouring moreover is different. It agrees with *T. longimanus* in having no throat-pouch or nakedness at that part, but differs in its proportions, &c.

The fur is short and by no means dense, nearly white next the skin both on the upper and under parts of the body; on the upper parts the hairs have the visible portion tipped with reddish brown or chestnut colour, sometimes brown. The under parts are always of a paler hue than the upper, and sometimes almost white, merely suffused with pale chestnut-brown: on the throat this colour is usually more intense. The wing-membranes are brown, sometimes dusky; the interfemoral membrane assumes a paler hue beneath.

The head, viewed from above, presents a triangular figure, of which the tip of the muzzle forms the apex, and is somewhat acute; the nose is slightly prominent; the nostrils terminal, and but slightly separated; the upper lip terminates in a point; the under lip is somewhat swollen at the extremity, and a largish transverse swelling or tubercle is observed below the chin. The ears have the anterior part running on to the forehead, but separated by a space of about two lines, which space is occupied by the deep frontal pit; they are of moderate size, perhaps might be called rather large; the lateral and anterior margins meet so as to form nearly a right angle; on the anterior margin, which is thickened, is a series of pointed tubercles; the lateral or outer margin is very slightly emarginated, and on the inner side numerous transverse small folds or ridges are perceptible; the point of the ear is narrow, but rounded. The tragus is scarcely 2 lines in length, and about $2\frac{1}{2}$ lines in width, rounded at the apex and contracted at the base. The tail is enclosed in the interfemoral membrane rather less than one-third of its length. The interfemoral membrane is about eleven lines in antero-posterior extent, naked beneath, slightly hairy above to the base of the free portion of the tail, which has a few long scattered hairs. The feet are almost naked, having only a few scattered hairs. The limbs are of a pale dirty flesh-colour.

The teeth most nearly resemble those of skull fig. 11. pl. 60. of Temminck's Monograph, but the incisors are more expanded at the apex than represented in that figure, and very deeply notched. The

formulæ are the same, viz. incisors, $\frac{0}{4}$; canines, $\frac{1-1}{1-1}$; molars, $\frac{5-5}{5-5}$; the first false molar of the upper jaw is small and almost hidden by the gum; the second distinct; both first and second false molars of lower jaw are distinct; the latter is most elevated, but the foremost is the largest. The palate has numerous well-developed transverse ridges, seven in number, if we commence from between the canines, in front of which are two others less distinct; the third, which is between the false molars, is most developed. The tongue is thick, but pointed at the apex, and presents a triangular transverse section, extending in its ordinary position to the incisor teeth, which on the inner side are covered by the gum up to their points.

Besides these, and the Philippine Island Bats noticed or described in the Proceedings for May 1843, I have to add, as also forming part of Mr. Cuming's collection, a species of *Nycticejus* which agrees most closely with the *N. Borbonicus*; this and the *Taphozous Philippinensis* appear to be extremely abundant in the Philippine Islands; and lastly, a species of *Dysopes*, which I feel very little doubt is the *D. tenuis* of Horsfield; it agrees most closely with the detailed description and figure given by Temminck.

January 28, 1845.

William Horton Lloyd, Esq., in the Chair.

A communication was read from Joseph James Forrester, Esq., Corr. Memb., of Oporto, which was accompanied by a donation of three specimens of *Salamandra maculosa*, Bonap., and a Skin of the *Genetta vulgaris*, Cuv., the latter presented to the Society by E. J. Johnston, Esq., Her Britannic Majesty's Consul at Oporto.

Mr. Montgomery read extracts from a letter from Dr. Templeton, Royal Artillery, Columbo, Ceylon, and exhibited to the Meeting a collection of land and freshwater Shells from that island, comprising several new and rare species hitherto undescribed. Amongst others are a new species of each of the following genera:—*Achatina, Helix, Neritina, Ampullaria, Valvata, Planorbis,* and *Melania?*

"Description of three new species of Shells belonging to the genus *Artemis*," by Sylvanus Hanley, Esq.

Artemis simplex. *Art. testâ orbiculari-subtrigonâ, solidâ, subinæquilaterali, nitidâ, eburneâ, ventricosâ, concentricè et subimbricatim sulcatâ; sulcis haud confertis; margine ventrali arcuato; dorsali utrinque declivi, anticè retuso, posticè arcuato; utrâque extremitate rotundatâ; lunulâ haud magnâ, impressâ; areâ dorsali posticâ nullâ.* Long. 1·63; lat. 1·55 poll.

Index Testaceologicus, sup. t. 15. f. 41.

Hab. Panama, St. Elena. Mus. Cuming, Hanley.

The general outline, owing to the abruptness of its slopes, closely resembles that of *excisa*; but in that species the sulci (or rather costellæ) are elevated, the hinder dorsal area is excavated, and the lunule is large and ill-defined. The colour is ivory-white, with usually a zone or two of very pale blue; and, contrary to the other two species, the greatest length is from the beaks to the lower or ventral margin.

Artemis subquadrata. *Art. testâ suborbiculari, subquadratâ, compressâ, subpellucidâ, valdè inæquilaterali, intus extusque albidâ, concentricè substriatâ; margine ventrali posticè arcuato, anticè convexo et sursùm acclivi; dorsali anticè convexo haudque declivi, posticè subrecto et declivi; extremitate posticâ latissimâ, anticâ angustâ; lunulâ magnâ, subobsoletâ.* Long. 1·62; lat. 1·75 poll.

Ind. Test., sup. t. 15. f. 39.

Hab. St. Elena, West Columbia. Mus. Cuming, Hanley.

The peculiar breadth of the posterior side, whose upper or dorsal angle is horizontal, or even ascending, the freedom from incurvation and abrupt slope of the front dorsal line, and the scarcely defined

lunule, concur to render this rare shell strikingly different from any known species in this genus.

ARTEMIS SCULPTA. *Art. testâ orbiculari-subquadratâ, magis minusve ventricosâ, solidiusculâ, inæquilaterali, subnitidâ, sordidè albidâ aut albido-lutescente (nonnunquam pallidè livido-fuscescente alboque marmoratâ), concentricè sulcatâ; striis radiantibus, sulcos confertissimos anticè (plerumque etiam posticè) decussantibus; sulcis medio subimbricatis, ad utramque extremitatem lamellosis; margine ventrali subarcuato; dorsali posticè convexiusculo vixque declivi, anticè retuso et paulò declivi; lunulâ impressâ, ovato-cordatâ; areâ dorsali posticâ nullâ; natibus haud prominentibus.* Long. 1·80; lat. 2 poll.

Ind. Test., sup. t. 15. f. 42.

Hab. Australia? Mus. Hanley, &c.

The radiating lines are not always perceptible on the posterior side of the adult, and the concentric sulci in that case appear fimbriated. It is allied to *subrosea* of Gray.

February 11, 1845.

William Yarrell, Esq., in the Chair.

A letter was read from Dr. Dickson (Corresponding Member), dated Tripoli, January 4th, announcing that he has in his possession five Birds of Carthage, *Pterocles guttatus*?, Temm., alive and quite tame, which he would be happy to present to the Society if a means of conveyance to this country could be obtained.

A specimen of *Cancer Norvegicus*, taken by a fishing-boat at the "Silver Pits," eighty miles eastward of Scarborough, was presented by Mr. Ingarfield.

A communication was read from James Stark, M.D., F.R.S.E., in which he advocates the hypothesis that the *Tetrao medius* is neither a hybrid nor a distinct species, but merely an immature male of the *Tetrao Urogallus* or Capercailzie, founding his opinion on the appearance of the *Tetrao medius* immediately after the re-introduction of the Capercailzie into Scotland by the Earl of Breadalbane, and on the fact, that no two species of a genus, however similar they may be in appearance, pair voluntarily while in a state of nature.

Mr. Fraser laid before the Meeting a collection of Birds' Skins which have been presented to the Society by Lieut.-Colonel Owen, K.C.A., of Oporto, containing the following species: viz. *Buteo vulgaris*, Flem.; *Sturnus vulgaris*, Linn.; *Pica caudata*, Flem.; *Garrulus glandarius*, Flem.; *Picus major*?; *Œdicnemus crepitans*, Selby; *Fulica ater*, Penn.; *Spatula* (*Anas clypeata*, Linn.); *Mareca* (*Anas Penelope*, Linn.), and *Larus argentatus*, Mont.

The Secretary called the attention of the Meeting to a specimen of a new species of *Lagomys*, discovered by Bryan H. Hodgson, Esq., Corr. Memb., in the Nepaul district, which he describes as Lagomys Nepalensis. The present species adds a seventh to this most interesting group.

February 25, 1845.

R. C. Griffith, Esq., in the Chair.

"Descriptions of six new species of *Donax*, in the collection of Hugh Cuming, Esq. (Corr. Memb.)," by Sylvanus Hanley, Esq.

Donax Ticaonicus. *Don. testâ cuneiformi, convexâ, nitidissimâ, solidâ, obliquâ, lævigatâ, maximè inæquilaterali, albidâ, aut livido-purpurascente, concolore, epidermide flavescente indutâ; margine ventrali integro, magis minusve convexo; dorsali, anticè declivi et subrecto aut subretuso, posticè subrecto et subitò declivi; extremitate lateris antici producti, attenuatâ, rotundatâ; latere postico brevissimo, truncato et infernè obtusè angulato; pube concentricè et profundè rugosâ; natibus acutis, prominentibus; superficie internâ aut violaceâ aut albidâ violaceâ posticè fucatâ; dente laterali antico remoto, postico approximato.* Long. 1·; lat. 1·50 poll.

Hab. Ticao, Philippines (Cuming).

Remarkable for its obliquity and the abrupt truncation of the posterior side.

Donax culter. *Don. testâ elongatâ, angustâ, convexâ, satis inæquilaterali, nitidâ, striulis exilibus confertim radiatâ, variis coloribus pictâ (plerumque purpureâ, sed etiam flavâ lineis purpureo-brunneis radiatâ, albidâ radiis violaceis aut lividis, aurantiâ et roseâ, sæpè radiis albidis ornatâ); margine ventrali crenulato, anticè subrecto, posticè convexo; dorsali anticè recto et vix paululùm declivi, posticè convexo satisque declivi; latere antico producto, ad extremitatem obtusè rotundato; postico rotundato-cuneiformi; lunulâ ligamentoque angustis; pube striis simplicibus radiatâ; costâ umbonali obtusissimâ; dentibus lateralibus haud remotis.*

Var. *a. Testâ subinæquilaterali; margine ventrali medio subposticè retuso; dente laterali antico, plerumque magis approximato.*

Var. *b. Testâ minus elongatâ et magis inæquilaterali; margine ventrali rarò retuso; dente laterali antico plerumque magis remoto.*

Long. 0·50; lat. 1·50.

Hab. Var. *a.* Matzellan, Gulf of California (Cuming).
Var. *b.* Acapulco (Cuming).

Rather a common shell, and closely allied to *pulchella*.

Donax asper. *Don. testâ trigonâ, ventricosâ, solidâ, subinæquilaterali, albidâ aut carneâ, anticè nitidiusculâ et radiatim striatâ, posticè impolitâ et radiatim costellatâ; striis exilibus et simplicibus; costellis parvis, decussatis, aut subsquamosis aut subgranosis, supra costam umbonalem angulatam confertis; margine ventrali crenato, arcuato; dorsali antico, valdè declivi, subrecto; postico retuso, inermi, subitòque declivi: extremitate lateris antici longioris, rotundatâ, posticâ angulatâ; natibus valdè prominentibus et maximè*

incurvatis; pube planâ; dentibus lateralibus approximatis. Long. 1·30; lat. 1·60 pol.

Hab. Tumbez, Peru (Cuming).

Closely resembling *dentiferus*, but not provided with the characteristic tooth, much stronger and more triangular, and with its ventral edge more arcuated, and its front extremity more attenuated. The front dorsal edge appears retuse (which it is not in reality), from the lateral projection of the swollen beaks. The lower margin is stained with violet anteriorly.

Donax navicula. *Don. testâ elongato-trigonâ, crassâ, subventricosâ, nitidâ, subinæquilaterali, sublævigatâ (striis radiantibus tantum in medio perspicuis), albâ, epidermide flavâ indutâ, propè marginem dorsalem utrinque brunneo-purpurascente strigatâ; margine ventrali in medio ventricoso, intus crenato; dorsali anticè subrecto et subdeclivi, posticè incurvato et declivi; areâ posticâ lævi, subconcavâ; latere antico longiore, angustato, ad extremitatem rotundato; postico cuneiformi, ad extremitatem obtuso; ligamento minimo; costâ umbonali obtusâ; superficie internâ albidâ, utrinque supernè purpureâ; dentibus lateralibus maximè approximatis.* Long. 0·40; lat. 0·90 poll.

Hab. Gulf of Nicoya, Central America (Cuming).

Allied to *Californiensis*, but more triangular.

Donax gracilis. *Don. testâ elongatâ, angustâ, nitidâ, valdè inæquilaterali, compressâ, sublævigatâ, albidâ aut pallidè violaceo-rufescente, epidermide lutescente indutâ; margine ventrali convexo aut subarcuato, haud flexuoso, intus crenulato; dorsali magis minusve livido, utrinque subrecto, anticè vix paululùm declivi, posticè valdè declivi; latere antico producto, attenuato, ad extremitatem rotundato, postico acuminato-cuneiformi; ligamento minimo; areâ posticâ lævi, obtusissimâ; costâ umbonali obtusâ; superficie internâ purpurascente; dentibus lateralibus perspicuis, approximatis.*

Var. *b. Testâ albidâ, radiis paucis livido-rufescentibus ornatâ.*

Var. *c. Testâ rufescente aut lividâ.*

Long. 0·40; lat. 1 poll.

Hab. Bay of Guayaquil. Var. *b.* Chiriqui. Var. *c.* Bay of Caraccas (Cuming).

Allied to *Owenii*, but with the margin crenulated.

Donax sordidus. *Don. testâ abbreviato-cunciformi, convexâ, nitidiusculâ, solidâ, valdè inæquilaterali, striis exilibus simplicibus confertim radiatâ, sordidè albidâ; lineis elevatis obliquis subconcentricis, partem superiorem et lævigatam testæ posticè asperantibus; margine ventrali crenulato, medio arcuato; dorsali antico, declivi et subrecto; postico subrecto et valdè declivi; latere antico attenuato; postico brevi et infernè (in adultis etiam supernè) obtusè angulato; pube fortiter et confertim rugis subdecussatis concentricè exaratâ; costâ umbonali subangulatâ; superficie internâ albidâ, purpureo infectâ; dentibus lateralibus approximatis, antico permagno.* Long. 0·70; lat. 1 poll.

Hab. Cape of Good Hope. Mus. Brit., Cuming.

Intermediate between *striata* and *semisulcata*. The raised oblique lines which roughen the posterior side near the beaks where the striæ have become entirely obsolete, are a striking character in this rare species.

Mr. Fraser exhibited to the Meeting and characterized three new species of Birds from the Society's collection, viz :—

PALÆORNIS MODESTUS. *Pal. ptilose viridi; genis pallidè cervinis; vittâ a naribus ad oculos viridescenti-nigrâ; mandibulis nigris.*
Hab. ——?

This bird is nearly allied to the *P. Pondicerianus*, but differs in the colour of the cheeks, breast and mandibles; it differs also from *P. Malaccensis* in the paler colour of the cheeks, and that colour not extending further back than the ears, in the colour of the beak, &c.; it may also be readily distinguished from Mr. Hodgson's Nepaul species by the colouring of the cheeks.

LORIUS SUPERBUS. *Lor. capite et tectricibus majoribus inferioribus alarum nigris; genis, lateribus, pectore et uropygio rubris; nuchâ, ventre, femore, et tectricibus caudæ inferioribus cæruleis; scapulis, tectricibus alarum inferioribus minoribus, et dimidio terminali caudæ cæruleis; alis externis viridibus.*
Hab. ——?

This bird is about the size and is closely allied to the *Lorius Philippensis*, Briss., but differs in having the shoulders and smaller under wing-coverts blue, the larger ones black (in this respect it somewhat resembles the *Lorius domicellus*, Auct.); in the absence of the red band immediately below the black crown; and in having an entire red band from shoulder to shoulder, whereas in *L. Philippensis* it is only partial.

LARUS BRIDGESII. *Lar. ptilose griseâ; capite et mento pallidè cinereis; primariis et secundariis nigris, apicibus secundariarum albis, fasciam albam trans alas formantibus; quibusdam primariis apicibus albidis; vittâ nigrâ lat.* 1 *poll. prope apices remigum; rostro pedibusque nigris.*

	poll.
Tot. long.	18
Alæ	11
Cauda	$5\frac{1}{2}$
Rictus	$2\frac{1}{2}$
Tarsi	2
Digitus medius	$1\frac{3}{4}$

From Valparaiso, Chile. Collected by Mr. Thomas Bridges, Corr. Memb.

This apparently new species of Gull is closely allied to the *Larus fuliginosus*, Gould, but differs in the beak being much more slender, in the general colour being lighter, in the head and chin being nearly white, in having a white band across the wings, and the black band across the tail being more decided.

March 11, 1845.

Rev. John Barlow, M.A., F.R.S., Sec. R.I., in the Chair.

Four specimens of Fish from the hot springs of Thermopylæ were presented to the Society by James Wyllie, Esq. Mr. Yarrell stated them to be Cyprinoid Fishes of the genus *Leuciscus*, but from their highly desiccated state and very small size it was impossible to refer them to a definite species.

A paper by Sylvanus Hanley, Esq., was read, containing descriptions of two new species of *Donax* :—

Donax assimilis. *Don. testâ cuneiformi, magis minusve crassâ, anticè compressâ, posticè ventricosâ, valdè inæquilaterali, lividâ, albo-violascente, aurantiâ aut flavidâ, zonis saturatioribus aut violaceis plerumque pictâ, radiatim striatâ; striis haud confertis, anticè simplicibus, posticè elevatis et decussatis; margine ventrali crenulato, haud arcuato, anticè sursum acclinato; dorsali, anticè subdeclivi subrecto aut convexiusculo, posticè subrecto et valdè declivi; latere antico producto, ad extremitatem rotundato et attenuato; postico perbrevi et infernè angulato; costâ umbonali subangulatâ; pube decussatâ, et costellâ ad extremitatem dentiferâ, sæpè radiatâ; ligamento prominente et satis magno; superficie internâ in adultis, prope marginem violaceâ; dente laterali antico haud remoto, postico subapproximato.* Long. 1 ; lat. 1·55 poll.

Hab. Panama. Mus. Cuming, Hanley, &c.

Very variable in colouring, often with a short purple perpendicular ray upon the umbones; sometimes with three or four pale rays on a darker ground, but usually uniform and only marked when aged, with the rib-like stria projecting at the margin like a tooth. This latter character and the identity of its sculpture render the species liable to be confused with *dentifera*, but the greater tenuity and less elongated shape of that shell is preserved even in the younger specimens.

Donax lubricus. *Don. testâ cuneiformi, compressâ, solidiusculâ, valdè inæquilaterali, nitidissimâ, lividâ aut albo-violascente, anticè lævigatâ, posticè striis radiantibus ornatâ; margine ventrali exiliter crenulato, convexo aut convexiusculo; dorsali, utrinque subrecto, anticè declivi, posticè valdè declivi; latere antico attenuato, ad extremitatem rotundato; postico perbrevi et infernè obtusè angulato; vulvâ rugis confertis concentricis, striisque exilibus radiantibus, eleganter decussatâ; costâ umbonali subobtusâ; natibus acutis; dentibus lateralibus obsoletis.* Long. 0·6 ; lat. 0·8 poll.

Hab. ——? Mus. Cuming.

Peculiar for uniting a smooth surface to a crenulated margin.

March 25, 1845.

William Horton Lloyd, Esq., in the Chair.

Two specimens of *Salamandra*; a Tree Frog, *Rana arborea*; and a *Scolopendra cingulata*, were presented to the Society by Joseph James Forrester, Esq., of Oporto, Corr. Memb.

Mr. Gould exhibited to the Meeting a new species of *Trogon*, from South America, and seven new Birds from Australia, which he characterized as follows:—

TROGON PUELLA. *Trog. loris, plumis auricularibus et gulâ fusco-nigris; capite, corpore superiore, et pectore aureo-viridibus; alis nigris; tectricibus alarum maculis minimis albis ornatis; corpore inferiore vividè coccineo, separato a viridi pectore fasciâ semilunari albâ; tribus remigibus exterioribus nigris vittis albis angustis frequentibus ornatis; femoribus nigris.*

Lores, ear-coverts and throat dull black; head, all the upper surface and chest golden green; wings black; the coverts very minutely freckled with white, and the primaries with a very narrow line of white along the basal portion of their outer webs; all the under surface scarlet, separated from the green of the chest by a semilunar mark of white; two middle tail-feathers golden green; the two next on each side golden green on their outer webs and black on their inner, the whole six tipped with black; the three outer feathers on each side black, crossed by numerous narrow bars of, and narrowly tipped with, white; thighs black; bill orange; irides red; feet dark grey.

Total length, 10 inches; bill, 1; wing, $5\frac{1}{2}$; tail, $5\frac{3}{4}$; tarsi, $\frac{1}{2}$.

Hab. Escuintla, South America.

Remark.—Nearly allied to *Trogon collaris*, Vieill.

CUCULUS OPTATUS. *Cuc. corpore superiore cæruleo-griseo; pogoniis internis primariarum fasciis latis albis ornatis; remigibus saturatè violaceo-brunneis; apicibus subalbidis, serie macularum oblongarum albarum alternatim ordinatâ; corpore subtùs albo, fasciis nigris.*

The whole of the upper surface slaty grey; inner webs of the primaries broadly barred with white; tail-feathers dark violet-brown, with a row of oblong spots of white placed alternately on either side of the stem, and slightly tipped with white; the lateral feathers have also a row of white spots on the margin of their inner webs; chin and breast light grey; all the under surface buffy white, crossed by bands of black; irides, bill and feet orange.

Total length, 13 inches; bill, $1\frac{1}{4}$; wing, $7\frac{3}{4}$; tail, $6\frac{1}{2}$; tarsi, $\frac{3}{4}$.

Hab. Port Essington, Australia.

Remark.—Closely allied to the Common Cuckoo (*Cuculus canorus*) of Europe.

CUCULUS INSPERATUS. *Cuc. capite, guld, et corpore superiore cæruleo-griseis; alis, dorsoque nitidè viridescentibus; caudâ brunneo-viridi singuld plumâ apice albo, et marginibus pogoniorum interiorum ordine macularum albarum triangularium ornatis; parte subscapulari tectricibus caudæ inferioribus, crissoque rufis; corpore subtùs rufo-tincto-griseo.*

Head, throat and all the upper surface dark slate-grey; back and wings glossed with green; tail glossy brownish green, each feather tipped with white, and with a row of triangular-shaped white marks on the margins of the inner webs; primaries and secondaries with a patch of white on their inner webs near the base; edge of the shoulder white; under surface of the shoulder, vent and under tail-coverts rufous; the remainder of the under surface grey, washed with rufous; bill black; feet olive.

Total length, $9\frac{1}{4}$ inches; bill, 1; wing, $6\frac{1}{2}$; tail, 5; tarsi, $\frac{5}{8}$.

Hab. New South Wales.

Remark.—Nearly allied to *Cuculus cineraceus* of Vigors and Horsfield.

CUCULUS DUMETORUM. *Cuc. capite, uropygio, colloque saturatè cæruleo-griseis; alis, caudâ dorsoque metallicè brunneis; apicibus remigum leviter albis; pogoniis interioribus serie macularum triangularium parvarum ornatis; pectore griseo, rufo-tincto.*

Head, neck and rump dark slate-grey; back, wings and tail bronzy brown; tail-feathers slightly tipped with white and with a row of small triangular-shaped spots on the margins of their inner webs; breast grey, washed with rufous; under surface of the shoulder, flanks, vent and under tail-coverts deep rufous; irides brown.

Total length, $8\frac{1}{2}$ inches; bill, $\frac{7}{8}$; wing, 5; tail, $4\frac{1}{2}$; tarsi, $\frac{1}{2}$.

Hab. Port Essington, Australia.

Remark.—Nearly allied to *Cuculus insperatus.*

SPHENŒACUS GRAMINEUS. *Sphen. vittâ supra oculos albâ; corpore supernè brunneo; mediâ plumarum saturatè brunneâ; subtùs griseo; lateribus crissoque cervinis; mediâ parte singulæ plumæ pectoris lineâ minimâ saturatè brunneâ ornatâ.*

Stripe over the eye white; all the upper surface brown, the centres of the feathers being dark brown; secondaries brownish black, margined with buff; tail pale reddish brown, with dark brown shafts; under surface grey, passing into buff on the flanks and vent; each feather of the breast with a very minute line of dark brown down the centre; bill and tarsi fleshy brown.

Total length, $5\frac{1}{4}$ inches; bill, $\frac{5}{8}$; wing, $2\frac{1}{4}$; tail, $2\frac{5}{8}$; tarsi, $\frac{3}{4}$.

Hab. Van Diemen's Land and the southern coast of Australia generally.

PACHYCEPHALA GLAUCURA. *Pach. capite, loris, spatio infra oculos, et latâ maculâ semilunari trans pectus saturatè nigris; guld, intra maculam nigram, albâ; nuchâ posteriore, lineâ angustâ apud latera*

pectoris pone semilunam nigram, et corpore inferiore flavis; caudâ griseâ; tectricibus caudæ inferioribus albis vel subflavis.

Head, lores, space beneath the eye and a broad crescent-shaped mark from the latter across the breast deep black; throat within the black, white; back of the neck, a narrow line down each side of the chest, behind the black crescent, and the under surface yellow; back and wing-coverts yellowish olive; wings dark slate-colour, margined with grey; tail entirely grey; under tail-coverts white, or very slightly washed with yellow; irides reddish brown; bill black; feet dark brown.

Total length, 7 inches; bill, $\frac{5}{8}$; wing, 4; tail, $3\frac{5}{8}$; tarsi, 1.

Hab. Van Diemen's Land.

Nearly allied to *Pachycephala gutturalis*, but distinguished by a shorter bill and by the colouring of the tail, which is entirely grey.

Cysticola campestris. *Cyst. capite ferrugineo-rubro, dorso tectricibusque alarum brunneo-griseis; singulis plumis corporis superioris fasciâ longitudinali saturatè brunneâ ornatis; caudâ rufo-brunneâ, plumis duabus mediis latâ maculâ nigrâ juxta apices; corpore subtùs pallidè cervino.*

Head rusty red; back and wing-coverts brownish grey, all the feathers of the upper surface with a broad stripe of dark brown down the centre; wings blackish brown, the primaries margined externally with rusty red, and the secondaries edged all round with brownish grey; tail reddish brown, all but the two centre feathers with a large spot of black near the tip; all the under surface pale buff.

Total length, $5\frac{3}{4}$ inches; bill, $\frac{5}{8}$; wing, $2\frac{3}{8}$; tail, $2\frac{3}{4}$; tarsi, $\frac{3}{4}$.

Hab. Australia.

Remark.—For the loan of this new species I am indebted to the kindness of H. E. Strickland, Esq.

Calamoherpe longirostris. *Cal. vittâ pallidâ, supra oculos cervinâ; corpore supernè rufo, subtùs saturatè cervino; mento albido.*

Faint line over the eye fawn-colour; all the upper surface reddish brown, becoming more rufous on the upper tail-coverts; primaries and tail dark brown, fringed with rufous; chin whitish; all the under surface deep fawn-colour; irides yellowish brown.

Total length, $6\frac{1}{2}$ inches; bill, $\frac{15}{16}$; wing, 3; tail, 3; tarsi, 1.

Hab. Western Australia.

April 8, 1845.

William Horton Lloyd, Esq., in the Chair.

A number of Australian Birds' skins, presented to the Society by John Osborne Balfour, Esq., were exhibited. Two of the specimens were from Moreton Bay, the others principally from Bathurst.

Descriptions of three new species of Bivalve Shells, of the genera *Cytherea* and *Venus*, by Sylvanus Hanley, Esq. :—

Cytherea Ovum. *Cy. testâ ovatâ, solidissimâ, æquivalvi, ventricosâ, nitidâ, lævigatâ, albidâ, epidermide fulvâ indutâ; margine ventrali integro, arcuato; dorsali, utrinque convexiusculo et subdeclivi; latere antico rotundato; postico obtusè subangulato, supernè glauco-cineraceo; natibus rectè incurvatis, sæpè erosis; lunulâ obsoletâ; superficie internâ albidâ, posticè livido-purpurascente infectâ; dente postico leviter crenulato; sinu palliari vix ullo.* Long. 0·90; lat. 1·20 poll.

Index Test., sup. t. 15. f. 21. Mus. Cuming, Hanley.

Hab. ——?

Remarkable for its peculiar solidity and the equality of its sides. It bears a slight resemblance to the true *casta* of Chemnitz, but is a more ovate shell.

Venus Bruguieri. *Ven. testâ oblongâ, solidiusculâ, subnitidâ, convexâ, valdè inæquilaterali, aut pallidè brunneâ, radiis paucis albis ornatâ, aut fusco-cineraceâ, radiis saturatioribus angustis remotis interruptim pictâ; radiatim sulcatâ; sulcis in medio subimbricatis, utrinque subdecussatis, et posticè in costellas (plerumque subgranosas) mutatis; margine ventrali subrecto aut paulò convexiusculo; dorsali, posticè vix declivi, subrecto aut convexiusculo, anticè subdeclivi et convexiusculo; extremitate anticâ rotundatâ; latere postico producto, obtusè et obliquè biangulato; margine postico magis minusve convexo; natibus curvatis et radio brevi livido posticè ornatis; lunulâ subobsoletâ; ligamento subinfosso; margine cardinali intus purpureo; dentibus angustis, recurvis, parallelis.* Long. 0·85; lat. 1·40 poll.

Index Test., sup. t. 15. f. 59. Mus. Cuming, Hanley.

Hab. ——?

Belonging to the section *Pullastra*, and allied to *decussata*, but easily distinguishable by its shape and peculiar sculpture. It has however been figured for that species in the 'Encyclopédie Méthodique,' pl. 283. f. 4.

Venus magnifica. *Ven. testâ suborbiculari, subcordatâ, tumidâ aut ventricosâ, solidissimâ, valdè inæquilaterali; margines versùs*

purpureo tinctâ, umbones versùs albidâ brunneo sparsim maculatâ; lineis concentricis, sulcisque radiantibus decussatâ; lineis, anticè undosis et paulò elevatis, posticè obsoletis, mediò planulatis et sursùm spectantibus; sulcis frequentibus, profundis; margine ventrali arcuato, intusque crenato; dorsali, anticè convexo et declivi, posticè convexo et vix declivi; latere postico majore, obtuso; natibus maximè curvatis; pube, lunulâque prominente cordiformi, livido-purpureis; ligamento infosso; superficie internâ albidâ, immaculatâ; dentibus ut in V. puerperâ. Long. 5·; lat. 5 poll.

Hab. Ticao, on the sands; Cuming. Mus. Cuming.

This splendid shell is most closely allied to *puerpera*, but the cessation of the concentric ridges on the posterior side, the tinge of purple which environs the whole margin, and the absence of any coloured rays, enable us at once to separate them. The concentric lines gradually become less elevated and more distant towards the lower margin, and finally (in the adult) entirely disappear. The radiating sulci in aged specimens are so broad at their extremity as to give the interstitial spaces the appearance of costellæ.

Abstract of a paper on Nepalese Birds, by Bryan H. Hodgson, Esq., Corr. Memb., late British resident at Nepal:—

Brachypodinæ.

Genus *Stachyris*, mihi (olim *Cilathora*). Types, *S. nigriceps*, *pyrops* et *chrysæus*, all new.

Bill as long as head, strong and straight, elongate-conic, much compressed; towards base much higher than broad, with its ridge elevated and keeled between the large nareal fosses; rounded forwards, and the tips either straight, entire and depressed, or the upper one suddenly inclined, with remote notch; gape smooth; frontal plumes rigid, and concealing the base of the bill; nares placed at fore end of the fosse, and covered by a salient arched incumbent scale, which closes the aperture forwards; tongue narrow, simple, with bifid jagged tip; wings short, bowed, perfectly rounded; tail moderate, gradated, rather cuneate than fan-shape, and either frayed or subrigid; feet suited to creeping and clinging; tarse elevate and strong, longer than central toe and nail, and nearly or quite smooth; toes short, depressed, unequal, basally connected; hind large, and equal to outer fore toe; nails repent and Parian. Exclusively monticolous and shy of man; not gregarious; feeds on tiny hard insects and the larvæ and pupæ of tree-haunting species—rarely on seeds; exclusively arboreal; builds large globular nests, which are fixed upon and between the crossing twigs of low thick bushes, and lays four or five eggs, of a pale fawn-colour, either unmarked or spotted with brown.

1st species, *S. nigriceps*, mihi.—$5\frac{1}{3}$ inches long; bill to gape, $\frac{11}{16}$; tail, $2\frac{1}{16}$; tarse to sole, $\frac{15}{16}$; central toe and nail, $\frac{11}{16}$; hind toe and nail, $\frac{9}{16}$; closed wing, $2\frac{1}{8}$.

Colour.—Above medial red-brown, deeper and purer on wings and tail; below sordid rusty, brightest forwards; top and sides of head black, picked out with hoary; chin hoary, confined by a black band

running from the cap towards the breast; legs fleshy; bill horn-yellow, darkened on ridge; iris pale orange.

2nd species, *S. pyrops*, mihi.—Olive-brown above, sordid rusty below and on the sides of head and neck; beneath and before the eye and under the chin a black spot; bill sordid sanguine, dusky on the ridge; legs horn-colour; eye sanguine. $4\frac{1}{2}$ inches long; bill, $\frac{1}{2}$; tail, 2; tarse, $\frac{3}{4}$; central toe and nail, $\frac{9}{16}$; hind, $\frac{7}{16}$; wing, 2.

3rd species, *S. chrysæus*, mihi.—Above vernal green, deeply tinged with golden; below bright golden; cap with dusky stripes; bill dusky; legs yellow. Length, $4\frac{5}{8}$ inches; bill, $\frac{9}{16}$; tail, 2; wing, $2\frac{1}{8}$; tarse, $\frac{3}{4}$; central toe and nail, $\frac{1}{2}$; hind, $\frac{7}{16}$.

Remark.—These singular birds belong I think to Swainson's group of the *Brachypodinæ*, among the creeping genera of that group; but they show some tendency to pass to the Leiotrichanians, by means of *Pteruthius* and our *Heterornis*; *Heterornis* at all events must take place next *Pteruthius*; but I think the true position of *Stachyris* is among the Brachypods, near to *Iöra* and *Icteria*, with the forms that we shall next give, and leading to the Crateropodans.

Genus *Mixornis*, mihi.

General structure of *Iöra*, but the bill quite different and Meruline; commissure and culmen subarched throughout; tarse lower and not exceeding the large thumb with its nail; tail fully rounded. Type, *M. ruficeps*, mihi.—*Timalia gularis* of Horsfield?

M. ruficeps.—Body vernal green, passing to yellow on the throat and breast, where also there are dark lines down the shafts of the plumes; cap, wing and tail brunescent; bill bluish horn; legs fleshy grey; iris hazel. Length $5\frac{3}{8}$ inches; bill, $\frac{5}{8}$; tail, $2\frac{1}{8}$; tarse, $\frac{13}{16}$; central toe and nail, $\frac{9}{16}$; hind, $\frac{8}{16}$; closed wing, $2\frac{3}{8}$. Sexes alike.

Genus *Erpornis*.

General structure of the last, but the bill very straight, compressed, with the culmen well-raised and keeled between the nares, as in *Stachyris* and in *Iöra*, but less thick and rounded and the notch more remote than in *Iöra*; wings longer and more acuminate, with the first three quills less equally gradated; legs smaller; tail even.

Type, *Erpornis xanthochlora*, mihi.—Above vernal yellow, below white; legs and bill fleshy grey; iris brown. Five inches long; bill, $\frac{5}{8}$; tail, $2\frac{1}{16}$; closed wing, $2\frac{3}{4}$; tarse, $\frac{11}{16}$; central toe and nail, $\frac{9}{16}$; hind, $\frac{8}{16}$. Sexes alike.

Remarks.—The above two forms are much related to each other, as well as to *Stachyris* and the other Brachypodan clinging-birds; but *Mixornis* inclines towards *Timalia* among the Crateropodans, while *Erpornis* is nearer to *Stachyris* and *Zosterops*, which last I consider to be a Brachypod. Both inhabit the lower and central hills, and feed on tiny tree-insects and their larvæ and pupæ. Their tongue is simple.

Genus *Ixulus*.

General structure of *Polyodon*, but the bill, tongue and nares sim-

ple, and Brachypodan, not Meliphagian; bill short and singly notched at the tip.

Type, *Polyodon flavicollis* or *Yuhina flavicollis*, as printed.

Remark.—*Polyodon* is a strictly Meliphagian form. *Ixulus* is one of the genera serving to connect the true Honeysuckers with the repent Brachypods, such as *Zosterops*, *Chloropsis*, &c., and which are so like the former.

Crateropodinæ.

Genus *Pyctoris*, mihi.

Bill short, strong, perfectly entire, arched throughout the culminal and tomial lines; nareal fosse and scale obsolete; rictus with very strong short bristles; orbits nude; wings short and feeble, the first two quills much, the next two little gradated; third pair equal and longest; tail long, broad and gradated throughout; legs and feet typically Crateropodan, with a high strong tarse; toes medial, unequal, central not elongated, laterals unequal, hind large; nails large, but not much curved nor acute; hind one largest.

Type, *Timalia hypoleucos*, Auct.

Hab. The plains only, represented in the hills by *Deceira*.

A. rufifrons, mihi.—Above sordid ashen olive, passing to clear rusty brown on the alars, caudals, brows and chin, and the former (typically) marked with frequent regular cross-bars of black; tail longer and more gradated than in *Nipalensis*; head similarly crested; bill and feet embrowned fleshy or horny grey; iris brown. Length, $8\frac{3}{4}$ inches; bill, $\frac{7}{8}$; tail, $4\frac{3}{4}$; wing, $3\frac{1}{2}$; tarse, $1\frac{1}{4}$; central toe and nail, $\frac{13}{16}$; hind, $\frac{11}{16}$.

Remarks.—These birds form one of those singular links which unite the Crateropodan and Brachypodan thrushes with the *Meliphagidæ*, of which last our *Alcopus* is a true member, having the brushed tongue in perfect development. *Zosterops*, *Chloropsis*, *Hypsipetes*, &c. of the Brachypodan group, likewise have the brushed tongue in more or less development, but not so perfectly as in *Alcopus*. In *Ixops* there is little trace of it. *Ixops* leads from a Meliphagian type (*Alcopus*) to the Crateropods, and *Ixulus* from another (*Polyodon*) to the Brachypods.

Myotherinæ.

Genus *Pnoepyga* (olim *Tesia*), mihi.

Bill short, straight, Cinclosylvian, depressed as far as the nares, compressed beyond, with inflexed tomia and tip faintly inclined and notched; nares large, fossed, unplumed, furnished with a salient membranous scale, which lunates the aperture; rictus and brows smooth; wings very short, bowed, and perfectly rounded; tail rudimentary, consisting of only six plumes, which are hid by the puffy rump-feathers; legs and feet ambulatory; tarse elevate, smooth; lateral toes equal. Types, the following:—

1st species, *albiventer* (*M. squamata*, Gould, postea), mihi.—Above and sides olive-brown, more or less dotted with rufous; below

white, largely picked out with central dusky drops; feet dusky grey; bill dusky horn. Length, $4\frac{1}{3}$ inches; bill, $\frac{9}{16}$; tail, $\frac{5}{8}$; closed wing, $2\frac{3}{8}$; tarse, 1; central toe and nail, $\frac{13}{16}$; hind, $\frac{10}{16}$.

2nd species, *rufiventer*.—Very like last, but the ground-colour below invariably rufescent, not white, and size rather less.

3rd species, *unicolor*, mihi.—Throughout of a dull brunescent olive, like *Cinclus*. Length, $3\frac{3}{4}$ inches; bill, $\frac{9}{16}$; tail, $\frac{11}{16}$; closed wing, $2\frac{5}{16}$; tarse, $\frac{15}{16}$; central toe and nail, $\frac{5}{4}$; hind, $\frac{9}{16}$.

4th species, *pusillus*, mihi.—Above saturate olive; below orange tawny, margined finely with black above and below; the colours confused towards the vent; legs sordid fleshy; bill dusky horn; iris brown. Length, $3\frac{1}{8}$ inches; bill, $\frac{1}{2}$; tail, $\frac{9}{16}$; closed wing, $1\frac{7}{4}$; tarse, $\frac{13}{16}$; central toe and nail, $\frac{11}{16}$; hind, $\frac{9}{16}$.

Genus *Oligura*, mihi.

General structure of *Pnoepyga*, but the tail more developed and furnished with twelve plumes; the bill more depressed; rictus less entirely smooth; nareal tect less developed and nares consequently ovoid; lateral toes unequal, hind large, and nails more acute. Types, the following:—

1st species, *flaviventer*, mihi.—Above deep grass-green, below rich yellow; cap bright chestnut; legs fleshy grey; bill dusky above, fleshy below; iris brown. Length, $3\frac{3}{4}$ inches; bill, $\frac{9}{16}$; tail, 1; wing, $1\frac{7}{8}$; tarse, $\frac{15}{16}$; central toe and nail, $\frac{10}{16}$; hind, plus $\frac{1}{2}$.

2nd species, *cyaniventer*, mihi.—Above grass-green, below slaty blue; legs and feet smoky grey; bill dusky above, horn below. Length, $3\frac{7}{8}$ inches; bill, $\frac{10}{16}$; tail, $\frac{14}{16}$; closed wing, less 2; tarse, 1; central toe and nail, $\frac{11}{16}$; hind, $\frac{9}{16}$.

Remarks.—The above genera were first discovered and described by myself, but I failed then to note the distinction between the two. I have now thrown all the prior and new species together. These singular birds are peculiar to the mountains, and dwell in moist woods where there is plenty of underwood; they are solitary, silent, live and breed on the ground, and feed on seeds, gravel and insects; their stomach is thick—almost a gizzard. They should stand with *Aipunemia* and *Brachypterix*, between *Pitta* and *Cinclus*. Our *Hororn*is and *Monticola* are analogous forms among the *Sylvianæ*, and *Todus* among the Muscicaps. Gould has figured our first species of *Tesia*, which he calls *Micrura squamata*.

Sylviadæ.

Saxicolinæ.

Dimorpha, mihi (see 'Indian Review,' *Siphia*).

Bill short, cylindrico-depressed; Muscicapan, but less wide and less armed at the tip; base loaded with a forward soft zone, putting forth hairs which partly conceal the nares; rictus less wide and less armed than in *Muscicapa*, but approaching thereto; wings more or less elongated and acuminated, with 4th, 5th, or 6th quill longest; the first three or four more regularly gradated than in *Muscicapa*;

alar and caudal plumes wedged and mucronate, and the tail itself either slightly gradated from centre and sides, or cuneate; legs and feet more suited to walking than in Muscicaps; tarse smooth and exceeding the mid toe and nail; toes medial, compressed, unequal; hind sometimes large, but not broad; nails large and slender, or small and more bent.

The subgenera seem to be three, or *Dimorpha*, *Digenea*, and *Synornis*.

Dimorpha

proper, with long wings, having the fourth quill longest; tail broad and gradate from centre and sides; feet with the lateral fore-toes nearly equal and the hind-toe small, and the nails falcate and short.

Types, *D. strophiata*, *monileger* and *rubrocyanea*. *D. strophiata* printed apud Indian Review, quod vide.

D.? monileger, mihi.—Above olive-brown, sordid, save on the wings and tail; below diluted and sordid; frontal zone rusty; chin and throat white, enclosed by a black band; bill black; legs fleshy; iris brown. Length, $5\frac{1}{8}$ inches; bill, $\frac{5}{8}$; tail, 2; closed wing caret; tarse, $\frac{15}{16}$; central toe and nail, $\frac{11}{16}$; hind, $\frac{10}{16}$. Sexes alike nearly.

D.? rubrocyanea, mihi.—Above indigo-blue, below deep rusty; frontal zone, basal edges of tail and vent white; bill black; legs fleshy. Length, $4\frac{1}{2}$ inches; bill, $\frac{9}{16}$; tail, $1\frac{7}{8}$; closed wing, $2\frac{3}{8}$; tarse, $\frac{3}{4}$; central toe and nail, plus $\frac{9}{16}$; hind, $\frac{8}{16}$. Deviates from the type in form of wing, which has first three quills much gradated and fifth longest, and it has the legs, feet and nails of the next subgenus,

Digenea, mihi,

which differs from *Dimorpha* proper by having the wings shorter, with the fifth or sixth quill longest, the legs and feet longer and slenderer, and the nails less bent, but larger; the thumb larger and the nail cuneate. The types are *tricolor* and *leucomelanura*.

D. tricolor.—Above olive-green, passing into ruddy olive-brown as you recede from the head; below sordidly luteous or fulvous; bill blackish; legs fleshy grey. Length, $4\frac{5}{8}$ inches; bill, $\frac{1}{2}$; tail, 2; closed wing, $2\frac{5}{16}$; tarse, less $\frac{3}{4}$; central toe and nail, $\frac{5}{8}$; hind, $\frac{1}{2}$.

D. leucomelanura, mihi.—Above saturate slaty, passing to black on wings and tail; tail laterally towards the base white, below albescent slaty; throat pure white; bill and legs black. Length 5 inches; bill, $\frac{1}{2}$; tail, $2\frac{3}{16}$; wing, $2\frac{3}{8}$; tarse, $\frac{13}{16}$; central toe and nail, $\frac{10}{16}$; hind, $\frac{8}{16}$.

Passing next to the subgenus

Synornis,

we have a medial Muscicapan wing, whereof the first quill is spurious, the second long, and 3–4 longest. The bill is more exposed at its base, the rictal and nareal hairs are shorter, and the legs and feet are more ambulant, with smaller thumb and nails, neither slenderly elongate nor shortly falcate. The type of this form is our *Joulaimus*, but it is the species whereof the male seems to be Sykes's *Saxicola rubeculoides*, and the female Gmelin's *Muscicapa leucura*.

S. Joulaimus, mihi.—Above earthy brown, below diluted to luteous; throat and breast bright rusty; sides of head and neck dull slaty; tail black, with white lateral base. Female below void of the red colour, being throughout sordid white. Length, $5\frac{3}{8}$ inches; bill, $\frac{9}{16}$; tail, $2\frac{1}{4}$; wing, $2\frac{3}{4}$; tarse, $\frac{3}{4}$; central toe and nail, $\frac{9}{16}$; hind, $7\frac{7}{16}$. Weight, $\frac{1}{3}$ oz.

Hab. Tarai. Rarely or never the hills, to which the others are as entirely confined.

Philomelinæ.

Genus *Muscisylvia*, mihi.

General structure as in *Grillivora*, but feebler; gape wider and bristled; tip of the bill more suddenly bent; nares elongated, with nude membranous tect and lunato-elliptic aperture, set over by tiny hairs; wings and tail ample, with broad webs and obtuse mucronated terminations; wings round, acuminate; fifth quill longest; tail medial, even, broad; legs and feet suited to walking and perching; tarse equal to mid toe and nail; toes long and slender; nails acute; hind much the largest, and equal to the digit; exclusively Monticolous; stomach muscular and strong; feeds on hard and soft insects, pulpy berries and small seeds. A shy forester; not gregarious.

Type, *M. leucura*, mihi.—Throughout deep indigo-blue, passing to black on alars and caudals; forehead and shoulders rich cobalt blue; tail basally and laterally whitened; a white spot on the side of the neck of the male; bill and legs black; iris dark. Length, $7\frac{1}{2}$ inches; bill, $\frac{3}{4}$; tail, $3\frac{1}{4}$; wing, $3\frac{3}{4}$; tarse, $1\frac{3}{16}$; central toe and nail, $\frac{15}{16}$; hind, $\frac{3}{4}$. Weight 1 oz.

Genus *Nemura*, mihi.

General structure of *Phœnicura*, but slighter, with slenderer legs and feet, and bill more armed at the point, and lateral toes unequal; wings and tail mucronated, as in the last, but the webs less broad and the tips narrowed wedgewise; nails long, slender and delicate, like the digits and legs. Manners of *Phœnicura*, but a forester and shy. Feeds on insects, soft and hard, and on pulpy berries. Found in central and northern regions of hills. Types, *N. rufilatus* et *flavolivacea* et *cyanura*.

N. rufilatus, mihi.—Above and the cheeks indigo-blue; brows, shoulders and rump soft cærulean; below white, save the flanks, which are bright rusty; bill and legs black; iris brown. Length, $5\frac{3}{8}$ inches; bill, $\frac{5}{8}$; tail, $2\frac{5}{8}$; wing, $3\frac{1}{4}$; tarse, $1\frac{1}{16}$; central toe and nail, $\frac{3}{4}$; hind, $\frac{9}{16}$.

N. flavolivacea, mihi.—Possibly female of the last. Above olive-green, with a yellowish tinge; below sordidly fulvescent; bill and legs fleshy grey. Length, $5\frac{5}{8}$ inches; bill, $\frac{9}{16}$; tail, $2\frac{3}{8}$; wing, 3; tarse, $1\frac{1}{8}$; central toe and nail, $\frac{13}{16}$; hind, $\frac{10}{16}$.

N. cyanura, mihi.—Head, neck, breast and wings olive-brown, more diluted below; rump and tail verditer-blue; flanks bright rusty; chin, belly and vent white; legs and feet black. Sexes alike. Length,

$5\frac{5}{8}$ inches; bill, $\frac{5}{8}$; tail, $2\frac{7}{8}$; wing, 3; tarse, 1; central toe and nail, $\frac{3}{4}$; hind, less $\frac{5}{8}$.

Sylvianæ.

Genus *Tarsiger*, mihi.

Bill equal to head, straight, subdepressed, feeble, gradually widening from the tip; the upper mandible more than half exceeded by the nareal fosse, and much overlaid by the soft frontal plumes; nares broad lunate, forward, apert, shaded by a nude membrane; tip of bill obtuse, and nearly unarmed; gape rather wide and ciliated; wings submedial, round rather than acuminate, firm; fifth quill longest; 4–6 and 3–7 respectively equal; alars and caudals wedged and mucronate; tail medial, rounded; tarse very elevate, slender and smooth; toes ambulant, simple; laterals unequal, hind rather large; nails large, slender, simple; hind largest. Exclusively monticolous; dwells in low brushwood solitarily, and is much on the ground, feeding chiefly on small ground insects. Makes its nest on the ground, saucer-shape, of moss, and places it under cover of some projecting root or stone; eggs verditer. Has much analogy with both the last genera, which it represents among the feebler *Sylvianæ*, to which it belongs, as they to the *Philomelinæ*. It differs from the last by its feebler, more depressed bill, larger and more membranous nares, and more slender legs and feet; also by its mucronate and wedge-tipped alars and caudals. The mucronation allies it to *Muscisylvia*, from which it differs by its less ample wings and tail, more elevate tarse, and feebler bill.

Type, *T. chrysæus*, mihi.—Below the whole body with the entire shoulders, the lower back and greatest part of tail, deep gamboge-yellow; superciliary line the same; head above, neck and upper back, yellow-tinted olive; lores, orbits and ears continuously, central caudals and tips of the others black; alars dusky black, fringed on the lower edges with yellow; legs fleshy brown; bill horn-yellow below, dusky above. Female duller-hued, devoid of the black cheek-mark and superciliary line; her body above entirely olive-green; alars and caudals dusky olive. Length, $5\frac{3}{4}$ inches; bill, $\frac{11}{16}$; tail, $2\frac{1}{4}$; wing, $2\frac{5}{8}$; tarse, $1\frac{5}{16}$; central toe and nail, $\frac{13}{16}$; hind, $\frac{11}{16}$.

Genus *Orthotomus*, Horsf.

1st subgenus, *Orthotomus*.

Bill sub-certhian, long, slender, inclining to arch, and entire, with the base largely exceeded by the nareal fosse; nares large, membranous, free, the aperture lunate-linear and shaded above by a large unarched membrane; rictus slightly bristled; wings short, bowed, and feeble, but not perfectly rounded; first four quills conspicuously gradated in a diminishing ratio; 5–6 equal and longest; tail moderate, narrow, feeble, much-rounded, with the two central plumes frequently elongated, as in the Bee-eaters; tarse high, stout, double that of the central toe, and strongly scaled; toes short, unequal, the outer fore longer and basally connected; the hind large and strong;

nails strong and acute, the hind largest. Nearly confined to the hills; rare below in the cold season; solitary or in pairs; familiar; dwells in low bushes and hedge-rows and fences, picking up minute insects from the leaves and decayed wood, and frequently descending to the ground, where they move fitfully, by hops, to take minute insects, and presently return to their low perch. Make beautiful pensile nests, by sewing together the edges of large leaves, and hence are called 'Patia' or the 'Leaf-bird' in the hills.

Type, *Sylvia putoria, v. sphenura, v. ruficapilla,* Auct.—Above vernal green, below white; the great alars and caudals dusky; the top of the head brown-red; bill dusky horn; legs fleshy brown; iris brown. Female similarly coloured, but wanting almost entirely the prolonged central tail-feathers of the male, and smaller. Length (of male), $5\frac{1}{2}$ inches; bill, $\frac{3}{4}$; tail, $2\frac{3}{4}$; closed wing, $1\frac{7}{8}$; tarse, $\frac{7}{8}$; central toe and nail, $\frac{9}{16}$; hind, $\frac{7}{16}$. Weight $\frac{1}{3}$ or $\frac{1}{4}$ oz. Has a loud shrill monosyllable note—*tee-tee-tee.* I suspect there are two species, because the eggs differ in colour in the nests brought me, some being verditer-blue and unspotted, and others bluish white, with fawn spots. The latter, I think, belong to the above, and the former to a smaller species, having the caudal appendage very little developed. I call this

Orthotomus Patia, and subjoin the following measurements. Length (of male), $4\frac{3}{4}$ inches; bill, $\frac{5}{8}$; tail, $1\frac{3}{4}$; wing, $1\frac{7}{8}$; tarse, $\frac{15}{16}$; central toe and nail, plus $\frac{9}{16}$; hind, $\frac{7}{16}$.

2nd subgenus, *Prinia,* Horsf.

Bill shorter and straighter, but still longer than the head, and not notched; less cut out at the base by the nareal fosse; rictus hispid; nares smaller, with wider aperture; wings yet shorter and absolutely rounded, with the first five quills conspicuously gradated up to the sixth and longest; tail ampler, more elongate and more gradate, fan-shaped, feeble; legs and feet slighter. Manners and nidification of the last, but a lowlander, being more rarely found in the hills than these.

Type, *Prinia fusca,* mihi.—Length 5 inches; bill, $\frac{9}{16}$; tail, $2\frac{1}{16}$; wing, less $1\frac{3}{4}$; tarse, $\frac{13}{16}$; central toe and nail, $\frac{9}{16}$; hind, $\frac{7}{16}$. Above lutescent brown; laterally luteous; below white; tips of the caudals with black drops, margined with white; bill dusky; legs carneous; iris brown.

2nd species of *Prinia, P. brunnifrons,* mihi; *ruficapilla,* Auct. ?—Above olive-brown, deeper and ruddier on the cap, wings and tail; below sordid white; under tail-coverts sordid olive, and the thighs the same; bill yellow horn; legs plumbeous grey; tail smaller than in the last. Length, 4 inches; bill, plus $\frac{1}{2}$; tail, $1\frac{5}{8}$; tarse, $\frac{3}{4}$; central toe and nail, $\frac{10}{16}$; hind, $\frac{7}{16}$.

Remark.—Aberrant towards *Horeites* by its smaller tail and more perfect foot. This is a common species in the plains, and may possibly be the Tailor-bird of authors rather than our *Patia,* which is rare there.

3rd subgenus, *Horeites*, mihi.

Bill shorter than the head, quite straight, cylindric, feeble, distinctly notched; nares basal, ovoid, covered with a membranous scale; legs and feet stronger than in either of the above, and more suited to ground action; tarse high, strong, and heavily scaled, as in *Orthotomus*; toes longer, more ambulant, with the laterals equal and central elongated; rictus quite smooth; wings and tail as in *Prinia*, or as in *Orthotomus*. Inhabits the northern region near the snows, dwelling in brushwood and being much on the ground.

1st species, *H. pollicaris*, mihi.—Remarkable for its small wings and tail and large hind digit, the tail being equal in length to the closed wing, which is perfectly rounded and short, as in *Prinia*. Above olive-brown; below and the eyebrow pale yellow; bill sordid corneous grey; legs fleshy grey. Length, $3\frac{1}{2}$ inches; bill, $\frac{7}{16}$; tail, $1\frac{5}{8}$; wing the same; tarse, $\frac{13}{16}$; central toe and nail, $\frac{10}{16}$; hind, $\frac{1}{2}$.

2nd species, *H. schistilatus*, mihi.—Has an ampler wing and tail than the last and a smaller thumb; its wing is as large as in *Orthotomus*, and its tail broad and fan-shaped, like *Prinia*. In colours very like *brunnifrons*, but distinguished by its broader ampler tail, larger wing, and shorter Regulus-like bill. Above uniform olive-brown; laterally pale slaty and below pure white; cap clear brown-red or chestnut. Dwells near the snows, like the last-named. Length, $4\frac{1}{2}$ inches; bill, $\frac{1}{2}$; tail, $2\frac{1}{16}$; wing, $1\frac{15}{16}$; tarse, $\frac{3}{4}$; central toe and nail, $\frac{5}{8}$; hind, $\frac{7}{16}$.

Allied to the last two species are some more Cachar birds of very similar manners and plumage, distinguished by a compressed bill, which is raised between the keeled nares, as in our *Stachyris*, and by the inner toe and nail of their strong ambulant feet being longer than the outer toe and nail. Some have the tarse smooth and the tail more or less scansorial, that is, cuneate in form and rather rigid or worn; these I call *Tribura*. The others have the tarse scutellate and rather longer, and the tail broad and fan-shaped, and not at all rigid or worn; these I style *Hororniis*, though they hardly deserve subgeneric separation.

Genus *Tribura*, mihi.

Bill to gape equal to head or less, straight, cylindric, compressed; at base higher than broad, and having the ridge raised and keeled between the oval apert nares; tip of upper mandible scarcely inclined, but distinctly notched; rictus smooth; wings short and feeble, but not much or equally gradated; first two quills conspicuously gradated, three next subequal and longest; tail more or less elongated, and gradated throughout, rather cuneate than fan-shaped, and somewhat rigid or worn; tarse stout, smooth, longer than the mid toe and nail; toes and nails simple, compressed, inner fore with its nail exceeding the outer fore, central elongate, hind least; nails acute.

Type, *T. luteoventris*, mihi.

Tribura luteoventris, mihi.—Above olive-brown, with a luteous lustre; below lutescent laterally and albescent centrally; a pale line

over the eye; bill dusky horn; legs carneous. Length, $5\frac{3}{8}$ inches; bill, $\frac{9}{16}$; tail, $2\frac{1}{2}$; wing, $2\frac{1}{16}$; tarse, $\frac{13}{16}$; central toe and nail, $\frac{11}{16}$; hind, $\frac{8}{16}$. Inhabits the Cachar, among brushwood; manners unknown.

Genus *Horornis*, mihi.

General structure of *Tribura*, but the rictus more or less armed; the tarse strongly scaled; the wings more gradated, having the fifth or sixth longest, and the tail broad, fan-shaped, and not worn or rigid. Inhabits the northern hills; manners unknown.

Types, *fortipes* and *flaviventris*.

H. fortipes, mihi.—Above olive-brown, dark and pure; below and the brow yellowish; bill yellow horn; legs pure fleshy. Length, $4\frac{5}{8}$ inches; bill, $\frac{1}{2}$; tail, 2; wing, $2\frac{1}{16}$; tarse, $\frac{15}{16}$; central toe and nail, $\frac{11}{16}$; hind, $\frac{9}{16}$.

H. flaviventris, mihi.—Very similar to the last, but a smaller bird, with shorter tarse; above olive-brown; below and the brow greenish yellow and pale; bill and legs fleshy. Length, $4\frac{3}{8}$ inches; bill, $\frac{1}{2}$; tail, $1\frac{5}{8}$; wing, 2; tarse, $\frac{13}{16}$; central toe and nail, $\frac{11}{16}$; hind, $\frac{9}{16}$.

H.? fuligiventer, mihi.—Aberrant; probably a *Tribura*, having the wing of that form, but the tail not worn or rigid, and hence perhaps that character may not be permanent. Above dusky olive-brown, diluted into greenish of a dusky cast below; bill and feet dark. Length, 5 inches; bill, $\frac{1}{2}$; tail, 2; wing, $2\frac{1}{4}$; tarse, $\frac{7}{8}$; central toe and nail, $\frac{11}{16}$; hind, $\frac{1}{2}$.

H.? fulviventris, mihi.—Above saturate olive-brown; below sordid luteous, shaded on the flanks with the upper hue; bill and legs dusky grey. Length, $4\frac{7}{8}$ inches; bill, $\frac{9}{16}$; tail, $1\frac{7}{8}$; wing, $2\frac{1}{8}$; tarse, $\frac{13}{16}$; central toe and nail, $\frac{11}{16}$; hind, $\frac{8}{16}$.

Our singular genus

Temnoris (olim *Suthora*),

and which name, if objected to, may give place to *Hemirhynchus*, is I think a Parian form, being much allied to the small long-tailed Tits. It seems however to group well with our *Heteromorpha* and *Conostoma* and Gould's *Paradoxornis*, and the whole may perhaps fall into the *Glaucopinæ*. There are two species of *Suthora* confounded by me under the name of *nipalensis*; I now erase that name, and substitute *atrifrons* and *fulvifrons*, thus:

T. atrifrons, mihi.—General colour bright rusty, palest on the belly and vent, brightest on the wings; false wing black; margins of the prime alars albescent; caudals and alars internally blackish, and apertly so towards their tips; head saturate slaty, margined laterally and in front by a darker zone, and passing into diluted slaty, mixed with rusty on the sides of the neck; chin transversely barred black; cheeks albescent; bill dusky, with a bluish base; legs sordid grey. Length, $4\frac{1}{4}$ inches; bill, less $\frac{1}{4}$; tail, $2\frac{1}{4}$; wing, $1\frac{15}{16}$; tarse, $\frac{3}{4}$; central toe and nail, $\frac{1}{2}$; hind, $\frac{3}{8}$.

T. fulvifrons, mihi.—General hue of the preceding, but the head and neck concolorous with the back; the cheeks not whitened,

the chin unbarred, and the size larger; bill paler or fleshy, with a dusky ridge. Length, $4\frac{1}{2}$ inches; bill, $\frac{1}{4}$; tail, $2\frac{1}{2}$; wing, $2\frac{1}{16}$; tarse, $\frac{13}{16}$: central toe and nail, $\frac{9}{16}$; hind, $\frac{7}{16}$.

Muscicapinæ.

Genus *Chelidorynx*, mihi.

General structure of *Rhipidura*, but the bill very short and Cryptolopho-hirundine, being as broad as long from the forehead and very slightly armed at the tip; rictal bristles long, as in *Rhipidura*; nares advanced, lateral, elliptic, and shaded above by a membrane; tail rigid, with wedged tips to the plumes, smaller and less rounded than in *Rhipidura*.

Type, *Ch. chrysoschistos*, mihi.—Above slaty, with a greenish smear; below bright yellow; wings and tail dusky; shafts of the caudals whitened; ears, lores and orbits black. Length, $4\frac{7}{8}$ inches; bill to gape, $\frac{3}{8}$; tail, $2\frac{1}{3}$; wing less $2\frac{1}{4}$; tarse, $\frac{9}{16}$; central toe and nail, $\frac{9}{16}$; hind, $\frac{5}{16}$. Weight $\frac{1}{4}$ oz. Inhabits the central hilly region and great valley, on skirts of woods, among shrubs and low trees; very lively and shows itself much; solitary or in pairs. Stomach distinctly muscular; diet small insects.

This type seems to require a place between *Rhipidura* and *Cryptolopha*, to which last it is allied by the bill, which however is shorter and broader, leading to the next singular form, which is a flycatcher in the guise of a swallow, and forms with this one a perfect passage from the Flycatchers to the Swallows.

Genus *Hemichelidon*, mihi.

General structure of a swallow, with only something Muscicapan in wings and rictus; bill as in *Hirundo* exactly, but the gape hardly so wide and slightly bristled; nares round and vertical, as in *Hirundo*; wings long and pointed; 1st quill spurious, 2nd long, 3rd longest; tail moderate and subfurcate; legs and feet small and slender. Types, *H. fuliginosa* and *ferruginea*.

H. fuliginosa, mihi.—Uniform sooty brown, darkest on the wings and tail, and shaded with white on the belly, vent, and under tail-coverts; the body below paler than above. Length, $4\frac{5}{8}$ inches; bill, $\frac{1}{2}$; tail, 2; tarse, $\frac{7}{16}$; central toe and nail, less $\frac{7}{16}$; hind, $\frac{5}{16}$; wing, $2\frac{3}{4}$.

H. ferruginea, mihi.—Size and proportions of the last; colour rusty brown, passing to olive on the cap; alars and caudals internally blackish, and more or less so apertly; bill dusky carneous; legs pure fleshy; tail (in both) moderate and slightly forked.

Found only in the hills, and chiefly the central region; dwell in woods and have the general manners of the Flycatchers, but with a bolder and more continuous flight.

Genus *Hemipus*, mihi.

General structure of *Rhipidura*, passing to *Myiagra*; legs and feet very small; bill more or less elongated and cylindric; rictal bristles

moderate, that is, shorter than in *Rhipidura*; tail gradated and narrow.

Type, *H. picæcolor*, mihi.—Above dusky brown, passing to black on the wings and tail; a large oblique central bar of white down the wing; two bars on the croup, the margin of the black cap, and the terminal part of the lateral alars white; below pale sooty to the breast, thence to tail-coverts albescent; bill and legs black. Female wanting the black cap of the male. Length, $5\frac{3}{4}$ inches; bill, $\frac{11}{16}$; tail, $2\frac{5}{8}$; wing, $2\frac{1}{2}$; tarse, $\frac{1}{2}$; central toe and nail, $\frac{7}{16}$; hind, $\frac{5}{16}$.

Inhabits the hills generally; chiefly procured in the great valley.

Alaudinæ.

Genus *Heterura*, mihi.

Bill to gape equal to the head, to brow much less than the head; Anthine in the general character, but stronger, with the culmen, commissure and gonys more or less curved; base of the upper mandible a good deal cut out by the nareal fosse, and its tip inclined and notched; tomiæ trenchant and scarpt internally; nares advanced, lateral, oval, shaded above by a nude scale-like membrane; rictus to eye, and slightly bristled; wings very short, not surpassing the base of the tail, yet strictly Alaudine in all their details, with the primes ungradate, the tertials equal to primes, and all the centrals notched at the tips and emarginated on the outer web towards the tips, as in the Alaudines; 1st quill equal to 5th, and both rather less than 2, 3, 4, which are equal and longest; tail ample, *scansorial*, that is, distinctly rigid, and the separate plumes acutely wedged; form of the tail Parian, or slightly gradate from centre and from sides; legs and feet strong and typically ambulant, with high scutellate tarse and medial, compressed, full, solid toes, having the laterals equal, the central sufficiently long, and the hind least and not depressed; nails simple, slender, fully curved; hind long and nearly equal to the digit.

Exclusively monticolous; found in the brushy uplands of the central region; feed and breed on the ground; food grylli and other insects and seeds; stomach strongly muscular; intestines of medial length and furnished with tiny cæca. Nest made loosely of grass and saucer-shaped; eggs bluish, thickly spotted. Type, *H. sylvana*, mihi.

H. sylvana.—Above clear brown, picked out marginally with clear rufous, as in the Larks; below rufescent, with narrowing central stripes; chin immaculate; a dark mustache; superciliary line pale; tail-feathers internally and laterally albescent; upper coverts prolonged and pointed, as in the Larks; bill sordid fleshy or horn; legs clear, carneous; iris brown; sexes alike. Length, $7\frac{1}{2}$ inches; bill to gape, $\frac{11}{16}$; tail, $2\frac{7}{8}$; wing, 3; tarse, $1\frac{1}{16}$; central toe and nail, $\frac{15}{16}$; hind, $\frac{3}{4}$.

Remark.—This singular bird has been thus particularly described because of the difficulty of sparing details by anything like an assured allocation of it. It seems to be an analogous form to *Praticola*, and

to belong to the *Alaudinæ*, near *Brachonyx*. Its tail in form reminds one of *Dolichonyx*.

PARIANÆ?

Genus *Accentor*, Auct.

These birds are found in the central and northern regions of the hills only, and chiefly in the northern. We have four species, all of which are I believe new.

1. *Acc. Nipalensis*, mihi.—Head and neck dusky olive; body above ferruginous, with large central dashes of black; shoulders and all the wing-coverts dusky, with white drops; alars and caudals blackish, with ochreous red margins; breast and belly ochreous; under coverts of the tail dusky, picked out with white; bill dusky, with a yellow horn base; iris golden brown; legs sordid brown. Length, $6\frac{1}{2}$ inches; bill, $\frac{10}{16}$; tail, $2\frac{5}{8}$; wing, $3\frac{1}{2}$; tarse, 1; central toe and nail, $\frac{13}{16}$; hind, $\frac{10}{16}$.

2. *Acc. Cacharensis*, mihi.—Very similar in colours to the last, but larger, and the wing proportionally longer; head and neck, shoulders and wing-coverts dusky; throat white, with black bars; breast and belly deep clay-red; back and upper tail-coverts rusty, with large central blotches of blackish; alars and caudals blackish, margined and tipt with rusty red; vent dusky, picked out with whitish; bill yellow horn, with dusky tip; legs fleshy. Length, 7 inches; bill, $\frac{11}{16}$; tail, less 3; wing, $3\frac{7}{8}$; tarse, $1\frac{1}{16}$; central toe and nail, $\frac{13}{16}$; hind, $\frac{10}{16}$.

3. *Acc. immaculatus*, mihi.—Least of the three; not unlike them in colours, but the plumage more uniform and freer from spots and blotches; head and neck dusky olive, passing gradually into embrowned ochreous red on the body above and below, as well as on the whole visible part of the closed wing; shoulders pale slaty blue and unspotted; alars and caudals dusky brown, and nearly void of brighter margins or tips; bill blackish; legs fleshy grey; iris straw-colour. Length, only 6 inches; bill, $\frac{9}{16}$; tail, $1\frac{7}{8}$; wing, $2\frac{7}{8}$; tarse, $\frac{7}{8}$; central toe and nail, $\frac{3}{4}$; hind, $\frac{9}{16}$.

4. *Acc. strophiatus*, mihi.—Above and laterally sordid rusty, with black central blotches; below white, with similar marks, but smaller and paler; wings and tail black-brown; the alars and their coverts margined with embrowned rusty; ears and lores margined towards the body all round with bright rusty, and a large gorget of the same on the top of the breast; from nares to brow a white line, joining the red one above spoken of; bill dusky horn; legs fleshy brown; iris brown; wings shorter and tail longer than in any of the others. Length, 6 inches; bill, plus $\frac{1}{2}$; tail, $2\frac{3}{8}$; wing, $2\frac{1}{2}$; tarse, $\frac{14}{16}$; central toe and nail, $\frac{3}{4}$; hind, $\frac{9}{16}$. Weight less 1 oz. Breeds on the ground, making a saucer-shaped nest of moss, well-compacted. These birds are much on the ground and have an ambulatory structure of legs and feet: I should place them among the Finches, near to the next-named, or Buntings, which also are exclusively monticolous I believe,

and are found in the central and northern regions. They are constantly flushed from the ground in corn-fields and are comparatively familiar birds to the Accentors, which avoid houses and cultivation.

Genus *Emberiza*.

We have four species, three of which are the *erythroptera, chlorocephala,* and *aureola* of authors, and the fourth is I think new, as follows:—*Emberiza oinops,* mihi.

New subgenus, *Ocyris*, mihi.

Bill very acute and perfectly conic, without any curve along the culmen or gonys; mouth simply angulated, without palatal knob; wings with 2–3 longest and equal.

Type, *E. oinops,* mihi.—Above rusty red, picked out with large blackish central dashes; below white, with narrower dark marks, and none on the lower belly and vent; wings and tail black-brown; wing with large ruddy margins; alars internally and laterally albescent; head and face rusty red, with two longitudinal black marks on the crown and another circling round the ear from the eye nearly to gape; bill dusky horn; legs embrowned fleshy; iris brown. Length, $5\frac{1}{2}$ inches; bill, $\frac{7}{16}$; tail, $2\frac{3}{8}$; wing, $2\frac{3}{8}$; tarse, $\frac{3}{4}$; central toe and nail, $\frac{5}{8}$. Weight $\frac{1}{2}$ to $\frac{3}{4}$ oz. Sexes alike. Stomach gizzard-like; contents seeds and gravel.

Pyrrhulinæ.

Genus *Loxia*.

L. himalayana, mihi.—Structure typical and plumage very similar to that of the European type, and indeed I believe to all the known species; size small, and most resembling the American bird; most part of the head and neck and whole body below red, of a hue between roseate and blood, and more or less sordid; rest of the head, neck, back, wings and tail deep dusky brown, more or less suffused, and emarginated with the richer colour; wings long, reaching two-thirds down the tail; 1–3 quills rather shorter than the second; legs and feet strong; tarse heavily scaled, less the mid-toe and nail; lateral fore-toes equal and basally connected; hind large, equal alone to the laterals, and, *with* its large nail, much exceeding them; claws large, but not greatly curved. Female dusky brown above, slightly suffused and margined with vernal greenish yellow; below greenish yellow, with dusky centres to the plumes; bill and legs in both blackish; female smaller. Male measures $5\frac{5}{8}$ inches; bill, $\frac{9}{16}$; tail, $2\frac{3}{16}$; wing, $3\frac{1}{4}$; tarse, $\frac{10}{16}$; central toe and nail, $\frac{11}{16}$; hind, $\frac{10}{16}$. Inhabits the Cachar only, near the snows, and rare there.

To the same region are for the most part confined the other thick-billed Finches of the genera *Coccothraustes, Corythus, Pyrrhula,* and their allies; but most of these pass into the central hilly region in spring in search of ripe fruits and berries, and in the winter some of them proceed to the plains in search of food and warmth, or are carried there by dealers. The Himalayan Siskin is almost always found

in the central region, where indeed it is commoner than in the northern; and one of the roseate Finches is very common below in the winter, under the name of the Tooti or Surkha Tooti. This I believe is the *Hæmorhous rosea* and *Coccothraustes rosea* of authors: it is an anomalous or osculant form, which cannot I think be referred to any known genus. I call it *Pyrrhulinota*, because it unites a semi-pyrrhuline bill with the wings, tail and feet of *Linaria* and *Linota*.

Genus *Pyrrhulinota*, mihi.

Bill Pyrrhulo-Linarian; wings long and pointed, with the first quill usually longest; tail deeply forked; tarse rather shorter than the mid-toe and nail; toes long, laterals unequal, central long, hind least, but with the nail equal to the inner fore; nails simple.

Type, the common Tooti or Surkha Tooti of Hindostan; *Coccothraustes roseata* of Vieillot? *P. roseata*, mihi.

The other two rosy Finches of the hills are much less known below, though they also are found there, in the hands of dealers at least, and are called without distinction Goolabi Tooti. They are the *Fringilla rhodopepla* and *rhodochroa* of Vigors, apud Gould; but they are not I think true *Fringillæ*, but nearer to *Passer*. I denominate them

FRINGILLINÆ.

Genus *Propasser*.

Bill Passerine, with the culmen and gonys more or less curved or straight, and the tip distinctly notched; wings short, first quill less than three next, and longest; tail forked; legs and feet ambulant; tarse longer than mid-toe; toes compressed, laterals equal, central long, hind least; nails simple. Types, *rhodochroa* and *rhodopepla*.

We have in the northern region chiefly two species of true Bullfinch or *Erythrocephala*, Gould, and *Nipalensis*, mihi, to which we must add a third species, styled *epauletta* by me, but which deviates too much from the typical form to remain under *Pyrrhula*; I separate it as a new type, by the name of

Pyrrhoplectes.

Bill Pyrrhuline, but longer and less tumid, with the upper mandible subterminally, and the lower subcentrally notched; the gape angulated; wings shorter and more gradate than in *Pyrrhula*, with the fourth quill commonly longest; tail even or divaricated, not forked; legs and feet slenderer, longer, and more suited to action on the ground than in *Pyrrhula*. Type, *Pyrrhula epauletta*, As. Trans. vol. xix.

Propyrrhula Rubeculoides, mihi.—Above, together with the lower breast, belly and vent, smoky brown; face as far back as the eye, chin, throat and breast, bright red, of a sanguineous scarlet hue; bill dusky horn, paler below; legs dusky. Female fulvous, below with large central dashes of dusky brown, and the croup the same.

I shall conclude this paper with the description of a new and splendid species of Buzzard, peculiar to the Cachar and Tibet.

Falconidæ.

Buteoninæ.

Genus *Buteo?*

Buteo leucocephalus, mihi.—General structure Buteonine, but the tarse two-thirds plumed to the front, and the nude part reticulate, not scutellate; acropodia half reticulate and half scutellate; colour medial brown, with the head and neck more or less perfectly albescent; chin to breast darker, and breast again paled crescent-wise; tail with frequent pale buff bars; bill blue; its tips and the talons black; legs and cere greenish yellow; iris hoary; size extremely large. Length, $25\frac{1}{2}$ inches (fœm.) by $58\frac{1}{2}$ in expanse of wing; closed wing, $17\frac{3}{4}$; bill to gape, 2; tail, $11\frac{1}{2}$; tarse (to sole), $3\frac{5}{8}$; central toe and nail, $2\frac{3}{8}$; hind, $1\frac{3}{4}$. Weight $3\frac{1}{2}$ lbs. Caught beyond the snows in Tibet.

Another species, with the tarse considerably plumed, leads to this bird from the Moor Buzzards. This second species has the general form and characters of the moor buzzard, but is distinguished at once by half the tarse being plumed; the tarsi likewise are shorter, and so are the toes; but the tarse is scutellate before and behind, as in that species and the rest of the Buzzards. There is no sign of the Circine facial disc in the present bird, which is I believe new, and belongs to *Buteo* proper and not to *Circus*.

Buteo plumipes, mihi.—Throughout of a uniform dusky brown, as in the moor buzzard; region of the lores only albescent; cere and legs greenish yellow; bill blue, with black tips and talons; tail very vaguely rayed with a paler shade of colour and wings internally. Of slender make, and with long and acute talons, whereas the white head is of very robust make, and has less acute but stronger talons. This is in make as in colours, a *Circus*; that, a buzzard proper or an eagle. In *plumipes* the tarse is scutellate before and behind, reticulate to the sides and at base, and two-thirds of the acropodia likewise are reticulate. The cere is large in both, and in both the nares are longitudinally cleft and irregularly ovoid in form. The one passes towards *Buteo* from *Circus*, the other towards *Aquila* from *Buteo*. Length (fœm.), $19\frac{1}{2}$ inches; bill, $1\frac{1}{4}$; tail, 9; tarse, 3; central toe and nail, 2; hind, $1\frac{1}{4}$. Procured in the central hilly region. Manners not noted.

April 22, 1845.

Richard C. Griffith, Esq., in the Chair.

"Descriptions of new species of *Helix*, in the cabinet of H. Cuming, Esq.," by Dr. L. Pfeiffer.

HELIX PONDEROSA, Pfr. *Hel. T. imperforatâ, subglobosâ, tumidâ, solidâ, ponderosâ, lævisculâ (striis incrementi et concentricis confertissimis vix perspicuis), albâ, basi epidermide nitidâ, pallidè corneâ indutâ; anfractibus* $4\frac{1}{2}$ *convexiusculis, ultimo subangulato, fasciis albis hydrophanis infra angulum obsoletè notato; columellâ rectâ, latâ, perobliquâ; aperturâ subauriformi, intus albâ; peristomate latè reflexo.*

Diam. long. 23; transv. 17; altit. $13\frac{1}{2}$ lin.

From Banguey, province of North Ilocos, isle of Luzon: found on leaves of trees. (Cuming.)

Differt ab *Hel. latitante* magnitudine, colore et sculpturâ minutissimâ.

HELIX SEMIGLOBOSA, Pfr. *Hel. T. subperforatâ, semiglobosâ, tenui, lutescenti-corneâ, supra minutissimè granulatâ; suturâ vix impressâ; anfractibus 6 planis, ultimo carinato, infra carinam lævigato, nitido, fasciâ dilutâ brunneâ notato; umbilico angustissimo; aperturâ lunari-ellipticâ, intus fasciatâ; peristomate simplice, acuto, margine columellari latè reflexo, umbilicum semitegente.*

Diam. 22; altit. 13 lin.

From the isle of Zeyte: found on leaves of trees. (Cuming.)

β. Anfractu ultimo magis inflato, saturatius brunnescente (Catbalonga, isle of Samar).

HELIX OBTUSA, Pfr. *Hel. T. imperforatâ, subglobosâ, tenui, striis incrementi et lineis impressis concentricis obsoletis subdecussatâ, nitidâ, lætè castaneâ; spirâ subelevatâ, obtusâ; anfractibus 4 convexis, ultimo inflato; columellâ obliquâ, acutâ, albâ; aperturâ dilatatâ, subauriformi, intus margaritaceâ; peristomate simplice, expanso.*

Diam. $17\frac{1}{2}$; altit. 13 lin.

From Catanauan, province of Tayabos, isle of Luzon: found on leaves of bushes. (Cuming.)

β. Alba, minor (diam. 15; altit. 10 lin.). From Zigas, province of South Camarines, Luzon: found on leaves of trees.

HELIX FILARIS, Valenc., Mus. Paris. *Hel. T. imperforatâ, depressoglobosâ, tenui, striis incrementi validis notatâ, albidâ, epidermide pallidè corneâ deciduâ munitâ; spirâ parùm elevatâ, obtusâ; suturâ*

lineari, albo-marginatâ; anfractibus 4 *planiusculis, ultimo obtusè angulato; columellâ obliquâ, margine granulosâ; aperturâ dilatatâ, lunari; peristomate nigro, subincrassato, parùm expanso.*

Diam. $19\frac{1}{2}$; altit. $12\frac{1}{2}$ lin.

From the island of Marinduque: found on leaves of trees. (Cuming.)

Intermedia inter *Hel. Valenciennesii* et *virginem.*

Helix constricta, Pfr. *Hel. T. imperforatâ, semiglobosâ, nitidâ, concentricè minutissimè striatâ, flavo-albidâ, fasciis* 2 *fuscis interruptis ad peripheriam ornatâ; anfractibus* $4\frac{1}{2}$ *convexiusculis, ultimo basi subplanato, ad aperturam subitò descendente, constricto; aperturâ lunari, intus nitidè flavâ; peristomate acuto, albo, latè reflexo, margine basali subincrassato; areâ columellari callosâ, subexcavatâ.*

Diam. $11\frac{1}{2}$; altit. $6\frac{1}{2}$ lin.

From Calapan, island of Mindoro: found on leaves of trees. (Cuming.) Affinis sequenti.

Helix paradoxa, Pfr. *Hel. T. imperforatâ, globoso-depressâ, nitidâ, concentricè subtilissimè et confertissimè striatâ, virescenti-flavâ, apice nigro-violaceo, areâ basali saturatè castaneâ; anfractibus* 5 *planiusculis, ultimo irregulari, lateraliter subcompresso, prope aperturam tumido; aperturâ lunari-ellipticâ; peristomate albo, acuto, latè reflexo, margine superiore intus callo castaneo munito, basi in dentem horizontalem incrassato.*

Diam. long. $12\frac{1}{2}$; transv. 10; altit. 7 lin.

From Sorsogon, province of Albay, isle of Luzon: found on leaves of trees. (Cuming.)

Affinis *H. Thersit.*, margine non carinato, colore et sculpturâ diversâ.

Helix fodiens, Pfr. *Hel. T. umbilicatâ, subglobosâ, tenui, diaphanâ, rufo-corneâ, obliquè confertim rugosâ; anfractibus* $5\frac{1}{2}$ *convexis, ultimo subangulato; umbilico pervio; aperturâ suborbiculari; peristomate simplice, ad umbilicum latè expanso.*

Diam. 11; altit. $7\frac{1}{2}$ lin.

From Banguey, province of North Ilocos, isle of Luzon: found partially buried in earth, under stones. (Cuming.)

β. *Minor, pallidior, anfractibus* 5, diam. $9\frac{1}{2}$, altit. 6 lin.

From Cagayan, isle of Luzon. (Cuming.)

Differt ab *H. frutico* testâ rugosâ et aperturâ magis dilatatâ, ab *H. tourannensi* rugis testæ, spirâ non acuminatâ, et peristomate intus non labiato.

Helix succinea, Pfr. *Hel. T. depressâ, obsoletè subperforatâ, tenui, pellucidâ, nitidâ, succineâ; suturâ mediocri; anfractibus* 5 *celeriter crescentibus, vix convexiusculis; aperturâ lunari; peristomate simplice, acuto, margine columellari subreflexo, perforationem obsoletam tegente.*

Diam. 5; altit. 3 lin.

From Sorsogon, province of Albay, isle of Luzon: found on leaves of trees. (Cuming.)

HELIX GALLINULA, Pfr. *Hel. T. umbilicatâ, lenticulari, acutè carinatâ, solidâ, flavescenti-griseâ, fasciis nonnullis rufis et epidermide hydrophanâ, maculas triangulares pallidas formante, ornatâ; anfractibus* $4\frac{1}{2}$ *planis, ultimo ad aperturam subitò deflexo; aperturâ horizontali, ellipticâ; peristomate simplice, marginibus callo tenui junctis, basali reflexo, ad umbilicum mediocrem pervium arcuato.*

Diam. 13; altit. $4\frac{1}{2}$ lin.

From Bongabong, province of Nueva Ecija, isle of Luzon: found on trunks of trees. (Cuming.)

β. Minor, testâ basi obliquè rugulosâ, aperturâ lateraliter minus dilatatâ.

From Mt. St. Cristoval, province of Batangas, isle of Luzon. (Cuming.)

γ. Testâ utrinque lineis impressis obliquis, circa umbilicum subconcentricis notatâ, fasciis obsoletis.

From Daleguete, isle of Zebu. (Cuming.)

HELIX HORIZONTALIS, Pfr. *Hel. T. umbilicatâ, depressâ, solidâ, obliquè striatâ, carinatâ, luteo-corneâ, rufo-fasciatâ; fasciis* 2 *supra,* 1 *infra carinam; anfractibus* 5 *planis, ultimo supernè convexo, basi planulato, ad aperturam subitò ferè verticaliter deflexo; aperturâ horizontali, integrâ, oblongâ; peristomate crasso, reflexo, carneo, marginibus parallelis.*

Diam. $15\frac{1}{2}$; altit. 7 lin.

From the island of Bantayon, Philippines: found on the trunks of trees. (Cuming.)

HELIX RADULA, Pfr. *Hel. T. umbilicatâ, depressâ, sublenticulari, solidiusculâ, striis incrementi confertis et lineis acutè prominentibus concentricis exasperatâ, pallidè corneâ, carinatâ; anfractibus* $6\frac{1}{2}$ *convexiusculis, lentè crescentibus, ultimo basi inflato, lineis concentricis infra carinam obsoletis; umbilico mediocri, pervio; aperturâ lunari-ellipticâ; peristomate simplice, vix incrassato, marginibus callo lineari junctis.*

Diam. 10; altit. 5 lin.

From Sinait, province of North Ilocos, isle of Luzon: found under stones in earth. (Cuming.)

HELIX ACUTIMARGO, Pfr. *Hel. T. umbilicatâ, depressâ, supra planiusculâ, basi convexâ, tenui, pellucidâ, pallidè corneâ, acutè carinatâ, supra carinam striis nonnullis confertis, concentricis notatâ; anfractibus* 6 *lentè crescentibus; umbilico mediocri, pervio; aperturâ securiformi; peristomate simplice, acuto.*

Diam. 8; altit. 3 lin.—An adulta?

From the mountains of the isle of Negros: found on the leaves of bushes. (Cuming.)

HELIX BIANGULATA, Pfr. *Hel. T. subperforatâ, scalæformi, tenui, corneo-rubellâ, leviter striatâ, nitidiusculâ; anfractibus* 7 *lentè*

crescentibus, ultimo bicarinato; carinâ inferiore filari ad peripheriam, superiore per omnes anfractus adscendente; aperturâ lunari-ovali; peristomate simplice, acuto, perforationem angustissimam ferè occultante.

Diam. 8; altit. $4\frac{3}{4}$ lin.

From St. Frun, province of Cagayan, isle of Luzon: found in earth at the root of bushes. (Cuming.)

Helix excentrica, Pfr. *Hel. T. subperforatâ, supernè planiusculâ, basi inflatâ, tenui, cereâ, nitidâ, striis excentricis subcostulatâ, acutè carinatâ; anfractibus 4 supra planis, rapidè crescentibus; aperturâ securiformi; peristomate simplice, acuto, ad perforationem angustissimam dilatato-reflexo.*

Diam. 9; altit. $4\frac{1}{4}$ lin.

From the isle of Siquijor: found on the leaves of bushes. (Cuming.)

Differt ab *H. smaragdinâ*, Grat., spirâ minus depressâ, anfractu ultimo minus inflato, et aperturæ formâ.

Helix spectabilis, Pfr. *Hel. T. subperforatâ, depressâ, solidâ, nitidissimâ, corneo-luteâ, fasciâ 1 rufâ percurrente ornatâ; spirâ parùm elevatâ; anfractibus $5\frac{1}{2}$ convexiusculis, ultimo infra fasciam angulato; aperturâ latè lunari; peristomate simplice, acuto, margine columellari subreflexo, perforationem tegente.*

Diam. 9; altit. 5 lin.—An adulta?—*Naninæ* spec.?

From Bangojon, isle of Samar: found on the leaves of bushes. (Cuming.)

Helix eximia, Pfr. *Hel. T. umbilicatâ, depresso-globosâ, obliquè rugosâ et confertissimè granulosâ, olivaceo-corneâ, fasciis 5 fusco-viridibus ornatâ; anfractibus $4\frac{1}{2}$ convexiusculis, rapidè crescentibus, ultimo permagno, circa aream umbilicarem fuscam compresso-inflato; aperturâ lunari-ovali, intus margaritaceâ, lilaceâ; peristomate simplice, angustè reflexo, umbilicum angustum semitegente.*

Diam. 21; altit. 14 lin.

From Vera Cruz, province of Honduras, Central America: found on leaves of trees. (Delatere.)

Helix trigonostoma, Pfr. *Hel. T. imperforatâ, trochiformi, tenui, obliquè striatulâ, lineis nonnullis concentricis impressis notatâ, albâ, fasciis supernè linearibus, basi latioribus, fusco-violaceis ornatâ; spirâ latè conicâ; anfractibus $4\frac{1}{2}$ planiusculis, ultimo spiram superante, obsoletè angulato; columellâ brevi, callosâ; aperturâ subtriangulari; peristomate simplice, margine supero parùm expanso, columellari reflexo, adpresso.*

Diam. 14; altit. 9 lin.

From Vera Cruz, province of Honduras, Central America: found on leaves of trees. (Delatere.)

Affinis *H. teneræ*, Sow. Differt spirâ minus elevatâ, anfractibus planis, columellâ brevi et aperturæ formâ.

Helix tenuis, Pfr. *Hel. T. imperforatâ, subglobosâ, tenui, fuscâ, rufo-zonatâ, lineis obsoletis impressis, concentricis notatâ, epider-*

mide tenuissimâ, sericinâ indutâ; spirâ obtusiusculâ; anfractibus 5 celeriter crescentibus, vix convexiusculis, ultimo magno, inflato, ad columellam obliquam, subtortam excavato; aperturâ lunari-ovali; peristomate recto, simplice, basi subincrassato.

Diam. 16; altit. 11 lin.

Patria ignota. (E collectione Cumingianâ.)

Helix dilatata, Pfr. *Hel. T. imperforatâ, subglobosâ, solidâ, pallidè luteâ, lineis confertissimis brunneis, interruptis supra et infra fasciam concolorem medii anfractûs ultimi pictâ, apice albidâ; spirâ parvâ, obtusiusculâ; anfractibus 4 rapidè crescentibus, ultimo amplissimo; columellâ albo-callosâ, arcuatâ; aperturâ maximâ, obliquè ovali, intus lacteâ; peristomate recto, intus incrassato.*

Diam. $17\frac{1}{2}$, altit. 12 lin.

Patria ignota. (E collectione Cumingianâ.)

Glandina obtusa, Pfr. *Glan. T. ovatâ, utrinque attenuatâ, apice obtusâ, solidulâ, pellucidâ, pallidè carneâ; anfractibus $5\frac{1}{2}$ vix convexiusculis, ultimo spiram paulò superante; suturâ crenulato-marginatâ; aperturâ latiusculâ; columellâ verticali, basi subitò truncatâ; peristomate simplice, marginibus callo tenuissimo junctis, dextro medio vix dilatato.*

Long. $9\frac{1}{2}$; diam. 5 lin.

From the Real Llejos, province of Nicaragua, Central America: found on leaves of bushes. (Cuming.)

May 13, 1845.

William Yarrell, Esq., Vice-President, in the Chair.

A skin of a *Boa constrictor*, fifteen feet in length, presented to the Society by Mr. Pontet, jun., was exhibited to the Meeting.

"Descriptions of new species of Land Shells, from the collection of Hugh Cuming, Esq.," by Dr. Louis Pfeiffer:—

1. Helix grandis, Pfr. *Hel. testâ imperforatâ, globoso-turbinatâ, solidâ, ponderosâ, striatâ, nigricanti-rufâ, epidermide griseo-fuscescente fasciatim obductâ; spirâ conicâ, apice pallidâ; anfractibus 6 vix convexiusculis, ultimo spirâ breviore, basi inflato, fortius striato; columellâ verticali, brevi, subtortâ; aperturâ latè lunari, intus margaritaceâ; peristomate nigricante, latè expanso, margine basali incrassato, reflexo, cum columellari valdè dilatato, albido angulum obtusum formante.*

Diam. 68; alt. 58 mill.

Found at Bangui, province of North Ilocos, island of Luzon, by H. Cuming, Esq.

2. Helix Gmeliniana, Pfr. *Hel. testâ imperforatâ, globoso-depressâ, solidulâ, irregulariter rugoso-malleatâ, carinatâ, nitidâ, pallidè viridi, ad suturam et infra carinam albo-cingulatâ; spirâ subelevatâ, apice obtusâ, albidâ; anfractibus 4½ vix convexiusculis, sensim accrescentibus, ultimo non descendente, basi planiusculâ; aperturæ angulato-lunari; peristomate subincrassato, margine supero breviter expanso, antrorsum arcuato, basali reflexo, columellari declivi, dilatato, albo-calloso.*

Diam. 23; alt. 13 mill.

Found at Bayambong, island of Luzon, by H. Cuming, Esq.

3. Helix Linnæana, Pfr. *Hel. testâ umbilicatâ, depressâ, utrinque convexiusculâ, acutè carinatâ, pallidè fulvâ, supernè rugoso-malleatâ, basi minutè et obliquè rugulosâ; anfractibus 5½ lentè accrescentibus, planulatis, ultimo basi subinflato, anticè vix descendente; umbilico majusculo, cylindrico; aperturâ angulato-lunari, ad carinam canaliculatâ; peristomate incrassato, carneo, marginibus callo junctis, supero brevi, expanso, basali arcuato, reflexo, columellari breviter descendente, subdilatatâ.*

Diam. 62; alt. 28 mill.

Locality unknown. Mus. Cuming.

4. Helix Chemnitziana, Pfr. *Hel. testâ imperforatâ, depressâ, solidâ, supernè radiatim plicato-malleatâ, undique granulosâ, sub epidermide olivaceo-rufâ, acutè carinatâ; spirâ subelevatâ, obtusâ;*

anfractibus 5 planis, ultimo basi convexo; aperturâ subtriangulari, intus nitidâ, carneâ; peristomate carneo, margine supero subexpanso, basali reflexo, dente unico valido instructo, columellari stricto, dilatato, adpresso, inæqualiter pluridentato.

Diam. 57; alt. 26 mill.

Locality unknown. Mus. Cuming.

5. Helix Bainbridgii, Pfr. *Hel. testâ umbilicatâ, depressâ, subdiscoideâ, solidâ, striatâ, undique granulatâ, cinnamomeâ, basi pallidâ; spirâ vix elevatâ, obtusâ; anfractibus 5½ planis, ultimo rotundato, basi vix convexo; aperturâ perobliquâ, lunato-subtriangulari, intus nitidâ, carneâ; peristomate subincrassato, carneo, marginibus callo junctis, supero latè expanso, basali reflexo, dente unico, valido, complanato instructâ, columellari perdilatato, umbilicum mediocrem semi-occultante.*

Diam. 64; alt. 26 mill.

Found at Demerara by Mr. Bainbridge. Mus. Cuming.

6. Helix Martiniana, Pfr. *Hel. testâ obtestè perforatâ, discoideâ, acutè carinatâ, solidâ, striatâ et minutissimè granulatâ, olivaceo-fuscâ; spirâ depressâ; anfractibus 5 planulatis, ultimo non descendente, basi inflato, anticè profundè scrobiculato; aperturâ depressâ, latè angulato-lunari, intus lacteâ; peristomate albo, incrassato, marginibus callo tenui junctis, supero expanso, basali reflexo, dentibus 2 conjunctis, columellari dilatato, dentibus 2 inæqualibus armato.*

Diam. 34; alt. 14 mill.

From the island of Jamaica. Mus. Cuming.

7. Helix Schroeteriana, Pfr. *Hel. testâ umbilicatâ, depressâ, lenticulari, acutè carinatâ, solidâ, obsoletè granulatâ, luteolâ, utrinque rufo-latefasciatâ; spirâ subelevatâ; anfractibus 5 planulatis, ultimo anticè deflexo, basi inflato, anticè profundè scrobiculato; aperturâ subhorizontali, ellipticâ; peristomate incrassato, latè expanso, reflexo, fusco-carneo, marginibus callo junctis, supero leviter arcuato, basali dilatato, umbilicum angustum semitegente, intus 3–4-dentato; dentibus 2 majoribus basi junctis, 1–2 minoribus propè columellam.*

Diam. 31; alt. 14 mill.

From the island of Jamaica; Mr. P. Gosset. Mus. Cuming.

Intermediate between *H. tridentina*, Fér., and *H. Martiniana*, Pfr. The position of the teeth is the same, but from the former it is at once to be distinguished by the sharp keel, from the latter by the deflexion of the last whorl.

8. Helix Bruguieriana, Pfr. *Hel. testâ imperforatâ, turbinato-globosâ, solidâ, nigro-castaneâ, epidermide hydrophanâ, fuscâ strigatâ, sursum pallescente obductâ; spirâ conoideâ, apice obtusâ, purpureâ, nitidâ; anfractibus 5 convexiusculis, ultimo non descendente, basi vix convexo, denudato; columellâ intrante, obliquâ, strictiusculâ, planatâ, albâ; aperturâ lunato-ovali, intus lacteâ;*

peristomate simplice, brevissimè reflexiusculo, intus nigro-marginato.

Diam. 29; alt. 24 mill.

Collected on the island of Tablas by H. Cuming, Esq.

9. Bulimus gilvus, Sow. *Bul. testâ imperforatâ, ovatâ, solidulâ, striatâ, sub epidermide gilvâ rufescens; spirâ apice obtusâ, nudâ, pallidâ; anfractibus 6 convexis, ultimo spirâ paulò breviore; columellâ strictiusculâ, albâ, subexcavatâ; aperturâ obliquâ, lunato-ovali, intus lacteâ; peristomate subincrassato, breviter reflexo, margine dextro arcuato, columellari adpresso.*

Long. 54; diam. 38 mill.

Collected in several varieties on the island of Bohol, by H. Cuming, Esq.

Geomelania, nov. gen.

Testa imperforata, turrita; apertura integra, effusa; peristoma simplex, reflexum, ad basin appendiculo porrecto instructum.

10. Geomelania jamaicensis, Pfr. *Geom. testâ truncatâ, turritâ, arcuatim costatâ, nitidâ, albâ; anfractibus 6 convexis, ultimo $\frac{1}{3}$ longitudinis subæquante; aperturâ ovali, intus nitidâ; peristomate simplice, margine dextro sinuoso, basi in appendiculum linguiformem porrecto, columellari adpresso.*

Long. 12; diam. 4 mill.

Found at Jamaica, "Savanah la Mar," under stones in earth, by M. Attanasio. Mus. Cuming.

11. Tomogeres turbinatus, Pfr. *Tom. testâ rimatâ, compresso-turbinatâ, tenui, lævissimè striatulâ, pallidè corneâ, nitidulâ; spirâ turbinatâ, acutiusculâ; anfractibus 5 convexis, ultimo spiram vix æquante, à latere compresso, basi subangulato, anticè adscendente, subtùs constricto, scrobiculato; aperturâ verticali, subauriformi, ferè clausâ; peristomate latè expanso, tenui, margine dextro arcuato, internè laminâ validâ, supernè bifidâ, munito, basali obliquè descendente, tridentato; pariete aperturali lamellis 3 inæqualibus armato.*

Diam. maj. 11, min. $7\frac{1}{2}$; alt. 10 mill.

Hab. In Brasiliâ.

This interesting shell is nearly allied with *Tomogeres clausus*, Spix, but easily to be distinguished by the substance of its shell, by the raised spire and the thin peristome, characters quite constant in all specimens known.

"Descriptions of eighty-nine new species of *Mitra*, chiefly from the collection of H. Cuming, Esq.," by Lovell Reeve, Esq.:—

Mitra fastigium. *Mitr. testâ abbreviato-ovatâ, subventricosâ, solidiusculâ, spirâ brevi, acuminatâ; lævigatâ, basim versus exiliter sulcatâ; luteâ; columellâ quadriplicatâ, basi truncatâ; labro simplici, supernè sinuato.*

Conch. Icon., *Mitra*, pl. 28. f. 221.
Hab. ——?
A small, solid, compact cupola-shaped shell.

MITRA BULIMOIDES. *Mitr. testâ elongatâ, basi subtruncatâ, spirâ acuminatâ; tenuiculâ, subpellucidâ, quasi corneâ; albido-fuscescente; columellâ quadriplicatâ.*
Conch. Icon., *Mitra*, pl. 28. f. 224.
Hab. ——?
A smooth transparent horny shell.

MITRA RHODIA. *Mitr. testâ elongatâ, spirâ acuminatâ; læviusculâ, transversim subtilissimè striatâ; nigerrimo-fuscâ; columellâ triplicatâ, aperturâ brevi.*
Conch. Icon., *Mitra*, pl. 28. f. 225.
Hab. ——?
Not much unlike the preceding species in form, but of a different colour and texture.

MITRA CŒLIGENA. *Mitr. testâ ovatâ, spirâ breviusculâ, suturis profundis; transversim sulcatâ, sulcis subpunctatis; luteo-fuscescente, albipunctatâ, anfractuum parte superiori balteo angusto lutescente cingulatâ; columellâ quadriplicatâ.*
Conch. Icon., *Mitra*, pl. 28. f. 226.
Hab. ——?
The entire surface of this species is speckled with small white spots.

MITRA AURICULOIDES. *Mitr. testâ ovatâ, crassâ, solidâ, basim versus striatâ, spirâ brevi, obtusâ; rubido-castaneâ, anfractuum parte superiori, balteo unico albo angusto cingulatâ; columellâ quinqueplicatâ; labro intus supernè sinuato.*
Conch. Icon., *Mitra*, pl. 28. f. 228.
Hab. ——?
A dark chestnut-brown Auricula-shaped shell, encircled with a conspicuous narrow white belt.

MITRA DUPLILIRATA. *Mitr. testâ elongatâ, spirâ valdè acuminatâ, angustâ, tereti, basi tortuoso-recurvâ; transversim subtiliter dupliliratâ, liris interstitiisque granulosis; albidâ, aurantio-fusco hic illic concentricè flammatâ; columellâ quadriplicatâ, basi subcanaliculatâ.*
Conch. Icon., *Mitra*, pl. 29. f. 229.
Hab. ——?
This species has a peculiar tapering form, and by the aid of a lens it may be observed that the transverse ridges are all duplicate.

MITRA DISCOLORIA. *Mitr. testâ ovatâ, basi granulatâ, spirâ acuminato-turritâ; anfractibus supernè prominentibus, longitudinaliter conspicuè costatis, costis latiusculis, obtusis, transversim impresso-lineatis; fasciis roseis et albis alternatâ, fasciis roseis inter costas ustulato-nigricantibus; columellâ quadriplicatâ, aperturâ parvâ.*
Conch. Icon., *Mitra*, pl. 29. f. 230.

Hab. ——?

An extremely prettily painted species.

MITRA CORIACEA. *Mitr. testâ ovatâ, utrinque attenuatâ, spirâ breviusculâ, acutè acuminatâ; anfractibus supernè rotundatis, transversim impresso-lineatis, interstitiis granosis; anfractuum parte superiori albidâ, infra fuscescente; columellâ quinqueplicatâ.*

Conch. Icon., *Mitra*, pl. 29. f. 231.

Hab. Island of Corrigidor, Philippines (found among coarse sand at the depth of five fathoms); Cuming.

A species of very peculiar character.

MITRA VERRUCOSA. *Mitr. testâ ovatâ, subventricosâ, spirâ breviusculâ, acuminatâ; longitudinaliter concentricè plicatâ, plicis tuberculis parvis prominentibus mucronatis undique armatis; albâ, fuscescente pallidè fasciatâ; columellâ quinqueplicatâ.*

Conch. Icon., *Mitra*, pl. 29. f. 232.

Hab. Island of Ticao, Philippines (found in sandy mud in deep water); Cuming.

The tubercles with which the entire surface of this shell is covered are quite sharp and prickly.

MITRA ELEGANS. *Mitr. testâ oblongo-ovatâ, spirâ acuminatâ, suturis subprofundis; longitudinaliter subtilissimè costatâ, costis angustis, interstitiis eleganter clathratis; albicante, aut pallidissimè carneo-fuscescente, lineâ rubrâ unicâ aut pluribus cingulatâ, apice fusco; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 29. f. 233.

Hab. Island of Burias, Philippines (found among coral sand and shells at the depth of four fathoms); Cuming.

This species is well characterized by the very elegant style of its sculpture and by the sharp red lines with which it is encircled.

MITRA DECORA. *Mitr. testâ subfusiformi, basi contractâ, spirâ acuminato-turritâ, suturis profundis; transversim impresso-sulcatâ, liris intermediis granulosis, plicisque angustis concentricis subdistantibus longitudinaliter ornatâ; albâ, balteo aurantio-fusco, anfractu ultimo balteis duobus, cingulatâ; columellâ quadriplicatâ, umbilicatâ, subcanaliculatâ.*

Conch. Icon., *Mitra*, pl. 29. f. 234.

Hab. ——?

The form, colour and sculpture of this species are each of peculiar interest.

MITRA MUTABILIS. *Mitr. testâ abbreviato-fusiformi, spirâ turritâ, interdum elevatâ, interdum breviusculâ, suturis subprofundis; anfractibus supernè depressis, longitudinaliter concentricè costatis, costis angustis liris subtilibus transversis clathratis; albidâ, olivaceo-viridi fasciatâ, apice fusco; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 29. f. 235.

Hab. Island of Ticao, Philippines (found under stones at low water, and at the depth of about ten fathoms); Cuming.

An extremely variable species both in form and colour.

MITRA MILITARIS. *Mitr. testâ subfusiformi, basi contractâ, spirâ acuminatâ, suturis subprofundis; longitudinaliter costatâ, costis obtusiusculis, interstitiis transversim impresso-lineatis; anfractibus supernè luteis, ultimo zonâ latâ coccineo-rubrâ cingulato; columellâ quadriplicatâ, umbilicatâ.*

Conch. Icon., *Mitra*, pl. 29. f. 236.

Hab. Island of Ticao, Philippines (found on the sands); Cuming.

Distinguished in part by the rich, broad, crimson-red band which encircles the last whorl.

MITRA TUBEROSA. *Mitr. testâ obtuso-conicâ, crassâ, obesâ, spirâ brevi, basi truncatâ; longitudinaliter plicato-costatâ, costis rudibus, subdistantibus, supernè tuberculato-nodosis; transversim lineari-sulcatâ, sulcis pertusis; luteo-olivaceâ, aut fuscâ, supernè albâ, basi fuscâ, albipunctatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 30. f. 237, *a* and *b*.

Hab. Island of Zebu, Philippines (found under stones at low water); Cuming.

A small stout species, somewhat after the form of the *Mitra patriarchalis*.

MITRA FORTICOSTATA. *Mitr. testâ abbreviato-ovatâ, spirâ subturritâ; anfractibus supernè angulatis, infra angulum longitudinaliter costatis, costis solidis fortissimis, distantibus, basim versus subobsoletè granosis; nigerrimo-fuscâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 30. f. 238.

Hab. New Holland.

Resembling *Mitra ficulina*, but of a much more solid and angular structure.

MITRA LOTA. *Mitr. testâ oblongo-ovatâ, spiræ suturis impressis, transversim subtilissimè impresso-striatis, longitudinaliter concentricè costatâ, costis basim versus granosis; rufulo-aurantiâ, viridi-fusco variegatâ; columellâ triplicatâ.*

Conch. Icon., *Mitra*, pl. 30. f. 239.

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

The painting of this species is of very irregular character.

MITRA CONSANGUINEA. *Mitr. testâ ovatâ, solidiusculâ, obesâ, basim versus contractâ, spirâ obtuso-rotundatâ; transversim subtilissimè punctato-striatâ, longitudinaliter confertim plicato-costatâ, costis infernè granosis; rubidâ, anfractibus maculis parvis rotundis in medio uniseriatim cinctis; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 30. f. 241.

Hab. ——?

Allied in some measure to the *Mitra pardalis*.

MITRA CREMANS. *Mitr. testâ obeso-ovatâ, spirâ brevi, suturis subimpressis; lævi, basim versus granosâ, longitudinaliter subobliquè plicatâ; nigerrimâ, flammis rufo-aurantiis hic illic variegatâ; columellâ triplicatâ.*

Conch. Icon., *Mitra*, pl. 30. f. 242.

Hab. St. Nicolas, island of Zebu, Philippines (found under stones at low water); Cuming.

This species may be known by its confused flame-like painting.

MITRA LEUCODESMA. *Mitr. testâ obeso-ovatâ, spirâ brevissimâ, longitudinaliter plicato-costatâ; lævi, apice crenulatâ, basi granulatâ; nigerrimo-fuscâ, anfractibus macularum albarum zonâ unicâ in medio cingulatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 30. f. 243.

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

Painted in a manner similar in some degree to the *Mitra microzonias*, from which it is materially distinct in form.

MITRA LAUTA. *Mitr. testâ obeso-ovatâ, solidiusculâ, spirâ obtuso-rotundatâ, longitudinaliter subobsoletè plicato-costatâ, costis lævibus, interstitiis impresso-striatis; costis, aurantio-rufis, interstitiis nigerrimis, anfractuum medio albo; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 30. f. 244.

Hab. Island of Masbate, Philippines (found under stones at low water); Cuming.

A stout, very prettily painted species.

MITRA LUCULENTA. *Mitr. testâ ovatâ, lævi, longitudinaliter subobsoletè plicato-costatâ, costis basim versus granosis; anfractibus zonis cæruleo-nigris et albis alternatim conspicuè pictâ, columellâ triplicatâ.*

Conch. Icon., *Mitra*, pl. 30. f. 245.

Hab. Philippine Islands; Cuming.

This species may be recognized by the decided character of the painting, which consists of alternate blue-black and white zones.

MITRA AVENACEA. *Mitr. testâ oblongo-ovatâ, transversim undique liratâ, liris angustis, elevatiusculis; flavescente-spadiceâ, juxta suturas albicante subindistinctè maculatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 31. f. 246.

Hab. Islands of Burias, Ticao and Capul, Philippines (found on the reefs and in sandy mud at the depth of about six fathoms); Cuming.

A solid, cylindrical, closely-ridged shell.

MITRA PICA. *Mitr. testâ ovatâ, tenuiculâ, subventricosâ, spirâ breviusculâ, acutâ; anfractibus lævibus, aterrimis, supernè et infernè niveis; columellâ triplicatâ; aperturâ subamplâ.*

Conch. Icon., *Mitra*, pl. 31. f. 247.

Hab. ——?

May be distinguished by the jagged white band with which its black whorls are encircled next the sutures.

MITRA CITHARA. *Mitr. testâ ovatâ, crassiusculâ, suturis impressis; longitudinaliter creberrimè costatâ, costis angustis, obtusis, interstitiis transversim clathratis; purpureo-plumbeâ, zonulâ pallidâ angustâ cingulatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 31. f. 248.
Hab. —— ?
Of a peculiar purple lead-colour.

MITRA NYMPHA. *Mitr. testâ subfusiformi, spirâ acuminatâ; anfractibus transversim punctato-striatis; incarnato-fuscescente, albo maculato-variegatâ, anfractu ultimo fasciâ albidâ subindistinctâ cingulato; columellâ quadriplicatâ.*
Conch. Icon., *Mitra*, pl. 31. f. 249.
Hab. —— ?
A solid punctured shell, of a fleshy-brown or pale salmon-colour, variegated with white spots, particularly around the sutures.

MITRA CALLOSA. *Mitr. testâ oblongo-ovatâ, spirâ breviusculâ, suturis subimpressis; lævigatâ, basi liratâ; plumbeo-fuscâ, punctis fuscis hic illic variegatâ; columellâ fuscâ, quinqueplicatâ, callositate albâ supernè armatâ, plicis albis; labro subflexuoso.*
Conch. Icon., *Mitra*, pl. 31. f. 251.
Hab. Pasacao, island of Luzon, Philippines (found on the sands); Cuming.
Distantly allied to the *Mitra ebenus*.

MITRA ÆGRA. *Mitr. testâ fusiformi, spirâ acuminatâ, transversim undique crebriliratâ, liris lævibus, interstitiis puncturatis; fuscescente, roseo-albicante pallidè et indistinctè fasciatâ et maculatâ; columellâ quadriplicatâ.*
Conch. Icon., *Mitra*, pl. 31. f. 252.
Hab. —— ?
Like the *Mitra cylindracea* in form, but of a different sculpture.

MITRA MODESTA. *Mitr. testâ subfusiformi-ovatâ, basi contractâ, spirâ turritâ; anfractibus rotundatis, longitudinaliter costatis, interstitiis transversim cancellato-impressis; niveâ, rosaceo basim versus pallidissimè tinctâ; columellâ quadriplicatâ, aperturæ fauce rosaceâ.*
Conch. Icon., *Mitra*, pl. 31. f. 254.
Hab. Island of Ticao, Philippines (found on the reefs at low water); Cuming.
A chaste pink-white shell, with a highly-relieved lattice sculpture.

MITRA SEMEN. *Mitr. testâ ovatâ, utrinque attenuatâ, lævigatâ, politâ; castaneo-fuscâ lineis albidis undatis longitudinaliter pictâ; columellâ triplicatâ.*
Conch. Icon., *Mitra*, pl. 32. f. 256.
Hab. Puerto Galero, island of Mindoro, Philippines (found on the sands at low water); Cuming.
Covered with characteristic longitudinal waved lines.

MITRA MILIUM. *Mitr. testâ ovato-fusiformi, crassiusculâ, lineis elevatiusculis undique creberrimè decussatâ; rufescente-fuscâ; columellâ quadriplicatâ; aperturâ subangustâ, labro incrassato.*
Conch. Icon., *Mitra*, pl. 32. f. 257.
Hab. —— ?

Belonging to a small group of a peculiar narrow contracted structure, with thickened lip, of which the *Mitræ gratiosa, recurva, exilis* and *mirifica* may be quoted as examples.

MITRA LACHRYMA. *Mitr. testâ ovatâ, utrinque attenuatâ, tenuiculâ, spirâ brevi, subobtusâ; anfractibus supernè longitudinaliter subtilissimè costatâ, transversim obsoletè elevato-striatâ; albâ, maculâ grandi aurantio-fuscescente dorso peculiariter pictâ; columellâ bi- vel tri-plicatâ, plicis ferè obsoletis, labro effuso.*

Conch. Icon., *Mitra*, pl. 32. f. 258.

Hab. —— ?

A small white transparent-looking shell, which may be immediately recognised by the large brown stain on the back of the last whorl.

MITRA CIMELIUM. *Mitr. testâ abbreviato-fusiformi, spirâ turritâ, longitudinaliter costatâ, costis supernè tuberculatis; albâ, costis infra tuberculis lineis brevibus nigerrimo-fuscis transversim vividè pictâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 32. f. 260.

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

The lower portion of the ribs of this species are crossed in a very peculiar manner with short brown parallel lines.

MITRA TURRIGER. *Mitr. testâ fusiformi, spirâ angulato-turritâ; anfractibus supernè angulatis, longitudinaliter costatis, costis angustis, ad angulum muricato-tuberculatis, interstitiis transversim impressis; albidâ, fasciâ castaneâ latiusculâ inter costas pictâ, columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 32. f. 262.

Hab. Island of Ticao, Philippines (found in sandy mud at the depth of six fathoms); Cuming.

A prickly sharply-turreted species, encircled with a brown band, which only appears in the interstices between the ribs.

MITRA CÆLATA. *Mitr. testâ cylindraceo-ovatâ, basi contractâ, paululùm elongatâ, spiræ suturis subprofundis; anfractibus longitudinaliter costatis, costis angustis, crebris, interstitiis impresso-cancellatis; lutescente-fuscâ, subindistinctè albifasciatâ; columellâ triplicatâ.*

Conch. Icon., *Mitra*, pl. 32. f. 265.

Hab. Cagayan, province of Misamis, island of Mindanao, Philippines (dredged from sandy mud at the depth of thirty fathoms); Cuming.

The upper portion of this shell has a peculiar cylindrically shortened structure, whilst the base is inclined to become elongated.

MITRA LUCIDA. *Mitr. testâ fusiformi, spirâ turritâ, basi subelongato-contractâ; anfractibus longitudinalit r costatis, costis supernè tumidis, transversim elegantissimè liratis; lucido albicante; columellâ quinqueplicatâ.*

Conch. Icon., *Mitra*, pl. 33. f. 266.

Hab. Philippine Islands; Cuming.

A delicate transparent species, of a peculiar elongated fusiform growth.

MITRA TYPHA. *Mitr. testâ subelongatâ, spirâ acuminatâ; transversim subtilissimè striatâ, corneâ, translucidâ, fasciâ latâ ferrugineâ cingulatâ; columellâ triplicatâ.*

Conch. Icon., *Mitra*, pl. 33. f. 267.

Hab. Loay, island of Bohol, Philippines (found under stones at low water); Cuming.

A minute horny-looking shell, encircled with a conspicuous orange-brown band.

MITRA TORNATA. *Mitr. testâ oblongo-ovatâ, spirâ acutâ, anfractibus convexis, transversim undique liratis, liris tribus supremis minoribus; lutescente-fuscâ, epidermide fuscâ indutâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 33. f. 269.

Hab. Island of Guimaras, Philippines.

The ridges of this species are remarkable for their close regularity and precision.

MITRA VULTUOSA. *Mitr. testâ ovatâ, spirâ breviusculâ; anfractibus convexis ad suturas depresso-planis, transversim costatis, costis crebris sulcis longitudinalibus angustis exsculptis; aurantio-fuscâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 33. f. 270.

Hab. Island of Capul, Philippines (found on the reefs); Cuming.

The longitudinal grooves impart a nodulous character to the transverse ribs.

MITRA GRANATA. *Mitr. testâ oblongo-ovatâ, crassâ, transversim undique liratâ, liris parvis subtiliter granatis; lutescente-fuscâ, apice albicante; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 33. f. 271.

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

Crossed with finely-grained ridges.

MITRA PACIFICA. *Mitr. testâ oblongo-ovatâ, crassiusculâ, spirâ turritâ; anfractibus supernè angulatis, longitudinaliter liratâ, liris numerosis, angustis, transversim impresso-sulcatis; albâ, fasciâ fuscâ inter liras solum cingulatâ; columellâ quadriplicatâ, plicâ supremâ valdè maximâ, aperturâ breviusculâ.*

Conch. Icon., *Mitra*, pl. 33. f. 272.

Hab. Lord Hood's Island; Cuming.

Allied in form to the *Mitra exasperata*.

MITRA TURGIDA. *Mitr. testâ ovoideâ, medio turgidâ, basi contractâ, spirâ brevi, acuminatâ; transversim undique liratâ, sulcis subirregularibus longitudinaliter impressâ; columellâ triplicatâ.*

Conch. Icon., *Mitra*, pl. 33. f. 273.

Hab. Island of Capul, Philippines (found under stones at low water); Cuming.

The sculpture of this species is of a somewhat similar character to that of the *Mitra tornata.*

MITRA AMABILIS. *Mitr. testâ ovatâ, crassiusculâ, spirâ obtuso-depressâ; anfractibus subrotundatis, longitudinaliter costatis, transversim impresso-sulcatis; cinereo-griseâ variè albifasciatâ; columellâ quadriplicatâ; aperturâ breviusculâ, intus fuscâ.*

Conch. Icon., *Mitra,* pl. 33. f. 274.

Hab. Islands of Ticao and Philippines (found under stones at low water); Cuming.

A pretty species, banded alternately with white and ashy grey.

MITRA PURPURATA. *Mitr. testâ ovatâ, utrinque attenuatâ, spirâ breviusculâ, subturritâ; anfractibus ad suturas plano-angulatis, longitudinaliter costatis, costis numerosis, angustis, prominentibus, interstitiis impresso-cancellatis; fusco-purpureâ, zonâ angustâ albâ cingulatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra,* pl. 33. f. 275.

Hab. Island of Capul, Philippines (found under stones at low water); Cuming.

The whorls of this shell being flatly angulated at the sutures, give a turreted character to the spire.

MITRA PUELLA. *Mitr. testâ rotundato-ovatâ, spirâ brevi, subobtusâ, suturis impressis; anfractibus transversim subtilissimè striatis, anfractus ultimi parte inferiori minutè nodiferâ; aterrimâ, anfractuum parte superiori maculis niveis pyriformibus, concentricè dispositis, conspicuè ornatâ; columellâ triplicatâ; labro intus denticulato.*

Conch. Icon., *Mitra,* pl. 34. f. 276.

Hab. Island of St. Thomas, West Indies; Gruner.

The pyriform white spots which encircle the upper portion of each whorl exhibit a striking contrast with the jet-black ground of the shell.

MITRA GRATIOSA. *Mitr. testâ elongatâ, subcylindraceâ, liris prominentibus minutis creberrimè decussatâ; fuscâ; columellâ quinque-plicatâ, labro subincrassato.*

Conch. Icon., *Mitra,* pl. 34. f. 277.

Hab. Gallapagos Islands (found among coral sand at a depth of about seven fathoms); Cuming.

A narrow cylindrical shell, with beautifully decussated sculpture, and of an uniform brown colour.

MITRA MIRIFICA. *Mitr. testâ elongatâ, gracili, subcylindraceâ, basi recurvâ, liris minutissimis creberrimè decussatâ; rosaceâ, subpellucidâ, zonulâ angustâ albidâ cingulatâ; columellâ sexplicatâ, labro subincrassato.*

Conch. Icon., *Mitra,* pl. 34. f. 278.

Hab. Island of Capul, Philippines (found under stones at low water); Cuming.

The general aspect of this shell is very similar to that of the preceding species; upon examination it will be found however of a thinner and more slender structure, whilst the sculpture is of a smaller pattern, and the colour altogether different.

MITRA INERMIS. *Mitr. testâ oblongo-ovatâ, longitudinaliter creberrimè plicatâ, basi sulcatâ; rufescente-fuscâ, fasciâ albidâ, fusco subtilissimè undulatâ, cinctâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 34. f. 279.

Hab. Puteao, province of Albay, island of Luzon (found on the sands); Cuming.

Encircled with a white band, traversed with fine brown zigzag lines.

MITRA BRUMALIS. *Mitr. testâ elongatâ, subcylindraceâ, undique subtilissimè decussatâ; lutescente, aurantio-fusco pallidissimè hic illic tinctâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 34. f. 280.

Hab. Philippine Islands; Cuming.

A solid obtuse shell, with the lip slightly effused.

MITRA DÆDALA. *Mitr. testâ subfusiformi-ovatâ, spirâ turritâ; longitudinaliter costatâ, costarum interstitiis fortiter clathratis; cinereo-viridescente, zonâ albâ conspicuâ cingulatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 34. f. 281.

Hab. Island of Ticao, Philippines (found in sandy mud at the depth of six fathoms); Cuming.

The colour of this shell is a peculiar livid ashy grey.

MITRA SUTURATA. *Mitr. testâ elongato-ovatâ, basi subrecurvâ, spiræ suturis profundè impressis; transversim undique angisulcatis, sulcis profundis, puncturatis, liris intermediis subgranosis; pallidè stramineâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 34. f. 282.

Hab. Gindulman, island of Bohol, Philippines (found under stones at low water); Cuming.

The entire surface of this shell is encircled with close finely granulated ridges, the interstices between which are deeply grooved and punctured.

MITRA TUSA. *Mitr. testâ ovatâ, spiræ suturis profundè impressis, longitudinaliter subtiliter costatâ, transversim impresso-striatâ; anfractuum parte superiori albidâ, maculis grandibus subquadratis fuscis ornatâ, parte inferiori totâ fuscâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 34. f. 283.

Hab. Puerto Galero, island of Mindoro, Philippines (found on the sands at low water); Cuming.

Distinguished by the dark chocolate-brown spots upon the upper part of the shell, whilst the lower part is entirely stained with the same colour.

MITRA MICANS. *Mitr. testâ subfusiformi-ovatâ, lævigatâ, politâ, eburneâ, aurantio pallidè fasciatâ, columellâ quadriplicatâ.*
Conch. Icon., *Mitra*, pl. 34. f. 285.
Hab. South Pacific Ocean.
A small white orange-banded shell, with a surface as hard and shining as polished ivory.

MITRA ARMIGER. *Mitr. testâ elongatâ, subfusiformi, spirâ turritâ; anfractibus supernè angulatis, longitudinaliter costatis, costis ad angulum nodosis, infernè evanidis, transversim impresso-striatis; rubidâ, albizonatâ, costis supernè albis; columellâ quadriplicatâ.*
Conch. Icon., *Mitra*, pl. 35. f. 288.
Hab. ——?
A pretty species, the sculpture of which is of a very decided character.

MITRA CHELONIA. *Mitr. testâ ovatâ, spirâ breviusculâ, acutâ; lævigatâ; nigricante-fuscâ, zonulâ luteâ unicâ, cingulatâ; columellâ triplicatâ, labro supernè sinuato.*
Conch. Icon., *Mitra*, pl. 35. f. 289.
Hab. Island of Burias, Philippines (dredged from sandy mud at the depth of ten fathoms); Cuming.
Belonging to that well-known division of the genus of which the *Mitra ebenus* is the type.

MITRA SCULPTILIS. *Mitr. testâ elongatâ, subcylindraceâ, basi paululùm recurvâ, spiræ suturis subimpressis; longitudinaliter crebriliratâ, interstitiis transversim fortiter clathratis; albicante, fuscescente pallidè maculatâ, anfractus ultimi parte inferiori fuscescente basi albicante; columellâ quinqueplicatâ.*
Conch. Icon., *Mitra*, pl. 35. f. 290.
Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.
Distinguished by its very closely latticed sculpture.

MITRA SPICATA. *Mitr. testâ fusiformi, spirâ acuminato-turritâ; anfractibus longitudinaliter crebricostatis, supernè acutangulis, costis ad angulum tuberculato-nodosis, anfractu ultimo medio exiliter noduloso, costis ferè obsoletis; pallidè fulvâ; columellâ quadriplicatâ.*
Conch. Icon., *Mitra*, pl. 35. f. 291.
Hab. Island of Ticao, Philippines (found on the sands); Cuming.
The upper whorls of this species are longitudinally finely ribbed, but there is very slight indication of ribs upon the lower.

MITRA HEBES. *Mitr. testâ fusiformi, spirâ acuminatâ, lineis profundè impressis transversis et longitudinalibus undique creberrimè decussatâ, albicante, columellâ quadriplicatâ.*
Conch. Icon., *Mitra*, pl. 35. f. 292.
Hab. ——?
The entire surface of this species is decussated with narrow deeply-cut lines.

Mitra analogica. *Mitr. testâ ovato-oblongâ, basi contractâ, sulcatâ; spiræ anfractibus longitudinaliter plicato-costatis, anfractu ultimo lævigato; nigricante fuscâ, zonulâ luteâ cingulatâ; columellâ triplicatâ.*

Conch. Icon., *Mitra*, pl. 35. f. 293.

Hab. —— ?

This species has very much the appearance of a gigantic *Mitra Savignii*, from which it however differs in its proportions.

Mitra bilineata. *Mitr. testâ ovatâ, solidiusculâ, spirâ acuminatâ; longitudinaliter subobsoletè plicatâ, lævigatâ, politâ; nigerrimo-fuscâ, apicem versus albicante, lineis duabus luteis cingulatâ; columellâ quinqueplicatâ.*

Conch. Icon., *Mitra*, pl. 35. f. 294.

Hab. —— ?

A hard polished blackish brown shell, encircled with two distant yellow lines.

Mitra recurva. *Mitr. testâ fusiformi, basi attenuatâ, subrecurvâ; longitudinaliter granoso-liratâ, transversim impresso-striatâ; rosaceo-purpurascente, fusco minutissimè hic illic punctatâ; columellâ quadriplicatâ; labro incrassato.*

Conch. Icon., *Mitra*, pl. 36. f. 297.

Hab. Island of Capul, Philippines (found under stones at low water); Cuming.

The minute granules with which the surface of this shell is longitudinally sculptured have a semitransparent pearl-like appearance.

Mitra incarnata. *Mitr. testâ oblongo-ovatâ, spirâ breviusculâ, transversim elegantissimè crebriliratâ, longitudinaliter angisulcatâ; incarnatâ; columellâ sexplicatâ, apertura longiusculâ.*

Conch. Icon., *Mitra*, pl. 36. f. 299.

Hab. Cagayan, province of Misamis, island of Mindanao, Philippines (dredged from sandy mud at the depth of five and twenty fathoms); Cuming.

The sculpture of this delicately tinted shell is very elaborate.

Mitra articulata. *Mitr. testâ abbreviato-fusiformi, subventricosâ; anfractibus lævibus, longitudinaliter subobsoletè plicatis, medio leviter tuberculatis; pallidè rosaceo-coccineâ, zonulâ albâ fusco articulatâ cinctâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 36. f. 302.

Hab. —— ?

I have found no specimen approaching comparison with the one above described, from the collection of Thomas Norris, Esq.

Mitra festa. *Mitr. testâ pyramidali-ovatâ, longitudinaliter obtuso-costatâ, costarum interstitiis transversim cancellatis; eburneâ, anfractu ultimo fasciâ latâ olivaceo-cinereâ, fusco indistinctè punctatâ, cingulatâ; columellâ quadriplicatâ.*

Conch. Icon. *Mitra*, pl. 36. f. 303.

Hab. Puerto Galero, island of Mindoro, Philippines (found on the sands); Cuming.

A solid ivory-white shell, encircled with a dark band, which is concealed in the upper part of the shell by the superposition of the whorls.

MITRA PINGUIS. *Mitr. testâ subobeso-ovatâ, longitudinaliter subobliquè noduloso-costatâ, transversim impresso-striatâ, striis creberrimis, anfractus ultimi parte inferiori sulcatâ; albidâ, fasciâ unicâ fuscescente cingulatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 36. f. 304.

Hab. Puerto Galero, island of Mindoro, Philippines; Cuming.

The last whorl of this shell exhibits a peculiarity of structure which is worthy of observation; above the brown band it is very closely impressly striated across; below it, it is merely distantly grooved. A difference between the transverse sculpture of the upper and lower portions of the whorls is rarely met with.

MITRA PECULIARIS. *Mitr. testâ elongatâ, anfractibus lævibus, concavis, carinâ unicâ prominente supernè ornatis; albidâ, fasciâ latâ luteo-fuscescente cingulatâ; columellâ biplicatâ.*

Conch. Icon., *Mitra*, pl. 36. f. 305.

Hab. Puerto Galero, island of Mindoro, Philippines (found under stones at low water); Cuming.

This species may be easily distinguished by the hollow character which is imparted to the whorls by the very prominent keel round the upper part.

MITRA ROBOREA. *Mitr. testâ pyramidali, spirâ acuminatâ; nigricante-fuscâ, liris albidis angustis undique funiculatâ; columellâ biplicatâ, plicis subindistinctis; aperturâ parvâ.*

Conch. Icon., *Mitra*, pl. 37. f. 306.

Hab. ——?

An interesting dark pyramidal shell, encircled throughout with white cord-like ridges.

MITRA RADIUS. *Mitr. testâ gracili-fusiformi, spirâ acuminatâ, basi contractâ, subelongatâ; anfractibus longitudinaliter concentricè plicato-costatis, interstitiis cancellatis; pallidè carneâ, anfractu ultimo fasciâ fuscescente basim versus cingulato; columellâ biplicatâ.*

Conch. Icon., *Mitra*, pl. 37. f. 309.

Hab. Island of Corregidor, Philippines (found among coarse sand at the depth of seven fathoms); Cuming.

A light elegant shell, in which the ribs are of a peculiarly concentric growth.

MITRA GLANDIFORMIS. *Mitr. testâ ovatâ, utrinque attenuatâ, spiræ suturis profundè impressis; longitudinaliter costatâ, costis lævibus, interstitiis profundè clathratis; cinereo-griseo alboque variegatâ, basi albicante; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 37. f. 310.

Hab. ——?

In most examples of this species the white rather predominates.

MITRA CINERACEA. *Mitr. testâ pyramidali-ovatâ, spirâ turritâ,*

basi subrecurvâ; anfractibus supernè angulatis, longitudinaliter costatis, costis ad angulum subnodosis, interstitiis liris parvis transversis cancellatis; cinereo-griseâ, fasciâ albidâ subinterruptâ cingulatâ, basi albidâ; columellâ quadriplicatâ, aperturâ parvâ.

Conch. Icon., *Mitra*, pl. 37. f. 311.

Hab. Cagayan, province of Misamis, island of Mindanao, Philippines (found under stones at low water); Cuming.

A sharply turreted shell, in which the prominent parts of the ribs are white upon a dark ashy ground.

MITRA LIMATA. *Mitr. testâ ovatâ, crassiusculâ, spirâ mediocri; lævigatâ, politâ, transversim undique sulcatâ, sulcis puncturatis; albidâ, fasciâ fuscescente albifloccatâ cingulatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 37. f. 312.

Hab. Island of Bohol, Philippines (found under stones on the reefs at low water); Cuming.

The grooves of this species are more deeply punctured towards the upper part of the whorls.

MITRA EXILIS. *Mitr. testâ elongatâ, basi subrecurvâ, spirâ subobtusâ; liris minutis undique granoso-decussatâ; pallidè violaceo-purpurascente, anfractu ultimo fasciâ latâ saturatiore cingulato, infra albicante; columellâ quadriplicatâ, plicis parvis; labro incrassato.*

Conch. Icon., *Mitra*, pl. 37. f. 313.

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

An interesting small species, with a decussated granular surface, like that of a thimble.

MITRA MICA. *Mitr. testâ elongatâ, subcylindraceâ, basim versus contractâ; liris granulosis undique creberrimè decussatâ; fuscâ, zonâ albidâ cingulatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 37. f. 314.

Hab. Island of Guimaras, Philippines (found in coarse sand at the depth of six fathoms); Cuming.

The colour of this shell is a dull earthy brown.

MITRA ARMILLATA. *Mitr. testâ pyramidali, spirâ turritâ; anfractibus supernè plano-angulatis, longitudinaliter concentricè costatis, costis angustis, numerosis, ad angulum nodosis, transversim impressis; purpureo-fuscâ, zonulâ lutescente cingulatâ; columellâ quadriplicatâ, aperturâ brevi.*

Conch. Icon., *Mitra*, pl. 37. f. 315.

Hab. Island of Annaa, Pacific Ocean (found on the reefs); Cuming.

A prettily sculptured species, in which the ribs are disposed somewhat concentrically.

MITRA TORNATELLOIDES. *Mitr. testâ rotundato-ovatâ, spirâ brevi, obtusâ; transversim undique sulcatâ, sulcis subindistinctè punctu-*

ratis; sanguineo-fuscescente, zonulâ transversâ strigisque longitudinalibus undatis albis vividè notatâ; columellâ quadriplicatâ.

Conch. Icon., *Mitra*, pl. 38. f. 316.

Hab. Philippine Islands; Cuming.

The general aspect of this shell is very like that of a well-known species of *Tornatella*.

Mitra gausapata. *Mitr. testâ ovatâ, spirâ subacuminatâ; anfractibus supernè plano-compressis, tuberculato-costatis, transversim undique liratis; nigerrimo-fuscâ, anfractuum areâ superâ luteâ; columellâ triplicatâ.*

Conch. Icon., *Mitra*, pl. 38. f. 317.

Hab. Gallapagos Islands (dredged from the depth of about ten fathoms); Cuming.

The whorls are characterized by a peculiar narrow depression round the upper part, beneath which they are for a short distance tubercularly ribbed.

Mitra amanda. *Mitr. testâ subpyramidali, spirâ acuto-turritâ; anfractibus longitudinaliter crebricostatis, transversim impressis; fasciis angustis rubido-fuscis albisque undique cingulatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 38. f. 318.

Hab. Islands of Burias and Negros, Philippines (found among coral sand at the depth of four fathoms); Cuming.

Encircled throughout with narrow white and reddish brown bands.

Mitra crocea. *Mitr. testâ ovatâ, spiræ suturis impressis; anfractibus supernè plano-angulatis; longitudinaliter crebricostatis, transversim basim versus sulcatis; pallidè croceâ, aperturæ fauce aurantio tinctâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 38. f. 320.

Hab. Island of Capul, Philippines (found under stones at low water); Cuming.

Of a beautiful clear yellow colour, with orange mouth.

Mitra rosacea. *Mitr. testâ ovatâ, spirâ breviusculâ; liris granatis undique cingulatâ; niveâ, maculis grandibus pallidè rosaceis bifasciatim ornatâ; columellâ quinqueplicatâ; aperturâ oblongo-ovatâ; labro crenulato.*

Conch. Icon., *Mitra*, pl. 38. f. 321.

Hab. Island of Corrigidor, Philippines (found among coral sand at the depth of ten fathoms); Cuming.

An extremely delicate semitransparent pink-stained white shell.

Mitra mœsta. *Mitr. testâ oblongo-ovatâ, transversim sulcatâ, lævigatâ; fuscescente, anfractuum parte superiori pallidè luteâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 38. f. 323.

Hab. Island of Corrigidor, Philippines (dredged among coral sand at the depth of ten fathoms); Cuming.

The columella and mouth of this species are brightly enamelled.

Mitra Æthiops. *Mitr. testâ ovatâ, crassâ, spirâ acutâ, liris parvis transversis et longitudinalibus, concentricis, undique decussatâ; nigerrimâ, vel olivaceo-nigrâ; columellâ planatâ, quadriplicatâ, callositate supernè munitâ; labro planato, intus denticulato, supernè sinuato.*

Conch. Icon., *Mitra*, pl. 38. f. 324.

Hab. Islands of Ticao and Luzon, Philippine Islands (found under stones at low water); Cuming.

Belonging to that interesting group of which the *Mitræ Ziervogeliana* and *Woldemarii* form part.

Mitra zelotypa. *Mitr. testâ ovatâ, anfractibus supernè rotundatis, longitudinaliter costatis, transversim fortiter cancellato-liratis; luteo alboque undique fasciatâ; columellâ quadriplicatâ, aperturæ fauce violascente.*

Conch. Icon., *Mitra*, pl. 38. f. 325.

Hab. —— ?

A very distinct species, from the collection of H. Cuming, Esq., concerning which he possesses no information as to its locality.

Mitra infausta. *Mitr. testâ ovatâ, solidiusculâ, longitudinaliter subundato-costatâ, transversim impresso-striatâ; incarnato-stramineâ, lineis impressis rubido-fusco hic illic exiliter tinctis; columellâ triplicatâ.*

Conch. Icon., *Mitra*, pl. 39. f. 326.

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

The transverse impressed striæ are chiefly stained with reddish brown where they pass over the ribs.

Mitra Graia. *Mitr. testâ ovatâ, solidâ, spirâ brevi, acuminatâ; lævigatâ, albâ, opacâ, epidermide lutea indutâ; columellâ triplicatâ.*

Conch. Icon., *Mitra*, pl. 39. f. 327.

Hab. Island of Paros, Grecian Archipelago; —— Miller, R.N.

A stout solid shell, of a peculiar opake marble-white, covered with a yellow epidermis.

Mitra candida. *Mitr. testâ ovatâ, subfusiformi, transversim crebriliratâ, lirarum interstitiis longitudinaliter subtilissimè striatis; candidâ; columellâ triplicatâ.*

Conch. Icon., *Mitra*, pl. 39. f. 328.

Hab. La Guayra, South America.

A white closely-ridged species, in the collection of His Majesty the king of Denmark, by whose permission it has been forwarded to me for illustration.

Mitra rustica. *Mitr. testâ oblongo-ovatâ, spirâ turritâ; anfractibus supernè angulatis, longitudinaliter costatis, costis subdistantibus, ad angulum muricato-tuberculatis, transversim puncturatis; albidâ, infernè cinereâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 39. f. 329.

Hab. —— ?

The upper edge of the ash-colour is slightly marked between the ribs with one or two brown dots.

MITRA CORALLINA. *Mitr. testâ subfusiformi, politâ, basi subrecurvâ; anfractibus transversim obsoletè striatis, longitudinaliter plicato-costatis; electro- vel corallio-rubrâ, costis albicantibus; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 39. f. 330 *a* and *b*.

Hab. Island of Masbate, Philippines (found on the sands); Cuming.

This is a beautiful species, some examples having the appearance of bright amber, whilst others resemble red coral.

MITRA LUBENS. *Mitr. testâ elongatâ, subfusiformi, basi contractâ, spirâ turritâ; anfractibus supernè angulatis, liris parvis longitudinalibus et transversis creberrimè clathratis; albidâ, apice basique rosaceis; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 39. f. 331.

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

The ridges of this very delicate and pretty shell are slightly nodulous, and prickly on the angle.

MITRA PATULA. *Mitr. testâ ovatâ, tenuiculâ, ventricosiusculâ, lævigatâ; cinereâ, fusco hic illic variegatâ et nebulatâ; columellâ quadriplicatâ; aperturâ amplâ; labro tenui, supernè sinuato.*

Conch. Icon., *Mitra*, pl. 39. f. 333.

Hab. ——?

Very distinct from any form of the genus I have met with.

MITRA ALVEOLUS. *Mitr. testâ abbreviato-ovatâ, spiræ suturis profundè impressis; longitudinaliter subtiliter plicato-costatâ, basi transversim sulcatâ; anfractibus infernè aterrimis, supernè albis, nigro tessellatis; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 39. f. 334.

Hab. ——?

A characteristic tessellated species, from the collection of Thomas Norris, Esq.

May 27, 1845.

William Yarrell, Esq., Vice-President, in the Chair.

Mr. Gould exhibited to the Meeting four new species of Birds from Australia, which he characterized as follows:—

ARDEA (HERODIAS) PICATA. *Ard. capite superiore, occipite, plumis occipitalibus, corpore superiore, caudâ, alisque cæruleo-nigris; mento, nuchâ, pectore, et quibusdam plumis a pectore dependentibus albis.*

Upper part of the head, occiput, occipital plumes, the whole of the plumage of the body, wings and tail bluish slaty black; chin, neck, chest and some of the lanceolate feathers dependent therefrom white; some few of the lanceolate feathers on the neck and breast have one web white and the other web bluish slaty black; the remainder of these lanceolate feathers are the same colour as the body; irides yellow; bill, legs and feet greenish yellow. In young specimens the whole of the under surface is white.

Total length, 17 inches; bill, $3\frac{1}{4}$; wing, 10; tail, $3\frac{1}{2}$; tarsi, $3\frac{1}{4}$.

Hab. Port Essington.

COLLURICINCLA PARVULA. *Col. corpore superiore, caudâ, alisque olivaceo-brunneis; subtùs pallidè cervinâ; medio plumarum gulæ et pectoris vittâ latâ brunneâ ornato.*

All the upper surface, wings and tail olive-brown; a faint line over the eye and the chin white; all the under surface pale buff, the feathers of the throat and breast with a broad stripe of brown down the centre; irides dark brownish red; bill blackish grey; tarsi bluish grey.

Total length, 7 inches; bill, 1; wing, 4; tail, $3\frac{1}{4}$; tarsi, 1.

Hab. Port Essington.

This is the smallest species of the genus yet discovered.

MELITHREPTUS MELANOCEPHALUS. *Mel. toto capite, guld, et maculâ semilunari apud latera pectoris saturatè nigris; corpore supernè flavo-olivaceo pectore albo.*

The whole of the head and throat, and a semilunar mark on either side of the chest, deep glossy black; all the upper surface yellowish olive, becoming brighter on the rump; wings and tail brownish grey, with lighter margins; breast white; remainder of the under surface greyish white; bill black; irides reddish brown; feet brown; bare skin over the eye pearly white, slightly tinged with green.

Total length, $5\frac{1}{4}$ inches; bill, $\frac{9}{16}$; wing, 3; tail, $2\frac{5}{8}$; tarsi, $\frac{3}{4}$.

Hab. Van Diemen's Land.

HEMIPODIUS SCINTILLANS. *Hem. corpore supernè pallidè castaneo,*

singulis plumis fasciis latis brunneo-nigris ornatis; marginibus plumarum cinereis; intra margines lineis angustis nigris et albis ornatis; tectricibus alarum et tertiariis pallidè castaneo-rubris balteis irregularibus ziczac fasciatis; interspatiis balteorum cinereo-albis; mento genisque albis maculâ semilunari brunneâ ad apicem singulæ plumæ; pectore et corpore inferiore pallidè cervino-albis; plumis pectoris ordine macularum saturatè grisearum ad marginem ornatis.

Upper surface light chestnut-red, all the feathers crossed by broad bars of brownish black and margined with grey, within which are two narrow lines of black and white; wing-coverts and tertiaries light chestnut-red, crossed by irregular zigzag bars of black, the interspaces margined externally with greyish white; chin and sides of the face white, with a narrow crescent-shaped mark of brown at the tip of each feather; sides of the breast chestnut, each feather tipped with white, within which is an indistinct mark of deep black; chest and under surface pale buffy white, the feathers of the chest with a row of dark grey spots on each margin, giving that part a speckled appearance; primaries brown, narrowly edged with white; irides reddish orange; feet yellow; bill horn-colour.

Total length, male, 5 inches; bill, $\frac{11}{16}$; wing, $3\frac{1}{4}$; tarsi, $\frac{11}{16}$. Female, 6 inches; bill, $\frac{3}{4}$; wing, $3\frac{1}{2}$; tarsi, $\frac{3}{4}$.

Hab. Houtmann's Abrolhos, off the western coast of Australia.

Remark.—Like the rest of the genus, the male is much inferior in size to the female. The species is very nearly allied to, but much smaller than, *Hemipodius varius*.

"Description of twenty-two new species of Land-Shells, belonging to the collection of Mr. H. Cuming," by Dr. L. Pfeiffer:—

1. Helix Gruneri, Pfr. *Hel. testâ umbilicatâ, depressâ, supernè planiusculâ, minutissimè punctato-striatâ, rufâ; anfractibus $5\frac{1}{2}$ sensim crescentibus, planiusculis, ultimo rotundato, anticè vix deflexo; umbilico angusto, pervio; aperturâ subverticali, depressâ, latè lunari; peristomate incrassato, reflexo, marginibus callo tenui, supernè dentem arcuatum, validum, callosum formante junctis.*

Diam. 38, alt. 18 mill.

Locality unknown. A beautiful shell, next allied to *H. unguicula*, De Férussac, differing by the strong and arcuated tooth on the body of the penultimate whorl.

2. Helix Okeniana, Pfr. *Hel. testâ imperforatâ, orbiculari, utrinque convexiusculâ, obtusè carinatâ, undique regulariter granulatâ, supernè fuscâ, basi pallidâ; anfractibus $5\frac{1}{2}$ rotundato-planatis, ultimo anticè deflexo, basi profundè biscrobiculato; aperturâ subhorizontali, ellipticâ, coarctatâ; peristomate carneo-fusco, incrassato, marginibus callo junctis, supero expanso, basali reflexo, tridentato; dentibus æquidistantibus, 2 minoribus prope columellam, tertio majore supernè sulcato.*

Diam. 37, alt. 17 mill.

Found on the island of Jamaica at Savannah la Mar, by M. Atta-

nasio. To be distinguished from *H. lucerna*, Müll., by having three teeth at the basal margin of the aperture.

3. Helix Neogranatensis, Pfr. *Hel. testâ imperforatâ, depressâ, carinatâ, tenui, undique minutè granulosâ, saturatè rufâ; spirâ vix elevatâ; anfractibus* $4\frac{1}{2}$ *planiusculis, ultimo basi convexo, anticè deflexo, constricto; apertura perobliquâ, lunato-rotundatâ; peristomate carneo, simplice, expanso, reflexiusculo, marginibus callo tenui junctis, basali obsoletissimè unidentato, columellari brevi, dilatato, adpresso.*
Diam. 34, alt. 15 mill.
Found in the mountain Quendeu at New Granada.

4. Helix cinerascens, Pfr. *Hel. testâ imperforatâ, globoso-turbinatâ, tenuiusculâ, stramineâ, fasciis 2 latis et areâ basali nigricantibus ornatâ, epidermide tenui, hydrophanâ, cinereâ, obductâ; spirâ breviter turbinatâ, apice obtusâ; anfractibus* $5\frac{1}{2}$ *convexiusculis, ultimo basi inflato; columellâ subarcuatâ, carneo-fuscâ; aperturâ rotundato-lunari, intus albâ; peristomate breviter expanso, subincrassato, castaneo-limbato.*
Diam. 41, alt. 37 mill.
Found by H. Cuming, Esq. at the island of Masbate.

5. Helix Turbo, Pfr. *Hel. testâ imperforatâ, turbinatâ, solidiusculâ, distinctè striatâ, sub epidermide tenuissimâ, deciduâ, flavescente albâ, medio rufo-fasciatâ; spirâ brevi, conoideâ, obtusâ; anfractibus 5 convexis, ultimo obsoletè angulato, basi vix convexo; columellâ strictâ, dilatatâ, albidâ; aperturâ irregulariter lunari; peristomate expanso, margine columellari dilatato, reflexo, rimam formante, cum basali angulatim juncto.*
Diam. 43, alt. 35 mill.
Hab. Isle of Mindoro.

6. Helix unicolor, Pfr. *Hel. testâ umbilicatâ, depressâ, acutè carinatâ, tenui, fuscâ, supernè subtiliter striatâ, subtùs lineis nonnullis spiralibus elevatis munitâ; spirâ depresso-conoideâ; anfractibus 5 planiusculis, sensim accrescentibus, ultimo anticè non descendente, basi convexo, ad umbilicum angustum abruptè angulato; aperturâ rhomboideâ; peristomate saturatè fusco, marginibus callo tenuissimo junctis, supero dilatato, expanso, basali ascendente, stricto, columellari brevi, dilatato, umbilicum semi-occultante, cum basali angulatim juncto.*
Diam. 32, alt. 16 mill.
Locality unknown. Constantly distinguished from *H. Xystera*, Valenc., by its narrow umbilicus, elevated spire, and the number of its whorls.

7. Helix omphalodes, Pfr. *Hel. testâ latè umbilicatâ, depressâ, solidâ, leviter striatulâ, sub epidermide flavescente, deciduâ albâ, ad peripheriam et suturam rufo-cingulatâ; spirâ vix convexâ; anfractibus 5 planiusculis, ultimo anticè vix descendente, basi paulò convexiore, circa umbilicum magnum, spiralem, intus castaneum*

subcompresso; aperturâ perobliquâ, lunato-ovali; peristomate breviter reflexo, fusco, marginibus conniventibus.
Diam. 41, alt. 16 mill.
Locality unknown.

8. Helix involuta, Pfr. *Hel. testâ imperforatâ, depressâ, supernè convexiusculâ, basi planiusculâ, medio impressâ, tenuissimâ, striatulâ, nitidissimâ, corneâ, fusco-radiatâ; anfractibus planè involutis, ultimo anticè obliquè depresso; aperturâ depressâ, lunato-oblongâ; peristomate simplice, recto, marginibus utrinque centro testæ insertis, dextro antrorsum arcuato-dilatato.*
Diam. 18, alt. $7\frac{1}{2}$ mill.
Found on the mountains of Quendeu in New Granada.

9. Helix campanula, Pfr. *Hel. testâ umbilicatâ, globosâ, solidâ, subtiliter et regulariter obliquè striatâ, castaneâ; spirâ semiglobosâ, apice obtuso, pallido; anfractibus $4\frac{1}{2}$ convexiusculis, ultimo antecedente vix latiore, anticè vix descendente, medio pallidè cingulato; aperturâ perobliquâ, lunato-ovali, intus livescente; peristomate fusco, subincrassato, breviter reflexo, marginibus callo junctis, basali introrsum obsoletè albo-unidentato, extrorsum dilatato, umbilicum angustum, profundum semi-occultante.*
Diam. 27, alt. 21 mill.
Locality unknown.

10. Helix labiata, Pfr. *Hel. testâ apertè perforatâ, depressâ, tenui, striatulâ, supernè lineis concentricis obsoletè decussatâ, basi lævigatâ, nitidâ, fulvâ; spirâ planiusculâ; anfractibus 6 subplanulatis, ultimo dilatato, depresso; aperturâ latè lunari; peristomate acuto, intus calloso-labiato, margine supero antrorsum rotundato, basali planè arcuato, columellari vix reflexiusculâ.*
Diam. 40, alt. 20 mill.
Locality unknown. Distinguished from *H. citrina*, Linn., by the concentrical striæ, the number of its whorls, and the callus within the aperture.

11. Helix Hanleyi, Pfr. *Hel. testâ imperforatâ, depressâ, lenticulari, acutè carinatâ, tenui, subtilissimè decussatâ, nitidâ, sulphureâ, ad suturam et carinam albo-fasciatâ; spiræ parùm elevatâ; anfractibus 4 subplanulatis, ultimo anticè angulatim deflexo, constricto; aperturâ parvulâ, horizontali, oblongâ; peristomate simplice, undique expanso et reflexo, marginibus ferè contiguis.*
Diam. 19, alt. 9 mill.
β. Testâ supernè nigricanti-purpureâ, ad aperturam albo-fasciatâ, basi albidâ, infra carinam castaneo-fasciatâ.
Found by Mr. Cuming at Sinait, island of Luzon. This fine shell is not unlike some varieties of the *Hel. bifasciata*, Lea, but constantly to be distinguished from that species by the angular deflection of its last whorl and by the shape of its small aperture.

12. Helix amœna, Pfr. *Hel. testâ imperforatâ, globoso-depressâ, lineis longitudinalibus et spiralibus sub lente decussatâ, albidâ,*

fasciâ unicâ spadiceâ supra peripheriam et lineâ rufâ, suturali ornatâ; anfractibus 4 vix convexiusculis, ultimo obsoletè angulato, anticè deflexo, basi parùm convexâ; aperturâ transversè lunari-oblongâ, intus concolore; peristomate simplice, marginibus subparallelis, dextro expanso, basali anticè reflexo, ad columellam dilatato, adpressè reflexo.

Diam. 18, alt. $10\frac{1}{2}$ mill.

Found by Mr. Cuming at Catanauan, island of Luzon. This species is likewise similar to several unkeeled varieties of *Hel. bifasciata*, but by examining a large number of specimens of this and the other ones, I found the above characters to be invariably constant.

13. Helix Metcalfii, Pfr. *Hel. testâ latè umbilicatâ, depressâ, discoideâ, acutè carinatâ, striatulâ, pallidè vel rufescenti-corneâ, utrinque juxta carinam albam castaneo-unifasciatâ; spirâ vix elevatâ; anfractibus 6 vix convexiusculis, ultimo anticè vix descendente; aperturâ subtriangulari; peristomate simplice, margine supero antrorsum arcuatim dilatato, depresso, basali ad columellam leviter arcuato.*

Diam. 21, alt. 7 mill.

β. Minor, flavida, lineis angustis nigricanti-rufis juxta carinam. Diam. 17, alt. $5\frac{1}{2}$ mill.

γ. Unicolor, fusco-cornea. Diam. 15, alt. 5 mill.

Found by Mr. Cuming on the Philippine Islands and at Sibonga, island of Zebu; β. at Tanhay, island of Negros; γ. on the island of Siquijor. Distinguished from all species belonging to the same group by its flattened shape.

14. Helix tristis, Pfr. *Hel. testâ imperforatâ, ovato-globosâ, tenui, striatâ, lineis concentricis obsoletè decussatâ, olivaceo-fuscâ, rufo 5-fasciatâ; spirâ parvulâ, conoideâ; anfractibus 4 convexiusculis, ultimo inflato; aperturâ lunato-ovali, intus nitidâ; peristomate simplice, recto, margine columellari dilatato, reflexo, adpresso.*

Diam. 21, alt. 18 mill.

This species is said to be found in Sicily, but there may be a mistake.

15. Helix Adamsii, Pfr. *Hel. testâ imperforatâ, orbiculato-convexiusculâ, leviter striatulâ, nitidissimâ, fulvescenti-lutea, unicolore vel fasciis saturatè fulvis et castaneis multimode ornatâ et radiatâ; spirâ convexiusculâ, obtusâ; anfractibus $3\frac{1}{2}$–4 vix convexiusculis, ultimo basi planiore; aperturâ rotundato-lunari; peristomate simplice, acuto, margine columellari subobliquo, dilatato, albo.*

Diam. 12, alt. $6\frac{1}{2}$ mill.

Hab. Pitcairn's Island and Opara. Collected by Mr. Cuming.

The late patriarch of the island pointed out this shell to Mr. Cuming, and at his request I have the pleasure to dedicate it to the venerable man's memory.

16. Helix Bahamensis, Pfr. *Hel. testâ angustè umbilicatâ, de-*

pressâ, tenui, corneâ, costulato-striatâ; spirâ brevi, convexiusculâ; anfractibus $4\frac{1}{2}$ vix convexiusculis, ultimo anticè deflexo; aperturâ subhorizontali, transversè ovali; peristomate simplice, tenui, marginibus approximatis, supero breviter expanso, basali reflexo, intus dente triangulari, valido munito, columellari dilatato, reflexo, umbilicum angustum, pervium semitegente.

Diam. 17, alt. $7\frac{1}{2}$ mill.

Hab. Bahamas.

17. Helix Bermudensis, Pfr. *Hel. testâ umbilicatâ, lenticulari, tenuiusculâ, carinatâ, leviter ruguloso-striatâ, pallidè fulvescente, cingulo castaneo supra et latiore infra carinam ornatâ; anfractibus 7 vix convexiusculis, lentè accrescentibus; umbilico angusto, pervio; aperturâ subtrapeziâ; peristomate simplice, recto, margine columellari verticali, brevi, reflexiusculo, cum basali angulum rectum formante.*

Diam. 19, alt. $10\frac{1}{2}$ mill.

Hab. Bermuda.

18. Helix Pennantiana, Pfr. *Hel. testâ angustè umbilicatâ, orbiculato-conoideâ, acutè carinatâ, tenui, striatulâ, irregulariter et leviter malleatâ, unicolore carneâ, apice rufescente; anfractibus $5\frac{1}{2}$ vix convexiusculis, ultimo anticè vix descendente, basi planiusculo; aperturâ perobliquâ, angulato-lunari, intus albâ; peristomate roseo, latè expanso, margine basali reflexo, columellari brevi, strictiusculo, dilatato, umbilicum ferè tegente.*

Diam. 37, alt. 20 mill.

Hab. Philippine Islands?

Nearly allied to *H. labium*, Fér., from which it may easily be distinguished by its sharp keel and sculpture.

19. Bulimus Leopardus, Pfr. *Bul. testâ imperforatâ, ovatâ, solidiusculâ, longitudinaliter confertim costulato-striatâ, fulvâ, strigis et maculis albidis epidermidis hydrophanæ eleganter variegatâ; spirâ brevi, conoideâ, sursum pallescente; anfractibus 5 convexis, rapidè accrescentibus, ultimo spiram superante; columellâ elongatâ, introrsum acutâ; aperturâ amplissimâ, rotundato-ovali, intus albâ; peristomate latè expanso, reflexiusculo, castaneo-limbato.*

Long. 47, diam. 30 mill.

Hab. Isle of Mindanao, Philippine Islands.

20. Bulimus egregius, Pfr. *Bul. testâ perforatâ, fusiformi, solidulâ, striis longitudinalibus confertis et lineis spiralibus remotioribus subdecussatâ, nitidâ, flammis castaneis pellucidis et fulvis, opacis egregiè pictâ; anfractibus 6 vix convexiusculis, ultimo spiram turritam æquante, basi compresso; columellâ subangulato-arcuatâ; aperturâ oblongâ, utrinque acutâ, intus lividâ; peristomate vividè rubro, latè expanso, breviter reflexo, basi canaliculato, marginibus callo tenui junctis.*

Long. 41, diam. 15 mill.

Locality unknown. Distinguished from *B. goniostoma*, Sow., by its size, colouring and widely expanded peristome.

21. Bulimus canaliculatus, Pfr. *Bul. testâ umbilicatâ, obliquè fusiformi, ruguloso-striatâ, nitidâ, albido, carneo et spadiceo marmoratâ; spirâ turrito-conicâ, acutâ; anfractibus 7 vix convexiusculis, ultimo spirâ vix longiore, basi valdè constricto-carinato; columellâ arcuatim antrorsum elongatâ; aperturâ ovali, basi canaliculatâ; peristomate simplice, tenui, margine dextro vix expansiusculo, columellari dilatato, reflexo.*

Long. 37, diam. 14 mill.

Hab. Bolivia.

22. Bulimus castaneus, Pfr. *Bul. testâ vix perforatâ, ovato-acuminatâ, solidiusculâ, longitudinaliter confertim striatâ, lineis spiralibus distantioribus decussatâ, unicolore castaneâ; spirâ brevi, conicâ, acutiusculâ; anfractibus 4½ vix convexiusculis, ultimo inflato, 2–3 longitudinis subæquante; columellâ tenui, subsimplice; aperturâ ovali, intus saturatè fuscâ, nitidâ; peristomate vix incrassato, brevissimè reflexo, marginibus callo tenui junctis, columellari vix dilatato.*

Long. 70, diam. 39 mill.

Hab. Nova Granada; Vegas on the river Quendeu.

Nearly allied to *Bul. Gibbonius*, Lea; distinguished by its transverse striæ, closed umbilicus, peristome, etc.

"Description of a new species of *Amphipeplea*," by Dr. L. Pfeiffer.

The shell I am describing belongs to the genus of freshwater shells distinguished by Nilsson from *Limnæus* under the name of *Amphipeplea*, and sufficiently characterized by the shape and habits of its animal, perfectly agreeing with our new species, according to Mr. Cuming's information, who first discovered it, and by whose name I am pleased to illustrate the species.

Amphipeplea Cumingiana, Pfr. *Amph. testâ ovato-globosâ, tenuissimâ, longitudinaliter confertim striatulâ, nitidissimâ, pellucidâ, pallidè corneâ; spirâ brevissimâ, mucronulatâ, callo tenui semiobtectâ; columellâ nullâ; margine anfractuum interno arcuato, appendice membranaceo (deciduo) munito; aperturâ amplissimâ, semi-ovali, margine supero breviter arcuato, patente.*

Long. 30, diam. 22 mill.; apertura 26 mill. longa.

Found at Naga, province of South Camerines, island of Luzon, by H. Cuming, Esq.

Mr. Thompson of Belfast read a paper to prove that the *Larus capistratus*, Temm., is not a distinct species from *L. ridibundus*, and exhibited a series of specimens of both forms in different states of plumage obtained in the neighbourhood of Belfast. The differences between these supposed species are—

1st. In size; but a female specimen of *L. ridibundus*, with black *hood*, bill and legs arterial blood-red, was exhibited, agreeing in the size of body, tarsi, &c. with *L. capistratus*.

2nd. The colour of the tarsi and toes attributed to *L. capistratus*, and as distinguishing it from *L. ridibundus*, is a mere transition shade,

through which all individuals of the latter pass before the arterial blood-red hue is attained.

3rd. The disposition of black or brown on the head, its taking the form of a mask, as in *L. capistratus*, or as a hood, as in *L. ridibundus*, is either transitional or accidental*, and the shade of colour commonly varies from the "broccoli-brown" of the former to the deeper tint of the ordinary *L. ridibundus*.

A specimen of the *L. capistratus*, purchased at the sale of Bullock's collection by Dr. Leach, and believed to have been one of the first birds seen by Temminck, to which he gave this name, is now in the British Museum. By the kindness of Mr. George R. Gray, I made a critical comparison of this bird with the specimens now exhibited, and, excepting in the smaller size of the toes and webs of feet, there was no difference between it and some of them; and from the adult female, *L. ridibundus*, in full summer plumage it differed in the most trivial manner only.

* I have known it to be both transitional and accidental, i. e. for birds to exhibit the mask the *first* summer of their attaining adult plumage, and others the hood in their first assumption of the black hood.

June 10, 1845.

Rev. John Barlow in the Chair.

"Descriptions of twenty-two new species of *Helix*, from the collections of Miss Saul, — Walton, Esq., and H. Cuming, Esq.," by Dr. Louis Pfeiffer:—

1. Helix pachystyla, Pfr. *Hel. testâ imperforatâ, globosâ, solidâ, ponderosâ, striatâ, lineis concentricis decussatâ, albâ, epidermide sordidè viridi, nigricanti-radiatâ indutâ; spirâ brevi; anfractibus 5 celeriter accrescentibus, ultimo globoso, anticè breviter deflexo; columellâ obliquâ, dilatatâ, callosâ, albâ, obsoletè et latè unidentatâ; aperturâ irregulariter lunato-rotundatâ, intus lacteâ; peristomate recto, intus subincrassato, margine basali reflexiusculo.*

Diam. 43, alt. 37 mill.

Locality, New Zealand.

Similar to *H. pomum*, Pfr., from which it may be distinguished by its transverse striæ, and by being quite imperforate. (Coll. Metcalfe.)

2. Helix euryomphala, Pfr. *Hel. testâ umbilicatâ, orbiculato-convexâ, tenui, pellucidâ, virenti-corneâ, supernè regulariter costulato-striatâ, lineis concentricis obsoletè decussatâ, basi remotius striatâ, nitidissimâ; spirâ parùm elevatâ, obtusâ; anfractibus 6 convexiusculis, ultimo dilatato, subdepresso, anticè non descendente; umbilico magno, pervio; aperturâ obliquè lunato-ovali, intus margaritaceâ; peristomate recto, simplice, marginibus conniventibus.*

Diam. 37, alt. 17 mill.

Locality, Cuba.

To be distinguished from *H. laxata*, Fér., by the number of its whorls, forming a more elevated spire, by the last whorl not deflected and less dilated, &c. (Coll. Cuming.)

3. Helix micans, Pfr. *Hel. testâ imperforatâ, globosâ, tenui, fragili, striatulâ, lineis confertissimis obsoletè decussatâ, diaphanâ, albidâ; spirâ parvulâ; anfractibus 4 planiusculis, rapidè accrescentibus, ultimo inflato; columellâ tenui, intrante, excavatâ; aperturâ rotundato-lunari; peristomate simplice, recto, margine dextro antrorsum subarcuato.*

Diam. 28, alt. 19 mill.

Found at S. Juan, province of Cagayan, island of Luzon, on bushes, by H. Cuming, Esq.

This shell might easily be taken for an enormous species of *Vitrina*.

4. Helix Forbesii, Pfr. *Hel. testâ umbilicatâ, discoideâ, tenui, obliquè confertim striatâ, unicolore rufâ; spirâ planiusculâ; anfractibus 5 convexis, ultimo basi convexiore, anticè vix descen-*

dente, obtusè angulato, supernè obsoletè impresso; umbilico magno, spirali; aperturâ perobliquâ, rotundato-lunari; peristomate simplice, acuto, albido-carneo, intus subincrassato, margine supero latè expanso, basali reflexo, columellari subdilatato.
Diam. 41, alt. 14 mill.
Locality unknown. (Coll. Walton.)

5. Helix rubicunda, Pfr. *Hel. testâ perforatâ, depressè turbinatâ, rugoso-striatâ, obsoletè et minutissimè granulutâ, subepidermide corneâ, deciduâ rubicundâ; anfractibus $5\frac{1}{2}$ subplanulatis, ultimo medio obtusè angulato, basi convexiore; aperturâ obliquè lunari; peristomate simplice, recto, margine dextro antrorsum subdilatato, columellari dilatato, reflexo, perforationem semi-occultante.*
Diam. 27, alt. 15 mill.
Locality unknown. (Coll. Walton.)

6. Helix Sauliæ, Pfr. *Hel. testâ umbilicatâ, globoso-depressâ, solidiusculâ, obliquè striatâ, fulvidâ, medio fasciâ unicâ albâ, utrinque rufo-marginatâ ornatâ; spirâ brevi, obtusâ; anfractibus 4 vix convexiusculis, ultimo basi subplanato, anticè subitò deflexo, circa umbilicum angustum, pervium rufo; aperturâ perobliquâ, lunato-ovali; peristomate breviter reflexo, marginibus conniventibus, callo tenui junctis, columellari castaneo, valdè dilatato, umbilicum ferè occultante.*
Diam. 32, alt. 20 mill.
Locality unknown. (Coll. Cuming. et Saul.)

7. Helix rhombostoma, Pfr. *Hel. testâ imperforatâ, trochiformi, tenuiusculâ, obliquè striatulâ, lineis confertissimis concentricis subdecussatâ, nitidulâ, albido-fulvescente, fasciis castaneis plurimis ornatâ; spirâ brevi, conicâ, apice acutâ; anfractibus 5 planiusculis, ultimo acutè carinato, basi vix convexo, anticè parùm deflexo, à latere subcompresso; aperturâ rhombeâ; peristomate violaceo, margine supero expanso, supernè impresso, columellari stricto, dilatato, plano, adpresso.*
Diam. 28, alt. 15 mill.
Locality unknown. (Coll. Saul. et Metcalf.)

8. Helix planissima, Pfr. *Hel. testâ umbilicatâ, depressissimâ, lenticulari, tenui, utrinque obliquè rugoso-costatâ, albidâ, subtùs interdum corneo-fasciatâ; anfractibus $5\frac{1}{2}$ convexiusculis, acutè carinatis (carinâ compressâ, prominente, serratâ), ultimo anticè vix descendente, basi convexiore, circa umbilicum mediocrem, spiralem subangulato; aperturâ depressâ, angulato-lunari; peristomate simplice, margine basali planè arcuato, reflexo.*
Diam. $11\frac{1}{2}$, alt. $4\frac{1}{2}$ mill.
Locality unknown. (Coll. Walton.)

Similar to *H. amanda*, Rossm., from which it may be distinguished by its thin and flattened shell, its umbilicus, and the peristome not thickened.

9. Helix filicosta, Pfr. *Hel. testâ subobtectè perforatâ, depresso-globosâ, regulariter costatâ (costis filiformibus), tenuiusculâ, carneo-albidâ, lineis fuscis obsoletis cinctâ; anfractibus 4½ convexis, ultimo anticè deflexo; aperturâ lunato-orbiculari; peristomate acuto, intus subincrassato, labiato, marginibus conniventibus, callo introrsum diffuso roseo junctis, dextro vix expanso, columellari dilatato, reflexo, roseo.*
Diam. 14, alt. 9 mill.
Locality unknown. (Coll. Saul.)

10. Helix retifera, Pfr. *Hel. testâ umbilicatâ, obtusè trochiformi, striato-plicatulâ, lineis nonnullis concentricis elevatis reticulatâ, carinatâ, diaphanâ, pallidè corneâ; spirâ elevatâ, obtusâ; anfractibus 6½ planiusculis, ultimo basi subplanulato, striato; umbilico mediocri, pervio; aperturâ depressâ, securiformi; peristomate simplice, acuto, margine supero brevi, basali planè arcuato.*
Diam. 7, alt. 4 mill.
Locality unknown. (Coll. Metcalf.)

11. Bulimus Grayanus, Pfr. *Bul. testâ gracili, turritâ, solidulâ, longitudinaliter subtilissimè striatâ et lineis impressis spiralibus subdecussatâ, cinnamomeâ; spirâ turritâ, apice valdè attenuatâ; anfractibus 6 vix convexiusculis, ultimo ⅔ longitudinis subæquante, anticè deflexo, soluto, dorso et basi carinato, lateribus scrobiculato; aperturâ angustâ, oblongâ, basi canaliculatâ; peristomate simplice, undique expanso, dentibus 7 marginem non attingentibus armato; 3 in latere dextro, 4 in sinistro, summo tuberculiformi, secundo valido, lamelliformi.*
Long. 35, diam. 11 mill.
Locality, Brazils.
Nearly allied to *Bul. odontostoma*, Sow., but quite distinct from the two varieties figured by Férussac. (Coll. Cuming.)

12. Bulimus coarctatus, Pfr. *Bul. testâ rimato-perforatâ, ovato-acutâ, solidâ, albidâ, lineis interruptis, fuscis cingulatâ; spirâ conicâ, acutâ; anfractibus 6½ planulatis, ultimo convexiore, spiram æquante; aperturâ angustâ, oblongâ, coarctatâ; columellâ incrassatâ, tuberculatâ; peristomate latè expanso, margine dextro introrsum incrassato, acutè prominente, medio sinuolato, cum columellari dilatato, reflexo, patente angulatim juncto.*
Long. 34, diam. 17 mill.
Locality unknown.
Nearly allied to *B. signatus*, Desh.

13. Bulimus Deshayesii, Pfr. *Bul. testâ umbilicatâ, turritâ, solidâ, striatulâ, violascenti-albâ, strigis et maculis violascenti-fuscis irregulariter signatâ; suturâ subcrenulatâ; anfractibus 9 vix convexiusculis, ultimo ⅓ longitudinis subæquante; columellâ subrectâ; aperturâ ovali, intus violaceâ; peristomate simplice, recto, margine columellari dilatato, fornicatim reflexo, rimam umbilicarem non occultante.*

Long. 45, diam. 15 mill.
Locality unknown. (Coll. Cuming.)

14. Bulimus Thompsonii, Pfr. *Bul. testâ imperforatâ, ovato-oblongâ, solidulâ, longitudinaliter striatâ, fusco-olivaceâ; spirâ conicâ, apice obtusâ, rubrâ; anfractibus 6, supremis planulatis, purpureo-strigatis, ultimo spiram æquante; suturâ albo-marginatâ, crenulatâ; columellâ rectâ (non tortâ), leviter arcuatâ; aperturâ oblongo-ovali, intus lividâ; peristomate subincrassato, recto, intus nigro-limbato, marginibus callo castaneo junctis, basali cum columellâ basin attingente subangulatim juncto.*
Long. 70, diam. 31 mill.
Locality, Quito. (Coll. Cuming.)
Nearly allied to *B. Taunaysii.*

15. Bulimus Siquijorensis, Pfr. *Bul. testâ imperforatâ, ovato-oblongâ, tenui, fulvâ, epidermide pallidè fuscâ elegantissimè marmoratâ et flammatâ; spirâ conicâ, obtusâ, apice nudâ, rufescente; anfractibus 6 vix convexiusculis, ultimo spirâ vix breviore, subangulato; columellâ subtortâ, longitudinaliter biangulatâ, introrsum acutâ; aperturâ oblongo-subpyriformi, intus albidâ; peristomate tenui, breviter expanso, margine dextro deorsum dilatato, basali cum columellari angulum obsoletum formante.*
Long. 52, diam. 25 mill.
Locality, island of Siquijor (Philippines). Collected by Mr. Cuming.

16. Achatina semisculpta, Pfr. *Achat. testâ tenui, ovato-elongatâ, longitudinaliter regulariter striatâ, fuscescenti-albidâ, strigis fulgurantibus rufis pictâ; spirâ conicâ, apice obtusiusculâ, lineis confertis concentricis regulariter granulosâ; anfractibus 7½ convexiusculis, ultimo spiram subæquante, usque ad peripheriam lineis impressis distantioribus decussato; columellâ subrectâ, abruptè truncatâ; aperturâ ovali-acutâ; peristomate simplice, recto.*
Long. 55, diam. 23 mill.
Locality, Africa, Loanda, coast of Benguela. (Coll. Cuming.)

17. Achatina reticulata, Pfr. *Achat. testâ oblongo-acutâ, solidâ, ponderosâ, longitudinaliter confertim plicatâ, sulcis concentricis profundè reticulatâ, albidâ, castaneo-marmoratâ et maculatâ; spirâ elongatâ, acutâ, supernè minutè granulatâ; suturâ subcrenulatâ; anfractibus 8 parùm convexis, ultimo ⅗ longitudinis subæquante; columellâ crassâ, albâ, arcuatâ, abruptè truncatâ; aperturâ utrinque attenuatâ, oblongo-ovali.*
Long. 160, diam. 70 mill.
Locality, Africa. (Coll. Cuming.)

18. Achatina papyracea, Pfr. *Achat. testâ ovato-oblongâ, tenui, striis longitudinalibus et concentricis obsoletè decussatâ, diaphanâ, fulvâ, castaneo obsoletè marmoratâ; spirâ conicâ, apice obtusâ; suturâ marginatâ; anfractibus 5½ vix convexiusculis, ultimo spiram vix superante; columellâ subrectâ, basin aperturæ ferè attin-*

gente, obliquè truncatâ, lineâ purpureâ ornatâ; aperturâ ovali, intus margaritaceâ.

Long. 66, diam. 30 mill.

Locality, banks of the river Nun in Africa. (Coll. Cuming.)

19. Achatina fusiformis, Pfr. *Achat. testâ ovato-fusiformi, tenui, longitudinaliter confertim costulatâ, lineis transversis minutè reticulatâ, fulvidâ, saturatius strigatâ; spirâ conicâ, acutiusculâ, apice rubescente; suturâ marginatâ; anfractibus 7–8 convexiusculis, ultimo spiram paulò superante, basi attenuato; columellâ leviter arcuatâ, abruptè truncatâ, rubellâ; aperturâ angustâ, oblongâ; peristomate simplice, repando, margine rubicundo.*

Long. 87, diam. 35 mill.

Locality, mountain of Coban, Vera Cruz, Central America. (Coll. Cuming.)

This species, as well as the next following, may perhaps belong to the genus *Glandina*.

20. Achatina costulata, Pfr. *Achat. testâ ovato-fusiformi, tenui, longitudinaliter confertim et regulariter costulatâ, diaphanâ, fulvo-rubellâ, strigis parvis saturatioribus ornatâ; spirâ pyramidali, acutâ; suturâ sulco parallelo crenulato-marginatâ; anfractibus 8 vix convexiusculis, ultimo spiram vix æquante; columellâ subrectâ, abruptè truncatâ; aperturâ oblongâ, utrinque attenuatâ, intus margaritaceâ.*

Long. 72, diam. 31 mill.

Locality, mountains of Quendeu, New Granada. (Coll. Cuming.)

21. Glandina nigricans, Pfr. *Glan. testâ ovato-oblongâ, solidiusculâ, minutissimè striatulâ, nitidissimâ, nigricante, strigis remotis angustis fulvis ornatâ, basi corneo-luteâ; spirâ conicâ; suturâ virenti-marginatâ; anfractibus 7 planulatis, ultimo $\frac{3}{5}$ longitudinis æquante; columellâ arcuatâ, callosâ, obliquè truncatâ, basin aperturæ non attingente; aperturâ angustâ, semiovali, intus concolore.*

Long. 35, diam. 16 mill.

Locality, Vera Cruz, in Central America. (Coll. Cuming.)

22. Glandina monilifera, Pfr. *Glan. testâ fusiformi-ovatâ, tenui, pellucidâ, regulariter costulato-striatâ, costulis in medio anfractûs ultimi evanescentibus, fulvo-roseâ, lineis remotis rufis pallidè marginatis ornatâ; spirâ brevi, conicâ; suturâ eleganter et confertim granulosâ; anfractibus 7 planiusculis, ultimo $\frac{3}{5}$ longitudinis subæquante, ventroso; columellâ vix arcuatâ, basi abruptè truncatâ; aperturâ angustâ, semiovali.*

Long. 29, diam. $14\frac{1}{2}$ mill.

Locality, mountains of Coban, Vera Cruz, Central America. (Coll. Cuming.)

A number of Birds'-skins from Australia were presented to the Society by Jeremiah Olive, Esq.

The Secretary exhibited to the Meeting a specimen of Sand Grouse,

Tyrrhaptes paradoxus, and five specimens of Mammals (all of which were new to the Society's collection), from the Altai Mountains of Siberia, viz.:—

Meriones opimus,
Aspalax Zokar,
Mustela Altaica,
Dipus Jaculus,
Mygale moschata.

Mr. Gould laid upon the table a series of Terns, and characterized a new species:—

STERNA GRACILIS. *St. summo capite et nuchâ posteriore saturatè nigris; lateribus nuchæ et parte inferiore seriaceo-albis; pectore et abdomine leviter rosaceis; rostro carnicolore, apice brunneo-nigro; pedibus aureo-fuscis.*

Crown of the head, nape and back of the neck deep black; sides of the neck and all the under surface silky white, with a blush of rosy red on the breast and abdomen; back, wings and tail light grey, becoming darker on the primaries; irides brownish red; bill flesh-colour, except at the tip, where it is washed with blackish brown; feet orange-red.

Total length, 13 inches; bill, $2\frac{1}{8}$; wing, $8\frac{1}{2}$; tail, $6\frac{1}{2}$; tarsi, $\frac{3}{4}$.

Hab. The Houtmann's Abrolhos, off the western coast of Australia.

June 24, 1845.

No business was transacted.

July 8, 1845.

William Yarrell, Esq., Vice-President, in the Chair.

Mr. Gould exhibited to the Meeting five new species of Mammals:—

Mus lineolatus. *M. vellere longo, molli fusco-cinereo corpore subtùs cinerascenti-albo indistinctè flavo-lavato; auribus mediocribus extus pilis nigris posticè cinerascentibus vestitis; pedibus albis; caudâ albâ suprà nigrescentibus.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin....	5	4
——— *caudæ*	4	5
——— ab apice rostri ad basin auris	1	2
——— *auris*	0	$7\frac{1}{2}$
——— *tarsi digitorumque*	1	$2\frac{3}{4}$

Hab. Open plains, Darling Downs, New South Wales.

Fur long and very soft; the hairs of the back of a deep slate-grey, with the exposed portion of a dirty yellowish hue, and the points black; long interspersed black pointed hairs are abundant on the back, and give a deep general tint to that part; sides of the body greyish yellow, under parts grey-white, faintly suffused with yellowish; the hairs on these parts of a deepish grey, excepting at the point; hairs of the moustaches rather small and black; eye encircled with black; ears of moderate size and well-covered with minute hairs; those on the outer side black, excepting on the hinder part, where they assume a greyish white tint, like those on the inner side of the ear; feet rather small and white; the fore-ones greyish at the wrist, and the tarsi indistinctly suffused with yellowish; tail about equal in length to the head and body, well-clothed with smallish hairs, which do not perfectly hide the scales; those on the upper surface chiefly brownish black, slightly pencilled with whitish in parts; on the sides and under part white.

Mus gracilicaudatus. *M. vellere longo molli cinerascenti-fusco; corpore subtùs albo, indistinctè flavo-lavato; auribus parvulis pilis obscuris plerumque obsitis; pedibus sordidè albis; caudâ fusco-nigrâ, subtùs sordidè albâ.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin....	5	0
——— *caudæ*	3	5
——— ab apice rostri ad basin auris	1	$2\frac{1}{2}$
——— *auris*	0	5
——— *tarsi digitorumque*	1	1

Hab. Oakley Creek, Darling Downs, east coast of Australia.

This species greatly resembles the *Mus lineolatus*, but differs in

having the ears smaller, and clothed internally with dusky hairs instead of white; the incisor teeth rather broader; the tarsi smaller; the fore-feet much smaller; the tail more sparingly clothed with hairs, which are of a less pure white on the under side, and the darker hairs of the upper surface extending somewhat on to the sides of the tail, and in not presenting that strongly-marked line of separation between the colouring of the upper and under surface. The fur is rather less soft, less tinted with yellow on the upper parts, and more so on the sides of the body.

Mus albocinereus. *M. vellere longo permolli, pallidè cinereo, in dorsum pallidè fusco tincto; corpore subtùs, caudâ, pedibusque albis; caudâ suprà indistinctè nigro penicillatâ; auribus mediocribus pilis albescentibus vestitis.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin....	3	9
——— *caudæ*	3	6
——— ab apice rostri ad basin auris	1	$1\frac{1}{2}$
——— *auris*	0	$5\frac{1}{2}$
——— *tarsi digitorumque*	0	10

Hab. Moore's River, in the interior of Western Australia.

This mouse is rather larger than the *Mus musculus*, and considerably stouter in proportion; has the head large, the ears moderate; the tail nearly equal to the head and body in length; the tarsi very slender; the fur very long and soft, and its general hue pale ashy grey; on the hinder part of the back a slight brownish tint, produced by a very fine and indistinct pencilling of dusky or pale greyish yellow; the lower part of the sides of the body and the whole of the under parts white, but not quite pure, having a faint greyish hue; the head grey-white, pencilled with black; the sides of the muzzle white; the ears well-clothed with minute greyish white hairs; the feet white, and if we except some scattered blackish hairs on the upper surface, the tail also white.

Hapalotis murinus. *Hap. vellere permolli, corpore suprà pallidè flavo, nigroque penicillato, lateribus corporis flavis; gulâ abdominis, caudâ, pedibusque albis; caudâ suprà indistinctè nigro penicillatâ; auribus magnis, subovatis, pilis minutis albis vestitis.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin....	5	6
——— *caudæ*	3	9
——— ab apice rostri ad basin auris	1	3
——— *auris*	0	10
——— *tarsi digitorumque*	1	$0\frac{2}{3}$

Hab. Plains near the Namoi, New South Wales.

This animal is remarkable for the extreme softness and delicate colouring of its fur, which on both the upper and under parts of the body is of a slate-grey tint next the skin, but on the under parts of a pure white colour externally, except on the mesial line of the abdomen, where there is a slight yellow tint; on the upper parts and sides of the body the exposed portions of the hairs are of a delicate

ochreous yellow, but on the back there is a considerable admixture of black, the points of the hairs being of that colour; ears rather large and nearly of an oval form, tolerably well-clothed with small hairs, of a white colour, excepting on the fore-part of the outer surface, where they assume a dusky greyish hue; tail nearly equal in length to the body, tolerably well-clothed with hairs, but not so thickly as to hide the scales; these hairs, though short, are longer, more numerous and much less harsh than is usual in the true Rats; on the sides and under part of the tail they are pure white, and on the upper surface some are white and others blackish, but chiefly white on the apical portion; sides of the muzzle white; hairs of the moustaches moderate, black at the root, but greyish at the point.

PODABRUS MACROURUS. *Pod. cinereus nigro penicillatus; lateribus corporis flavescentibus, gulâ, abdomine pedibusque albis; capite suprà lineâ nigrâ longitudinali notato; oculis nigro cinctis; auribus mediocribus intus pilis flavis, extus nigrescentibus obsitis; caudâ crassissimâ ad apicem attenuatâ, pilis minutis, suprà nigro flavoque variegatis, subtùs albescentibus, vestitâ.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin....	3	9
——— *caudæ*.....	3	2
——— ab apice rostri ad basin auris	1	0½
——— *auris*.....	0	5
——— *tarsi digitorumque*.....	0	8½

Hab. Open plains, Darling Downs, New South Wales.

Fur very soft, and both on the upper and under parts of the body of a slate-grey colour next the skin; general hue of the upper parts of the body ashy grey, much pencilled with black; on the sides of the body there is but little of the black pencilling, and hence the general hue is paler; and on these parts, as well as on the sides of the head, is a faint yellow tint; under parts of the body white, very indistinctly suffused with yellow on the mesial portion of the abdomen; between the white of the under parts and the greyish hue of the sides of the body is a narrowish space of an almost uniform pale yellow hue, and the same tint is observable on the outer side of the legs; feet white, obscurely tinted with pale yellow; on the upper surface of the head is a mark, narrow on the muzzle, but becoming expanded behind, which is almost entirely black, and immediately around the eyes the hairs are also black; ears of moderate size, their posterior margin nearly straight, clothed internally with small pale yellowish, and externally with black hairs, excepting on the hinder part, where they are pale; tail very thick at the base (about 3½ lines in diameter), becoming gradually slender to the apex, and clothed throughout with very minute hairs, between which the scaly skin is visible; those on its upper part and sides partly black and partly yellow, and on the under surface dirty white. The specimen described is a male.

July 22, 1845.

Harpur Gamble, Esq., M.D., in the Chair.

Mr. Gould exhibited to the Meeting three new species of Birds from Australia:—

STRIX TENEBRICOSUS. *Str. disco faciali fuliginoso-griseo, circum oculos multo saturatiore; corpore superiore fusco-nigro purpureo splendente, singulis autem plumis maculâ albâ ad apicem ornatis; alis caudâque ejusdem coloris sed pallidioribus; corpore inferiore fusco-nigro, stramineo lavato.*

Facial disk sooty grey, becoming much deeper round the eyes; upper surface brownish black, with purplish reflections and with a spot of white near the tip of each feather; wings and tail of the same hue, but paler; the feathers of a uniform tint, without bars; tail-feathers faintly freckled with narrow bars of white; under surface brownish black, washed with buff, and with the white marks much less decided; legs mottled brown and white; irides dark brown; bill horn-colour; feet yellowish.

Total length, 16 inches; bill, $1\frac{3}{4}$; wing, 12; tail, $5\frac{1}{2}$; tarsi, 3.

Hab. The brushes of the river Clarence, in New South Wales.

COLLURICINCLA RUFOGASTER. *Col. omni corpore superiore, alis, caudâque olivaceo-brunneis; guld pallidè stramineo-albâ fusco-striatâ; corpore inferiore ferrugineo-rufo.*

All the upper surface, wings and tail olive-brown, with the exception of the inner webs of the primaries, which are dark brown; throat pale buffy white, streaked with brown; all the under surface rusty red; irides black; bill and feet fleshy-brown.

Total length, $7\frac{1}{2}$ inches; bill, $1\frac{1}{8}$; wing, $3\frac{3}{4}$; tail, $3\frac{1}{2}$; tarsi, $1\frac{1}{8}$.

Hab. The brushes of the Clarence River, in New South Wales.

DONACOLA FLAVIPRYMNA. *Don. capite cervino; dorso alisque castaneo-brunneis; corpore inferiore stramineo; tectricibus caudæ superioribus cerinis; tectricibus caudæ inferioribus nigris.*

Head pale fawn colour; back and wings light chestnut-brown; under surface buff; upper tail-coverts wax-yellow; under tail-coverts black; tail brown.

Total length, $4\frac{1}{2}$ inches; bill, $\frac{1}{2}$; wing, $2\frac{1}{4}$; tail, $1\frac{3}{4}$; tarsi, $\frac{3}{4}$.

Hab. The north coast of Australia.

Prof. Owen communicated his observations on the living *Echidna* exhibited at the Menagerie of the Society in May 1845. The animal when received at the Gardens was active and apparently in sound health. It was placed in a large but shallow box, with a deep layer

of sand on one half of the bottom; the top covered with close cross-bars. The animal manifested more vivacity than might have been expected from a quadruped which, in the proportions of its limbs to the body, as well as in its internal organization, makes the nearest approach, after the Ornithorhynchus, to the Reptilia. In the act of walking, which was a kind of waddling gait, the body was alternately bent from one side to the other, the belly was lifted entirely off the ground, and the legs, though not so perpendicular as in higher mammals, were less bent outwards than in Lizards. The broad and short fore-paws were turned rather inwards; the hind-feet had their claws bent outwards and backwards, resting on the inner border of the sole. The animal was a male, and the tarsal spur, smaller and sharper than in the Ornithorhynchus, projected backwards and outwards, almost hidden by the surrounding coarse and close hair. The small eyes gleamed clear and dark; the ball was sensibly retracted when the animal winked, which it did frequently. It commenced an active exploration of its prison soon after it was encaged: the first instinctive action was to seek its ordinary shelter in the earth, and it turned up the sand rapidly by throwing it aside with strong strokes of its powerful fossorial paws, and repeating the act in many places, until it had assured itself that the same hard impenetrable bottom everywhere opposed its progress downwards. The animal then began to explore every fissure and cranny, poking its long and slender nose into each crevice and hole, and through the interspaces of the cross-bars above. To reach these it had to raise itself almost upright, and often overbalanced itself, falling on its back, and recovering its legs by performing a summerset. I watched these attempts of the animal to escape for more than an hour, and it was not until it had got experience of the strength of its prison, that the Echidna began to notice the food which had been placed there.

This consisted of a saucer of bread and milk and some meal-worms. The milk was sucked or rather licked in by rapid protrusion and retraction of the long red cylindrical tongue. The tongue came more than once in contact with the larvæ, which were sometimes rolled over by it, but no attempt was made to swallow them.

The moist dark end of the nose felt cold to the touch. The temperature of the animal at the cloaca was 85° Fahr., or nearly ten degrees lower than that of the anus of a rabbit.

The Echidna offered little resistance when seized by the hind-leg and lifted off the ground, and made not the slightest demonstration of defending himself by striking with his hind spurs: the only action when irritated was to roll itself into a ball, like a hedgehog—the bristles being then erect. This was the position chosen for sleep; but our Echidna showed little of that sluggishness which the French naturalists ascribe to their live specimen on ship-board (Voyage de la Favorite, p. 159).

The blood-discs manifested the true mammalian type in their number, size and form: they were flat, circular, averaging $\frac{1}{3200}$th of an inch diameter; a few large ones were rather less than $\frac{1}{3000}$th; the smallest was $\frac{1}{3500}$th.

The circular form of the blood-discs of the Echidna was noticed by Dr. John Davy in some blood of that animal which had been transmitted to him in brine from Van Diemen's Land. More satisfactory observations had been made by Dr. Hobson and Mr. E. Bedford, on the recent blood of both the Ornithorhynchus and Echidna. I have cited these observations in my article 'Monotremata' (Cyclop. of Nat. Hist.); they show that the blood-discs of the Ornithorhynchus are likewise discoid, circular, and about $\frac{1}{3000}$th of an inch in diameter; and the observations now made on both ovoviviparous genera demonstrate that the Monotremata resemble the other Mammalia in the form, proportional number, and florid colour of the blood-discs, which correspond in size with those of the Armadillo and the Quadrumana, but are larger in proportion to the size and weight of the body than in the larger apes and the human species.

The Echidna having died unexpectedly a short time after its arrival, has afforded a favourable opportunity of investigating certain obscure parts of its anatomy, the results of which Prof. Owen would communicate at some future opportunity.

Prof. Owen next exhibited the skull of a Wombat (*Phascolomys Vombatus*, Auct.) from Van Diemen's Land, and the skull of a Wombat, transmitted by Governor Grey, from Continental (South) Australia, and pointed out the following differences in proof of their specific distinction. They are of equal size, but the skull of the specimen from South Australia is broader in proportion to its length. In the continental species, which he proposed to call *Phascolomys latifrons*, the upper incisors present a transverse semi-oval section, the convex enamelled surface being directed forwards and outwards. This surface is feebly striated longitudinally. The lower incisors are narrower than in *Phasc. Vombatus*, and triedral, the enamelled anterior or under surface is flat, the outer surface longitudinally impressed and almost devoid of enamel. The first lower molar (premolar) is relatively larger, the last relatively smaller, in *Phasc. latifrons*: the symphysis of the jaw is narrower and deeper. The intermaxillary part of the skull is higher in proportion to its width, less convex externally; the nasal bones are relatively broader, forming the whole upper surface of the anterior third of the skull. The inter-orbital part of the skull is relatively much broader, and is produced on each side into a well-marked supra-orbital ridge and post-orbital process, both of which are almost obsolete in *Phasc. Vombatus*. The temporal fossæ are not bounded, as in *Phasc. Vombatus*, by two nearly parallel and remote longitudinal ridges, but are continued by a convex, rather irregular tract, to near the middle of the upper region of the cranium. A very remarkable feature in the skull of the *Phasc. latifrons* is the supra-tympanic cell excavated beneath the base of the zygoma: this cell, in *Phasc. Vombatus*, is transversely oblong, simple, one inch by half an inch in size; in *Phasc. latifrons* it extends inwards one inch and a quarter, and expands to an antero-posterior diameter of one inch and a half, and a vertical diameter of one inch, having an oblong outlet one inch

in length and half an inch in depth, slightly contracted in the middle. This difference in the size of the supra-tympanic cell is obviously not the effect of age, as the skull of the *Phasc. Vombatus* compared is that of an old animal with strong temporal ridges. In *Phasc. latifrons* the articular surface for the condyle of the lower jaw is broader and less convex; the anterior boundary of the zygomatic space is less angular; the palatal surface of the intermaxillaries is deeper; the curve of the lower border of the lower jaw is much deeper; the inner angle of the condyle is less produced; the coronoid process is higher and narrower, and the post-symphysial depression is almost obsolete.

The Secretary saw with much pleasure the decisive proofs which Professor Owen had shown of the existence of two species of Wombat; he had many years before been himself convinced of the fact, having observed that they differed in size and colour, and that one had a sharp prick ear, while the ear of the other was low and elliptical.

August 12, 1845.

William Yarrell, Esq., Vice-President, in the Chair.

"Descriptions of new species of *Murex*," by Lovell Reeve, Esq.:—

Murex bipinnatus. *Mur. testâ elongato-fusiformi, spirâ acuminato-turritâ; anfractibus septenis, transversim eximiè liratis et elevato-striatis, liris striis interstitiisque subtilissimè scabroso-crenulatis; anfractibus primis sex tuberculato-nodosis, ultimo trivaricoso, varicibus ultimis duobus pulcherrimè fimbriato-pinnatis; niveâ, rosaceo tinctâ, columellâ pallidè roseâ; aperturâ parvâ, labri externi limbo minutè denticulato; canali latiusculo, subelongato.*

Hab. ——?

The *Murex bipinnatus* approaches the *Murex clavus* in general form, but the detail of structure and sculpture is distinct throughout. The spire exhibits a mass of prominent nodules, each whorl taking the form of a heptagon, with as many as seven on its circumference. The last two varices are ornamented with a handsome laminated frill structure.

Murex Sinensis. *Mur. testâ elongato-ovatâ, subfusiformi, tenui, spiræ suturis subimpressis; anfractibus transversim liratis et striatis, inter varices nodiferis; trifariam varicosâ, varicibus frondosis, frondibus regularibus, curvatis, pulcherrimè floridis, inciso-serratis; albicante, fusco tinctâ, lineis transversis fuscis; labro infra medium fortiter erecto-dentato.*

Hab. China.

This species appears to have been confounded for some time past with the young of the *Murex ramosus* or *elongatus*. It is uniformly of a thin structure, and the fronds are of a delicate open flowery growth.

Murex Steeriæ. *Mur. testâ abbreviato-fusiformi, crassâ, transversim granoso-liratâ, inter varices fortiter tuberculatâ; trifariam varicosâ, varicibus incrassatis, frondosis, frondibus crispato-ramosis, subcompressis, breviusculis, fronde parvâ interveniente; fuscâ liris nigricantibus, frondibus purpureo-roseis, columellâ et aperturæ fauce albis, labro externo incrassato, intus denticulato; canali breviusculo.*

Hab. ——?

This shell might easily be mistaken for an accidental stunted growth of the *Murex palma-rosæ*, were it not for the constancy and marked peculiarity of its characters. The fronds are short and somewhat erect, with a row of small fronds sprouting up at their base;

they are also laterally pinched as it were, and do not spread in the same flowery bifurcate manner as in the *Murex palma-rosæ*.

Murex rubiginosus. *Mur. testâ fusiformi, interdum subabbreviatâ, transversim granoso-liratâ et striatâ, inter varices fortiter tuberculatâ; trifariam varicosâ, varicibus frondosis, frondibus foliaceis, brevibus, alternis parvis, recumbentibus; rubiginosâ, liris frondibusque nigricante-fuscis; columellâ rubiginoso-luteâ, aperturæ fauce albâ.*

Hab. Philippine Islands; Cuming.

This shell, of which I have seen several characteristic specimens, is quite distinct from any hitherto described.

TYPE IN MUS. SAUL

Murex crassivaricosa. *Mur. testâ subabbreviato-fusiformi, crassiusculâ, transversim granoso-liratâ et striatâ; trifariam varicosâ, varicibus incrassatis, rotundatis, frondosis, frondibus parvis, foliaceis, alternis minoribus; livido-ferrugineâ, aperturæ fauce albâ.*

Hab. —— ?

A new species, of which I have seen several examples, distinguished amongst other characters by the stunted thickened growth of the varices.

BM 197477

Murex oculatus. *Mur. testâ fusiformi-oblongâ, crassiusculâ, undique leviter scabrosâ, transversim liratâ et striatâ, inter varices bituberculatâ; trifariam varicosâ, varicibus lamellis brevibus subcomplicatis tuberculatis; albidâ, rufo-fuscescente tinctâ, varicibus maculis quadratis rubentibus alternatim pictis, columellâ rubente-luteâ, aperturæ fauce albâ, labro nigerrimo-fusco, supernè præcipuè, maculato, apice rubente; canali breviusculo, compresso, recurvo.*

Hab. —— ?

Although this shell has so many characters in common with the *Murex pomum*, it exhibits a constant peculiarity of colour, form and sculpture. In colour it is peculiarly tinged and spotted with red; in form it is more graceful and slender, and in sculpture it is smoother and presents two tubercles between each varix. I have seen numerous examples of this species, and can distinguish them at a glance from the *Murex pomum*.

BM 197479

Murex alabaster. *Mur. testâ trigono-fusiformi, spiræ testæ longitudinem æquante, anfractibus transversim liratis et striatis, liris lævibus, supernè angulatis, nodulis duobus tribusve subconspicuis ad angulum armatis; trifariam varicosâ, varicibus laminato-alatis, tuberculo erecto profundè canaliculato ad angulum munitis; intus extusque eburneâ; canali breviusculo.*

Hab. Island of Cagayan, province of Misamis, island of Mindanao, Philippines (found on the beach); Cuming.

Mr. Sowerby referred this extraordinary shell with some doubt to the *Murex acanthropterus*; its proportions are however so utterly different that I have no hesitation in describing it as a new species.

TYPE IN SAUL COLLN. NOT FOUND

Murex ambiguus. *Mur. testâ globosâ, subpyriformi, transversim*

liratâ, liris irregularibus erectis, interruptis; octofariam varicosâ, varicibus frondosis, frondibus alternis vel paucioribus elato-ramosis, spinosis, basalibus longioribus; albâ, frondibus lirisque aterrimis, labri columellari parte superiori nigro tinctâ; canali breviusculo.

Hab. —— ?

Three species appear to have been confounded hitherto under the common title of *Murex radix*, which, though closely approximating, may be separated without difficulty with a little careful discrimination. The true *Murex radix* is a round, particularly solid, heavy shell, with a short though sharply acuminated spire with never less than ten varices, in which the fronds are numerous, somewhat laterally compressed, comparatively short and sharp-pointed. The species described by Dr. Philippi under the title of *Murex nigritus* has but eight or nine varices, and the fronds are not branched; those on the upper angle of the whorl being tuberculary squamate, those in the middle flat and very obscure, whilst those at the base are long and horn-shaped. In the species under consideration the shell is of somewhat light structure, and the fronds are large, open and flowery.

ETCALFE COLLN

MUREX TRIFORMIS. *Mur. testâ trigono-ovatâ, crassiusculâ, transversim liratâ et corrugatâ, tuberculis duobus aut pluribus inter varices; trifariam varicosâ, varicibus laminato-fimbriatis, supernè excavato-sinuatis; ferrugineo-fuscâ; aperturâ ovatâ, supernè sinuatâ.*

Hab. New Holland.

This shell, which Mr. Sowerby thought to be a variety of the *Murex acanthropterus*, is of a rude solid structure and dark rusty brown colour.

M 973105

MUREX PELLUCIDUS. *Mur. testâ trigono-fusiformi, tenui, transversim liratâ, pulcherrimè squamatâ, inter varices tuberculatâ; trivaricosâ, varicibus obliquis, latissimè et eximiè alatis; pellucido-albâ; aperturâ parvâ, labro intus nodoso.*

Hab. Island of Bantayan, Philippines (found upon a coral bottom at the depth of seven fathoms); Cuming.

Mr. Sowerby has rather incautiously referred this shell to the *Murex trigonularis* of Lamarck, which Mr. Gray considers to be merely a worn specimen of the *Murex acanthropterus*, and M. Kiener one of the *Murex phyllopterus*. The shell under consideration differs essentially from both of these, and the characters which it presents are not at all in accordance with Lamarck's description of *Murex trigonularis*.

TYPE IN SAUL COLLN.

MUREX OSSEUS. *Mur. testâ oblongo-ovatâ, subfusiformi, lævisculâ, inter varices fortiter tuberculatâ; trivaricosâ, varicibus fimbriato-laminatis, supernè falcatis; albâ, castaneo-fusco hic illic tinctâ; aperturâ peculiariter parvâ, ovatâ.*

Hab. —— ?

Murex pinniger is perhaps the nearest allied species to this, though of very different form.

BM 1966.12-1967.5.8

MUREX GAMBIENSIS. *Mur. testâ fusiformi, infernè attenuatâ, solidiusculâ, transversim obsoletè striatâ, tuberculo magno prominulo inter varices; trivaricosâ, varicibus plicato-laminatis, supernè falcatis, ad basim alatis; albâ, fusco hic illic punctatâ; aperturâ parvâ, canali longiusculo.*

Also allied to the *Murex pinniger*, but of a more elongated form and different style of colouring.

BM. 1874.12.11.204

MUREX MARTINIANUS. *Mur. testâ trigono-clavæformi, transversim liratâ, liris nodulosis, inæqualibus; trifariam varicosâ, varicibus rarispinosis, spinis breviusculis; luteo- vel griseo-cærulescente, canali fuscescente; aperturâ ovatâ, labro dente planulato, erecto, munito; canali longissimo, recto, supernè spinoso.*

Hab. ——?

This shell was supposed to have been the *Murex rarispina* of Lamarck, but it having been satisfactorily shown by both Kiener and Deshayes that Mr. Sowerby's *Murex formosus* is that species, I propose to distinguish it by the above new title.

HETOTYPE

MUREX FUNICULATUS. *Mur. testâ clavæformi, transversim liratâ, liris ad summitatem funiculatis, costis tribus vel quatuor plicæformibus longitudinalibus inter varices; trivaricosâ, varicibus spinosis, spinis brevibus, acutis, sursum inclinatis; fuscescente-albâ, funiculis transversis castaneis; aperturâ ovatâ, columellâ labroque intus noduliferis; canali elongato.*

Hab. ——?

An interesting species, well-characterized by the fine dark chesnut-brown cords with which it is encircled throughout at equal distances.

TYPE IN SAM COLLN

MUREX NIGRISPINOSUS. *Mur. testâ elongato-clavæformi, transversim liratâ et striatâ, liris inæqualibus, subnodosis, spirâ breviusculâ; trifariam varicosâ, varicibus spinosis, spinis erecto-elongatis; canali elongato, ad extremitatem leviter recurvo, spinoso, spinis longis, subcurvatis purpurascente-albâ, fasciis tribus vel quatuor fuscescentibus subindistinctè cingulatâ, spinis purpureo-nigricantibus.*

Hab. ——?

This shell approximates to the *Murex tribulus*, but its characters present an agreeable modification throughout, which may be considered of specific importance. The spines are constantly tipped with black.

BM. 97430

MUREX BELLUS. *Mur. testâ clavæformi, transversim liratâ, liris tuberculato-nodosis; trivaricosâ, varicibus rotundis, tuberculato-liratis, spinâ brevi acutâ ad basim; albicante, castaneo-fusco supra et infra maculatâ, liris castaneo conspicuè funiculatis, columellâ labroque rufo-aurantio tinctis; canali subelongato.*

Hab. ——?

Allied to the *Murex chrysostoma* in respect to its rufous orange mouth, but of a different colour and sculpture throughout.

August 26, 1845.

William Horton Lloyd, Esq., in the Chair.

"Remarks on the genus *Achatinella*, Swainson, and descriptions of six new species from Mr. Cuming's collection." By Dr. L. Pfeiffer.

Upon examining the long series of forms which occur in the vast family of the *Heliceæ*, I have ascertained that there are several groups which Nature herself seems to have characterized as genera, though it would be very difficult to draw out such a generic definition as would exclude all other nearly allied species. One of these natural groups is the genus *Achatinella*, proposed by Swainson in Brandt's Journal, 1828, which appears to be peculiar to the Sandwich Islands, and has been united to the genus *Bulimus* by most recent authors, as by myself in my 'Symbolæ.' However, the greater the number of species we become acquainted with, the more convenient it appears to unite them together as a distinct genus. I may therefore be permitted to give a short account of the species now known.

1. Achatinella lugubris (*Turbo*), Chemn. Described by Lamarck under the name of *Monodonta seminigra*, and figured by Swainson in the Zool. Illustr. under the name of *A. pica*. Of course the name of Chemnitz must be retained.

2. Achatinella perversa, Swains. Synon. *Helix decora*, Fér., t. 155. f. 5—7; *Bulimus decorus*, Pfr. Symb.

3. Achatinella acuta, Swains. *Hel. spirizona*, Fér., t. 155. f. 14, 15.

4. Achatinella bulimoides, Swains. *Hel. lorata*, Fér., t. 155. f. 9—11; *Bul. loratus*, Pfr. Symb.

5. Achatinella livida, Swains. *Hel. vulpina*, Fér., t. 155. f. 1, 2; *Bul. vulpinus*, Pfr. Symb.

6. Achatinella rosea, Swains. A very distinct species, to which none of Férussac's figures may be referred.

7. Achatinella pulcherrima, Swains. This species might perhaps be considered as a dextrous variety of *A. livida*.

8. Achatinella turritella (*Hel.*), Fér., t. 155. f. 13; *Bul. turritella*, Pfr. Symb.

9. Achatinella tristis (*Hel.*), Fér. Mus.; *Bul. tristis*, Pfr. Symb.

10. Achatinella ventulus (*Hel.*), Fér. Mus.; *Bul. ventulus*, Pfr. Symb.

✓ 11. Achatinella radiata, Pfr. *Ach. testâ ovatâ, solidulâ, leviter striatâ, nitidâ, viridi et luteo radiatâ, strigis intercurrentibus nigricantibus; spirâ conicâ, obtusiusculâ; suturâ marginatâ; an-*

+ = viridans mixtus

fractibus $5\frac{1}{2}$ *vix convexiusculis, ultimo spirâ paulò breviore; columellâ dente brevi calloso rubello munitâ; aperturâ oblongo-ovali; peristomate intus fusco-rubello-labiato.*

Long. 19, diam. 10 mill.

Ins. Sandwich. (Mus. Cuming.)

12. Achatinella picta, Pfr. *Ach. testâ sinistrorsâ, ovato-elongatâ, striatulâ, carneâ, maculis et flammis nigro-fuscis eleganter pictâ; spirâ turritâ, gracili, acutiusculâ; suturâ simplice; anfractibus 6 convexis, ultimo* $\frac{3}{7}$ *longitudinis subæquante; columellâ valdè tortâ, dente planulato, acutè prominente, albo munitâ; aperturâ oblongâ; peristomate simplice, acuto.*

Long. $12\frac{1}{2}$, diam. 7 mill.

Ins. Sandwich. (Mus. Cuming.)

13. Achatinella brevis, Pfr. *Ach. testâ ovatâ, brevi, solidâ, obliquè striatulâ, nitidâ, fuscâ; spirâ conicâ, acutiusculâ; anfractibus 6 convexiusculis, ultimo* $\frac{1}{3}$ *longitudinis vix superante, subgloboso; columellâ breviter arcuatâ, acutè dentatâ; aperturâ rotundato-lunari; peristomate simplice, albo.*

Long. 11, diam. $6\frac{1}{2}$ mill.

Ins. Sandwich. (Mus. Cuming.)

14. Achatinella pyramis, Pfr. *Ach. testâ ovato-pyramidatâ, lævissimè striatâ, diaphanâ, virenti-corneâ; spirâ pyramidatâ, apice acuto; suturâ lineari, angustè marginatâ; anfractibus 8 planis, ultimo* $\frac{3}{8}$ *longitudinis subæquante; columellâ brevissimè arcuatâ, plicâ dentiformi complanatâ, acutâ, munitâ; aperturâ ovali.*

Long. 12, diam. $5\frac{1}{2}$ mill.

Ins. Sandwich. (Mus. Cuming.)

15. Achatinella clara, Pfr. *Ach. testâ oblongâ, longitudinaliter plicatulo-striatâ, pellucidâ, pallidè corneâ; spirâ turritâ, apice obtuso; suturâ lineâ rufâ marginatâ; anfractibus 8 planiusculis, ultimo* $\frac{1}{3}$ *longitudinis vix æquante; columellâ vix arcuatâ, dente parùm prominente munitâ; aperturâ ovali.*

Long. 12, diam. $4\frac{3}{4}$ mill.

Ins. Sandwich. (Mus. Cuming.)

16. Achatinella corneola, Pfr. *Ach. testâ ovato-oblongâ, lævissimè striatulâ, pellucidâ, nitidâ, corneâ; spirâ turrito-conicâ, apice obtusiusculo; suturâ subsimplice; anfractibus 8 planiusculis, ultimo* $\frac{2}{5}$ *longitudinis subæquante; columellâ valdè arcuatâ, dente acutè prominente, albo, complanato instructâ; aperturâ irregulariter ovali; peristomate intus callo tenui, nitido, albo sublabiato.*

Long. 15, diam. 7 mill.

Ins. Sandwich. (Mus. Cuming.)

17. Achatinella gravida (*Hel.*), Fér., t. 155. f. 3, 4.

18. Achatinella luteola (*Hel.*), Fér., t. 155. f. 12. These two species I have not been able to find out of the great number of varieties and species I had the opportunity of examining.

September 9, 1845.

No business was transacted.

September 23, 1845.

William Yarrell, Esq., Vice-President, in the Chair.

Edward Fitton, Esq., exhibited to the Meeting a fine male specimen of the White-winged Crossbill (*Loxia leucoptera*), in red plumage, which he had picked up dead upon the shore at Exmouth on the 17th instant. It appeared to have been injured on the back of the head, and to have crept into a crevice of one of the loose fragments of rock on the shore, where it was found by Mr. Fitton, partly covered with wet sand.

The wind at the time was south-west, and had been blowing hard from north-west to west and south-west for some days.

Mr. Yarrell exhibited a full-grown Herring, having a lobe of female, or hard roe, on one side, and a lobe of male, or soft roe, on the other. This degree of malformation has not hitherto been recorded as found in the herring, but has been observed in the perch, mackerel, carp, cod, whiting and sole.

October 14, 1845.

William Yarrell, Esq., Vice-President, in the Chair.

"On the size of the Red Corpuscles of the Blood in the Vertebrata, with copious Tables of Measurements." By George Gulliver, Esq., F.R.S.

The following Tables contain a synopsis of my former observations*, corrected when necessary and extended by many more since made and now first published. They include altogether no less than 485 species, here systematically arranged, so as to exhibit a summary, and yet more complete view than any yet extant, of the size of the blood-corpuscles in the different subdivisions of vertebrate animals. In this respect I hope the Tables may be useful, as well as for reference in connection with physiological questions now often arising. I have introduced no measurement not made by myself. The observations on the form and size of the corpuscles, unless otherwise expressed, refer to the majority of them as existing in any portion of the blood of the adult animal spoken of; for there may be a few differing greatly from the average. In the blood-corpuscles of the Oviparous Vertebrata, for example, there are often many gradations of form, from the well-marked and prevailing ellipse, to the longer or shorter oval or even circular figure; and in any mammal some of the corpuscles are a third larger and some a third smaller than the mean size.

Mammalia

Various sizes of the corpuscles.—The corpuscles of the Elephant are the largest yet known; then follow those of the Sloth and of the

* On the Corpuscles of Marsupiata, of the *Camelidæ*, and of *Moschus Javanicus*, Annals Nat. Hist., Dec. 1839, Phil. Mag. same date, and Dublin Med. Press, Nov. 27, 1839; on the Blood-Corpuscles of Mammalia and Aves, in an Appendix to the English version of Gerber's Anatomy, 8vo. Lond. 1842; on the Nuclei of the Blood-corpuscles of Vertebrata, Note to Dr. Willis's tr. of Wagner's Physiology, p. 240 *et seq.*, 8vo. Lond. 1844, and Phil. Mag., Aug. 1842; on the Pus-like Globules of the Blood, Phil. Mag., Sept. 1842, and Note to Wagner's Physiology, p. 250–252; on the Blood-corpuscles of the *Camelidæ* and of the Musk Deer, Med. Chir. Trans. v. xxiii. and Lancet, v. ii. 1840–41, p. 101; on the Corpuscles of the Snowy Owl and Passenger Pigeon, Proc. Zool. Soc., June 9, 1840; Corpuscles of *Crocodilidæ*, *ibid.* Nov. 10, 1840; Corpuscles of Paradoxures, *ibid.* Nov. 24, 1840; Corpuscles of *Feræ*, *ibid.* May 25, 1841; Corpuscles of Marsupials, *ibid.* June 8, 1841; Corpuscles of the Ibex and of Ophidian Reptiles, *ibid.* Aug. 9, 1842; Corpuscles of *Struthionidæ*, *ibid.* Oct. 11, 1842; Additional Measurements of Blood-corpuscles, *ibid.* Dec. 13, 1842, Feb. 13 and Sept. 10, 1844; Corpuscles of the Stanley Musk Deer, *ibid.* May 9, 1843; Corpuscles of the Sloth, *ibid.* June 11, 1844; on peculiar shapes assumed by the Blood-corpuscles of Mammals, Phil. Mag., Nov. 1840; on the Buffy Coat of the Blood, Edin. Med. and Surg. Journ., No. 165.

Whale. The Napu Musk Deer has the most minute corpuscles; those of the Stanley Musk Deer are nearly as small; those of the Ibex of Candia are larger; and the next increase of size is in those of the Goat. Before my observations, the corpuscles of the last-named animal were the smallest known.

Size of the corpuscles in relation to that of the animal.—The smallest British mammal, the Harvest Mouse, has corpuscles quite as large as those of the Horse; in the Common Mouse they are larger than in the Horse or Ox. But although there is no relation between the size of the corpuscle and that of the animal in different orders, in the same order the larger species have generally larger corpuscles than the smallest species. Thus, in the large Ruminants the corpuscles are distinctly larger than in the smallest Ruminants, and the same fact is observable of the Rodents. In these examples the gradation in the size of the corpuscles may not exactly follow that of the animals, but none of the very small species have corpuscles so large as those of the largest species.

Size of the corpuscles in the same animal at different periods of life.—In very young embryos the corpuscles are much larger than in the adult, and in such embryos each corpuscle has a nucleus, which disappears at a later period of intra-uterine life, when the corpuscles are yet larger than those of the mother. At a still later period they become so unequal in size that it is difficult to say whether they be larger or smaller in the fœtus than in the adult. In a kid twelve days old, bred between an ibex and a goat, I found the corpuscles larger and more variously sized than those of either of its parents.

The thickness of the corpuscles is variable; but it is commonly somewhat more than a fourth of the diameter.

Size of the corpuscles in different Orders.—The Monkeys have corpuscles pretty uniform in size, generally just perceptibly smaller than those of Man; in some of the Monkeys of the new world the corpuscles are slightly smaller than in the Monkeys of the old world, and in the Lemurs somewhat smaller still. In the corpuscles of the different subdivisions of the *Feræ* there is such a well-marked diversity of size, that the fact* might be used as a help to classification. The families, set down in the order of the size of their blood-discs, stand as follows: Seals, Dogs, Bears, Weasels, Cats, Viverras. It is commonly most easy to distinguish a viverra, by the comparatively small size of its blood-corpuscles, from a seal, dog or bear. Among genera of doubtful affinities, if regard were paid to the blood-corpuscles, the Hyæna† would be arranged with the *Canidæ*, Basaris with the *Ursidæ*, and Cercoleptes with the *Viverridæ*. It is curious that the Fox has slightly smaller corpuscles than the Dog. In the

* It has recently been enlisted into the service of natural history by Mr. Jesse, in his interesting Anecdotes of Dogs.

† It is remarkable that the extent of the streaked muscular fibre of the gullet of the Hyæna is the same as in the *Viverridæ*, which differ in this respect from the *Canidæ*, and still more from the *Ursidæ*. See Proc. Zool. Soc., Sept. 10, 1839, and June 14, 1842. It would be interesting to examine the œsophageal muscular sheath of the Kinkajou.

Ruminants the smallest corpuscles are found; yet some of the largest species have corpuscles larger than those of many Carnivora, and of the Horse. The *Camelidæ* are the only mammals with oval blood-discs, like those of the lower Vertebrata in shape, but uniformly smaller; and in structure the corpuscle of the Camels is exactly the same as the corpuscle of other Mammalia, being destitute of a nucleus corresponding to that which is so obvious in the corpuscle of lower animals. Among the Rodents, the corpuscles of the Capybara are as large or slightly larger than those of Man; the Harvest Mouse has smaller corpuscles than any other Rodent, and in the order generally their size is about the same as in the Lemurs. Of the Edentata, the Two-toed Sloth has the largest corpuscles, after those of the Elephant, of any mammal; those of the Armadillo are about the same in size as those of the Monkeys. The corpuscles of the Marsupiata agree generally in form and size with the corpuscles of the corresponding placental mammals. In the Monotremata, according to the observations of Dr. Davy, Dr. Hobson, and Dr. E. Bedford, the corpuscles are of the same form and about the same size as in Man. An examination which I made of the corpuscles of the Echidna was to the same effect, but I had not an opportunity of applying a micrometer to them.

Oviparous Vertebrata.

In birds and reptiles, with a few exceptions, the corpuscles are oval, the long diameter being commonly rather less than twice the short diameter. These proportions used to be considered as universal, but they are not so; for the long diameter of the corpuscles of birds and reptiles may either be nearly thrice or scarcely one and a half of the short diameter; and it is remarkable that these differences of form are occasionally presented in the corpuscles of nearly allied genera, as more particularly explained in the Proc. Zool. Soc. 1840, pp. 43 and 132; and 1842, p. 110. In osseous fishes, as Professor Wagner has noticed, the corpuscles are generally not much longer than broad; I commonly found a few among them of a circular shape, and he observed the majority of them of this figure in the blood of the Cyclostomes. In some species of other orders the corpuscles are about twice the length of their breadth; in the Pike they are somewhat angular and pointed at the ends; and on the whole the corpuscles of fishes are extremely variable in shape. The diameter of the circular corpuscles of mammals is very frequently about the same as the short diameter of birds' corpuscles. They are largest in the Amphibia generally; and largest of all in the Amphibia with permanent gills, as discovered some years ago by Professor Wagner. My measurements of the corpuscles of the Siren agree with his view.

Nucleus.—This exists permanently in the blood-corpuscle of the lower Vertebrata, but only for a short time in that of mammals, not excepting even the *Camelidæ*. It is only during the earlier period of intra-uterine life that the corpuscle of mammals has a nucleus corresponding to the permanent one in the corpuscle of lower animals. In birds, the nucleus, when exposed by a weak acid, is commonly longer in proportion to its breadth than the envelope; but there are some

exceptions, and the nucleus becomes globular or nearly so when in contact with water. In the blood-corpuscle of mammals the central spot, so often mistaken for a nucleus, is not visible in the best focus and light; then if the object-glass be so slightly removed from the corpuscles as not to destroy their clear contour, a dark spot appears in their centre; if the glass be next so far moved towards the corpuscles as to place them slightly within the focus, the dark spot will become bright; and when altogether invisible in a bright light, the spot may be instantly brought into view simply by diminishing the light.

Note.—The following measurements are all in vulgar fractions of an English inch; but for the sake of convenience, the numerator is omitted throughout, as it is invariably 1, and the denominators only are printed. The measurements of the blood-discs are given as they lie flat, unless when a T indicates a measurement of their thickness. By L.D. the long diameter and by S.D. the short diameter is denoted. The measurements refer exclusively to average sizes. The nuclei were measured after exposing them by the action of dilute acetic acid on the envelopes.

MAMMALIA.

Homo	3200
T...	12400
Similæ Catarrhini.	
Simia Troglodytes	3412
Pithecus Satyrus	3383
Hylobates Hoolock	3368
—— leucogenys	3425
—— Rafflesii	3539
Semnopithecus Maurus	3515
Cercopithecus Mona	3468
—— sabæus	3342
—— fuliginosus	3530
—— ruber	3395
—— pileatus	3578
—— pygerythrus	3401
—— Petaurista	3478
—— griseo-viridis	3429
—— Æthiops	3454
Macacus radiatus	3563
—— Rhesus	3429
—— niger	3583
—— cynomolgus	3429
—— Silenus	3430
—— nemestrinus	3493
—— sylvanus	3338
—— melanotus	3389
Cynocephalus Anubis	3461
—— leucophæus	3555
Similæ Platyrrhini.	
Ateles subpentadactylus	3620
Ateles ater	3602
—— Belzebuth	3589
Cebus Apella	3467
—— capucinus	3454
Callithrix sciureus	3713
Jacchus vulgaris	3624
Midas Rosalia	3510
Lemuridæ.	
Lemur albifrons	3976
—— Catta	3892
—— Anjuanensis	4003
—— nigrifrons	4440
Loris tardigradus	3691
—— gracilis	3461
Cheiroptera.	
Vespertilio murinus	4175
—— noctula	4404
—— Pipistrellus	4324
Plecotus auritus	4465
Insectivora.	
Talpa Europæa	4747
Erinaceus Europæus	4085
Sorex tetragonurus	4571
Plantigrada.	
Meles vulgaris	3940
Arctonyx collaris	3609

MAMMALIA—(*continued*).

Ursus maritimus	3870
—— Arctos	3723
—— Americanus	3693
—— Americanus, var.	3782
—— ferox	3530
—— labiatus	3728
Helarctos Malayanus	3562
Mellivora Capensis	3824
Procyon lotor	3950
Nasua fusca	3789
—— rufa	3878
Basaris astuta	4033
Cercoleptes caudivolvulus	4573
Carnivora.	
Paradoxurus leucomystax	4236
—— Bondar	5693
—— binotatus	4660
—— Pallasii	5485
Canis familiaris	3542
—— Dingo	3395
—— Vulpes	4117
—— fulvus	3920
—— argentatus	3888
—— cinereo-argenteus	3761
—— lagopus	3888
—— aureus	3860
T...	14000
—— mesomelas	3645
—— Lupus	3625
Lycaon tricolor	3801
Hyæna vulgaris	3735
—— crocuta	3820
Herpestes griseus	4662
—— Javanicus?	4790
—— Smithii	4466
Viverra Civetta	4274
—— tigrina	5365
Felis Leo	4322
—— concolor	4465
—— unicolor	4481
—— Tigris	4206
—— Leopardus	4319
—— jubata	4220
—— pardalis	4616
—— domestica	4404
—— Bengalensis	4419
—— Caracal	4684
—— cervaria	4220
—— Serval	4129
Galictis vittata	4175
Mustela Zorilla	4270
—— Furo	4134
—— vulgaris	4205
—— Putorius	4167
Lutra vulgaris	3502
Phoca vitulina	3281
Cetacea.	
Delphinus Phocæna	3829
Balæna Boops	3099
Pachydermata.	
Sus Scrofa	4230
—— Babyroussa	4316
Dicotyles torquatus	4490
Tapirus Indicus	4000
Elephas Indicus	2745
Rhinoceros Indicus	3765
Equus Caballus	4706
T...	13422
—— Asinus	4000
—— Burchellii	4360
—— Hemionus	4421
Ruminantia.	
Camelus Dromedarius... L.D.	3254
S.D.	5921
T...	15337
—— Bactrianus ..... L.D.	3123
S.D.	5876
T...	15210
Auchenia Vicugna ..... L.D.	3555
S.D.	6444
—— Paco ..... L.D.	3361
S.D.	6294
—— Glama	*ibid.*
Moschus Javanicus	12325
—— Stanleyanus	10825
Cervus Wapiti	4138
—— Hippelaphus	3777
—— Axis	5088
—— Dama	4515
—— Alces	3938
—— Barbarus	4800
—— Elaphus	4324
—— macrourus?	5074
—— Mexicanus	5175
—— Marhal	4978
—— porcinus	5391
—— Reevesii	6330
—— Capreolus	5184
—— Virginianus	5036
Camelopardalis Giraffa	4571
Antilope Cervicapra	5108
—— Dorcas	4922
T...	16000
—— Gnu	4800
—— Sing-Sing	5150
—— Philantomba	5116
—— picta	4875
—— Bubalis	5600
Capra Caucasica	7045
—— Hircus	6366

MAMMALIA—(*continued*).

Capra Hircus, var.	6430	Synetheris prehensilis	3444
Ovis Musmon	5045	Capromys Fournieri	3483
—— Aries	5300	Myopotamus Coypus	3355
—— Tragelaphus	6355	T...	10667
Bos Taurus	4267	Castor Fiber	3325
—— Taurus, var.	4571	Cavia Cobaya	3538
—— Bison	4062	Dasyprocta aurata	3857
—— Bubalus	4586	—— Acouchi	3777
T...	14000	Cœlogenys subniger	3481
—— Caffre	4703	Hydrochærus Capybara	3190
—— frontalis	4299	Lepus cuniculus	3607
—— Sylhetanus	4222	Lepus timidus	3560
RODENTIA.		EDENTATA.	
Pteromys nitidus	3777	Bradypus didactylus	2865
—— volucella	3892	Dasypus sex-cinctus	3457
Sciurus vulgaris	4000	—— villosus	3315
—— niger?	3841	MARSUPIATA.	
—— maximus	3633		
—— cinereus	4000	Didelphis Virginiana	3557
—— capistratus	3930	T...	12000
—— Palmarum	3847	Dasyurus viverrinus	4056
—— Listeri	3948	—— Maugei	4034
Arctomys? pruinosus	3484	—— ursinus	3534
—— Empetra	3503	T...	10910
Dipus Ægyptius	4172	Perameles Lagotis	3902
Mus giganteus	3892	Hypsiprymnus setosus	4000
—— decumanus	3911	Macropus Bennettii	3535
—— Rattus	3754	—— ocydromus	3442
—— musculus	3814	—— Derbyanus?	3405
—— sylvaticus	3839	T...	10910
—— messorius	4268	Halmaturus Billardieri	3623
—— Alexandrinus	3900	Phalangista vulpina	3617
Arvicola amphibia	3790	—— nana	3856
—— riparia	4199	—— fuliginosa	3688
Ondatra Zibethica	3550	Petaurista sciureus	3661
Hystrix cristata	3369	Phascolomys Wombat	3456
Erithizon dorsatum	3380		

AVES.

RAPACES.	L.D.	S.D.		L.D.	S.D.
Gypaëtus barbatus	1913	3425	Buteo vulgaris	1852	3691
Cathartes Iota	1880	3691	—— Lagopus	1852	3691
Sarcorhamphus Gryphus	1761	3892	Aquila chrysaëtos	1812	3832
—— Papa	1825	3600	—— Bonelli	1866	3598
Vultur auricularis	1835	3461	—— fucosa	1852	3485
Nuclei...	4000	10666	—— choka	1830	3691
—— fulvus	1829	3399	Helotarsus typicus	1891	3461
T. 9600			Haliaëtus albicilla	1829	3390
—— Kolbii	1794	3337	—— leucocephalus	1909	3390
—— leuconotus	1806	3425	—— Aguia	1806	3585
—— Angolensis	1684	3166	Falco Peregrinus	1916	3862
Polyborus vulgaris	1829	3572	—— Tinnunculus	1891	3490

AVES—(*continued*).

	L.D.	S.D.
Falco subbuteo	1827	3507
Milvus vulgaris	1931	3677
Gypogeranus serpentarius	1722	3301
Surnia Nyctea	1555	4042
Nuclei	3200	10666
Otus brachyotus	1763	4076
Bubo maximus	1720	3566
Bubo Virginianus	1837	4000
Syrnium Aluco	1930	3801
Strix flammea	1882	3740
Nuclei	4000	10666
Omnivoræ.		
Cracticus hypoleucus	2116	4000
Barita Tibicen	2118	3892
Garrulus pileatus	2041	4167
—— glandarius	2064	3878
Nuclei	4000	10666
—— cristatus	2041	3512
Nucifraga Caryocatactes	1875	4172
Corvus corax	1961	4000
—— frugilegus	1894	3196
Nuclei	4572	9140
—— monedula	2243	4167
Nuclei	4000	10665
—— Pica	1953	3365
T. 11600		
Nuclei	4245	11138
Gracula religiosa	2075	4167
Fregilus graculus	2106	4505
Pastor roseus	2106	4630
—— cristatellus	2133	4050
—— tristis	1993	4167
Sturnus vulgaris	2115	3892
Nuclei	3764	11333
—— predatorius	2133	4175
Coracias garrula	2000	3478
Molothrus sericeus	2133	4567
Buceros Rhinoceros?	1690	3230
Insectivores.		
Troglodytes Europæus	2359	4133
Regulus cristatus	2284	4133
Motacilla alba	2182	3600
Nuclei	4000	10666
Sylvia Phragmites	2003	3550
Philomela luscinia	1895	4400
Nuclei	4000	12000
Curruca atricapilla	2359	4133
Erythaca rubecula	2305	4133
Accentor modularis	2342	4000
Turdus viscivorus	2247	4000
—— musicus	2203	4133
—— migratorius	2348	4133
Turdus canorus	2305	3892
Merula vulgaris	2097	4256
Orpheus polyglottis	2223	3732
—— rufus	2231	3646
Muscicapa grisola	2179	4173
Lanius excubitor	1989	5325
Vanga destructor	2019	3892
Granivoræ.		
Dolichonyx oryzivorus	2400	4167
Ploceus textor	2213	4575
Cardinalis Dominicana	2140	3643
—— cucullata	*ibid.*	*ibid.*
Amadina fasciata	2001	4364
—— punctularia	2133	4133
Pyrgita domestica	2140	3500
Nuclei	4364	9200
—— simplex	2273	4000
Fringilla Cœlebs	2253	4133
—— Chloris	2232	3600
—— amandava	2243	4800
—— cyanea	2144	3741
Linaria minor	2416	4848
Parus cæruleus	2313	4128
—— caudatus	2136	4570
Nuclei	4800	10666
—— major	2133	3892
Alauda arvensis	2125	4128
Nuclei	4000	12000
Emberiza citrinella	2286	4000
Nuclei	4000	12000
—— cristata	2310	4167
Plectrophanes nivalis	2133	4740
Loxia coccothraustes	2042	3790
T. 9141		
Nuclei	4570	10666
—— curvirostra	2365	4000
—— enucleator	2247	4083
—— Javensis	2286	3677
—— Astrild	2273	4740
—— cærulea	2290	3740
—— Malacca	2359	4167
Vidua paradisæa	1998	3740
Nuclei	3555	10666
Zygodactyli.		
Corythaix Buffonii	1902	3764
Cuculus canorus	2028	3600
Plyctolophus Eos	1981	3728
—— sulphureus	2203	3399
—— rosaceus	1842	3547
Nuclei	4000	12000
—— galeritus	1880	3600
—— Philippinorum	1974	4041
Macrocercus Aracanga	1902	4041

AVES—(*continued*).

	L.D.	S.D.
Macrocercus Illigeri ...	1924	4335
—— Arararuna	1961	4128
—— Macao	1902	4762
—— severus	2165	3801
Platycercus Pennantii ...	2106	3931
—— Pacificus	2118	4174
—— eximius	2193	3892
—— flaviventris	2118	3892
—— Vasa	2045	3892
—— scapulatus	2000	4042
—— niger	2133	3892
NymphicusNovæ-Hollandiæ	2160	4174
Psittacara leptorhyncha .	2067	3931
—— murina	2133	4031
—— Patachonica	2115	3977
—— viridissima	2029	4190
—— solstitialis	2133	4000
—— virescens	2097	4175
Trichoglossus capistratus	2203	3892
Palæornis Alexandri ...	2115	3892
—— torquatus	2174	3892
—— Bengalensis	2278	4000
Lorius domicellus	2093	4133
—— Ceramensis	2115	4000
—— Amboinensis	2045	4133
—— coccineus	2165	4000
—— Sinensis	2115	3692
Tanygnathus macrorhynchus	2106	3829
Psittacus erythacus	1898	4000
—— albifrons	1931	3692
—— Augustus	2085	3600
—— Americanus	2115	3600
—— Regulus	2037	3764
—— Dufresnii	2278	3374
—— Amazonicus	1800	3832
—— leucocephalus	2050	3727
—— badiceps	2165	3617
—— menstruus	2115	3708
—— melanocephalus ...	2005	3892
—— mitratus	2029	3892
Psittacula cana	2101	4174
—— pullaria	2097	4174
Picus minor	2170	3892
Anisodactyli.		
Sitta Europæa	2213	4188
Nuclei ...	4572	11000
Certhia familiaris	2305	4000
Alcyones.		
Dacelo gigantea	2110	3555
Alcedo Ispida	2124	3693

	L.D.	S.D.
Cheliones.		
Hirundo rustica	2133	4000
—— urbica...	2170	4000
Cypselus Apus	1982	3850
Nuclei ...	4000	10666
Columbæ.		
Columba Palumbus	1973	3643
—— risoria	2133	3523
—— Turtur	2005	3369
—— tigrina	2088	3615
—— rufina	2314	3429
—— chalcoptera	2208	4062
—— Nicobarica	2133	3692
—— Guinea	2165	3839
—— Corensis	2193	3643
—— aurita	2422	3519
—— montana	2239	3692
Nuclei ...	5333	12000
—— Zenaida	2203	3571
—— migratoria	1909	4626
—— coronata	1954	3491
—— leucocephala	2132	3646
—— mysticea	2100	3512
Gallinæ.		
Penelope leucolophos ...	1902	3607
Nuclei ...	3555	9166
—— cristata	*ibid.*	*ibid.*
Crax globicera	1985	3425
—— rubra	1993	3664
—— Yarrellii	2000	3456
Ourax Mitu	2005	3490
Pavo cristatus	1835	3589
—— muticus	*ibid.*	*ibid.*
—— Javanicus	1884	3491
Phasianus pictus	2213	3615
—— nycthemerus	1887	3470
Nuclei ...	4000	8000
—— superbus	2128	3587
—— lineatus	1855	3348
Nuclei ...	4570	9166
—— Colchicus	2168	3646
Nuclei ...	5647	7111
Gallus domesticus	2102	3466
Nuclei ...	6000	9140
Meleagris gallapavo ...	2045	3598
Numida Rendallii	2054	4415
Francolinus vulgaris ...	2106	4041
Perdix longirostris	2054	3801
—— Bonhami	1933	3282
Nuclei ...	4570	10666
Coturnix Argoondah ...	2347	3470
Ortyx Virginianus	2213	4000
—— neoxyenus	2305	3836

AVES—(*continued*).

	L.D.	S.D.
Tetrao urogallus	2248	3836
—— Tetrix	2376	3728
—— Caucasica	1923	3456
Nuclei	4570	9166
Tinamus rufescens	1752	3338
ALECTORIDES.		
Dicholophus cristatus	1884	3364
CURSORES.		
Struthio Camelus	1649	3000
T. 9166		
Nuclei	3200	9166
Dromaius Novæ-Hollandiæ	1690	3031
Rhea Americana	1898	3273
GRALLATORES.		
Œdicnemus crepitans	2157	4000
Vanellus cristatus	1964	3310
Hæmatopus Ostralegus	1895	4000
Nuclei	3200	9000
Psophia crepitans	1883	3488
Anthropoides Virgo	1884	3740
T. 11230		
—— Stanleyanus	1909	3529
Balearica pavonina	1859	3777
T. 9597		
Nuclei	4000	9750
—— Regulorum	1858	3478
Ardea cinerea	1913	3491
—— Nycticorax	1780	3555
—— minuta	1993	3827
Platalea leucorodia	1859	3600
Ciconia alba	1755	3439
—— nigra	1806	3403
Ciconia Argala	1728	3555
—— Marabou	1859	3460
Ibis ruber	1948	3153
Numenius Phæopus	1846	4465
Limosa melanura	1973	3764
Scolopax Gallinago	2170	3622
Rallus Philippinensis	2997	3589
Gallinula chloropus	2055	3839
PINNATIPEDES.		
Podiceps minor	2001	3200
PALMIPEDES.		
Plectropterus Gambiensis	1866	3728
Chenalopex Ægyptiaca	1866	3839
Cereopsis Novæ-Hollandiæ	1722	3692
Bernicla Sandvicensis	1866	3839
—— Magellanica	*ibid.*	*ibid.*
Cygnus atratus	1806	3692
Dendrocygna viduata	1789	3555
—— autumnalis	1916	3764
—— arborea	1931	3724
Dendronessa sponsa	2001	4079
Tadorna vulpanser	1925	3839
Mareca Penelope	1873	4385
Querquedula crecca	2062	4592
—— acuta	1993	3839
—— circia	2088	3839
Anas galericulata	1937	3424
Larus ridibundus	2097	4000
—— canus	1973	3839
Nuclei	3555	10666
Pelecanus Onocrotalus	1777	3369
Nuclei	3200	9600
Phalacrocorax Carbo	2005	3765

REPTILIA.

	L.D.	S.D.
Chelonia Mydas	1231	1882
Nuclei	4000	6000
Testudo Græca	1252	2216
—— radiata	1241	2197
Alligator ——?	1324	2122
Crocodilus acutus	1231	2286
T. 8000		
—— Lucius?	1124	2215
Champsa fissipes	1259	2315
Iguana Cyclura	1230	2285
Nuclei	5333	6400
Lacerta viridis	1555	2743
Anguis fragilis	1178	2666
Natrix torquata	1371	2157
T. 8341		
Nuclei	3835	6817
Coluber Berus	1274	1800
Nuclei	3227	4986
Python Tigris	1440	2400
Nuclei	3555	7468

AMPHIBIA.

	L.D.	S.D.		L.D.	S.D.
Rana temporaria	1108	1821	Triton Bibronii	848	1311
T. 7112			Nuclei ...	1901	3000
Nuclei ...	3114	6297	—— cristatus	*ibid.*	*ibid.*
Bufo vulgaris	1043	2000	Lissotriton punctatus ...	814	1246
T. 5625			Nuclei ...	1778	2667
Nuclei ...	2802	5261	Siren lacertina	435	800
			Nuclei ...	1142	2007

PISCES.

	L.D.	S.D.		L.D.	S.D.
Perca fluviatilis	2099	2824	Cyprinus auratus	1777	2824
T. 8000			T. 10666		
Nuclei ...	7482	8830	Nuclei ...	4570	8000
—— Cernua	2461	3000	—— Erythrophthalmus.	2000	3200
Nuclei ...	6000	8000	—— Phoxinus	2000	2900
Cottus Gobio	2000	2900	Esox Lucius	2000	3555
T. 8000			Nuclei ...	5333	8000
Cyprinus Carpio	2142	3429	Anguilla vulgaris	1745	2842
T. 8000			T. 8000		
Nuclei ...	6400	8000	Nuclei ...	7500	10000
—— Tinca	2286	2722	Gymnotus electricus ...	1745	2599
T. 8830					
Nuclei ...	8500	9600			

The following extract was read from a letter, dated Madeira, August 18, 1845, received from the Society's Corresponding Member, the Rev. R. T. Lowe:—

"The Rev. R. T. Lowe has the pleasure of adding to the Society's collection a fine specimen of a new *Zeus* (*Zeus conchifer*, Lowe) of the greatest rarity; the present being the second example only which has hitherto occurred."

The specimen was exhibited to the Meeting.

"On the genus *Anous*, Leach (*Megalopterus*, Boie)." By John Gould, Esq., F.R.S. &c.

There is no family of birds more generally diffused over the globe than the Terns, and certainly no group of the Natatorial Order less understood, or which would more amply reward the studious investigation of the scientific ornithologist. The present short paper is limited to some species of the genus *Anous*, for the purpose of describing three or four new ones, rather than aiming at anything like a complete monograph of even this little group. It will not, however, detract from the interest of the paper if I give a list of the species with which I am familiar, and reserve to some future time the completion of the subject. Upon the present occasion I shall exhibit five well-defined species; a sixth, of which I am not aware that an example exists in the museums of this country, is figured in the 'Planches Coloriées' of M. Temminck. They are—

1. Anous stolidus: *Sterna stolida*, Linn.; *Gavia fusca*, Brehm; *Anous niger*, Steph.

2. Anous leucocapillus, nov. sp. *A. vertice et nuchâ albis; loris, et partibus circumocularibus, intensè nigris; omni inferiore corpore alisque fuliginosis, necnon occipite, dorso, et caudâ, sed cinereo tinctis.*

Crown of the head and nape of the neck white; lores and space surrounding the eye deep black; near the posterior angle of the upper and lower eyelids a small patch of white; breast, all the under surface and the wings deep sooty black; back of the neck, back and tail the same, slightly tinged with ash; bill black; feet brownish black.

Total length, 14 inches; bill, $2\frac{1}{4}$; wing, 9; tail, 5; tarsi, $\frac{7}{8}$; middle toe and nail, $1\frac{1}{2}$.

Hab. North coasts of Australia.

3. Anous melanops, nov. sp. *A. vertice et nuchâ pallidè cinereis; dorso saturatè griseo; maculâ ante oculum, alterâque minore post oculum intensè nigris.*

Crown of the head and back of the neck light ash-colour, passing into deep grey on the mantle and back; immediately before the eyes a large patch, and behind a smaller one, of jet-black; posterior half of the lower and a smaller space on the upper lash snow-white; throat, fore-part of the neck and all the under surface deep sooty black; wings and all the upper surface of the same colour, but rather browner; bill black; tarsi and toes brownish black.

Total length, 12 to 13 inches; bill, $2\frac{1}{4}$; wing, $8\frac{3}{4}$; tail, 5; tarsi, $\frac{7}{8}$; middle toe and nail, $1\frac{1}{2}$.

Hab. Very abundant during the breeding season on the Houtman's Abrolhos, off the western coast of Australia.

Remark.—This species, although very nearly allied to, is distinct from the *Anous tenuirostris* (*Sterna tenuirostris*, Temm.) of Western Africa, from which it may at once be distinguished by the black marks before and behind the eye, of which no trace is represented in M. Temminck's figure in the 'Planches Coloriées'; neither is this conspicuous mark alluded to in his description. It is just possible that this may be the species described by M. de la Fresnaye in Guerin's Magazine, under the generic name of *Procellosterna*.

4. Anous tenuirostris: *Sterna tenuirostris*, Temm. Pl. Col. 202.

5. Anous cinereus, nov. sp. *A. capite, collo, et corpore inferiore argentato-albis; parvâ plumarum lineâ oculum circumeunte nigrâ ad rostrum, ad nucham albâ; dorso, alis, caudâque lætè griseis; secondariis ad apices albis.*

Head, neck and all the under surface silvery greyish white; round the eye a narrow ring of feathers, the anterior half of which is deep black and the posterior half white; back, wings and tail light grey; secondaries tipped with white; bill black; tarsi and toes brownish black; interdigital membrane yellowish.

Total length, 11 inches; bill, $1\frac{1}{2}$; wing, 8; tail, 5; tarsi, $1\frac{1}{8}$; middle toe and nail, $1\frac{3}{8}$.

Hab. The north-eastern coasts of Australia.

Syn. *Pelecanopus pelecanoides*, Brit. Mus. Coll. Part iii. p. 180.

6. Anous parvulus. *A. toto corpore cinereo-griseis; parvo plumarum annulo oculum cingente, parte anteriore nigrâ, posteriore albâ.*

The whole of the plumage ashy grey, being somewhat lighter on the head and neck than on the other parts of the plumage; round the eye a narrow ring of feathers, the anterior half of which is black and the posterior half white; bill black; tarsi and toes brown.

Total length, $9\frac{1}{2}$ inches; bill, $1\frac{1}{4}$; wing, $6\frac{1}{2}$; tail, $4\frac{1}{4}$; tarsi, $\frac{7}{8}$; middle toe and nail, $1\frac{1}{4}$.

A single specimen forms part of the collection of the Zoological Society, to whom it was presented by F. Debell Bennett, Esq., who procured it at Christmas Island, in the South Seas. It may be distinguished from all the other species by its small size and delicately-formed bill.

Mr. Gould then exhibited two new birds from New South Wales:

Podargus plumiferus. *Pod. plumis nares tegentibus, quæ sunt in cristæ formam erectæ, nigro-fusco et albo alternatim fasciatis; mediâ gulâ et pectore brunneo-albis, fusco minutè maculatis, nec aliter colli pectorisque lateribus, nec corpore subtùs, nisi singulis plumis lineâ saturatè fuscâ in medio, et duabus maculis quadratis ad apicem, ornatis.*

Feathers covering the nostrils, which are erected into a tuft, alternately banded with blackish brown and white; all the upper surface mottled brown, black and brownish white, the latter predominating over each eye, where it forms a conspicuous patch; the markings are of a similar but of a larger kind on the wings, and on the primaries

and secondaries assume the form of bars; tail similar but paler, and with the barred form of the markings still more distinct; centre of the throat and chest brownish white, minutely freckled with brown; sides of the neck and breast and all the under surface similar, but with a dark line of brown down the centre and two large nearly square-shaped spots of brownish white near the tip of each feather; bill and feet horn-colour.

Total length, 20 inches; bill, $2\frac{3}{8}$; wing, $9\frac{1}{2}$; tail, 10; tarsi, 1.

In another specimen the markings are altogether of a much darker hue, particularly on the under surface, where the light markings are less distinct and more chestnut.

Hab. The brushes of the Clarence and MacLeay rivers of New South Wales.

Remark.—This species differs from all its Australian allies by the more lengthened form of the tail and the conspicuous tuft of feathers which spring from the fore-part of the head, and it is from this character the specific name has been taken.

PLATYCERCUS SPLENDIDUS. *Plat. capite, colli lateribus, et medio pectore, coccineis; genis albis; dorso inferiore, et tectricibus caudæ superioribus pallidè viridibus; lateribus pectoris, et abdomine splendidè flavis; crisso pallidè viridi.*

Head, sides of the neck and centre of the breast scarlet; cheeks white, faintly tinged with blue; feathers of the back and scapularies black, broadly margined with gamboge-yellow; lower part of the back and upper tail-coverts pale green; on the shoulder a patch of black; wing-coverts pale blue; primaries black, with the exception of the basal portion of the external web, which is rich deep blue; two central tail-feathers dark green at the base, passing into deep blue on the apical half of the external web, and tipped with black; the next on each side is black on the internal web, green at the base of the external web, blue for the remainder of its length, and slightly tipped with white; the remainder of the tail-feathers are deep blue at the base of the external, and black at the base of the internal web, the remaining portion of both webs being pale delicate blue, passing into white at the tip; sides of the breast and the abdomen bright gamboge-yellow; vent pale green in some, in others pale bluish green; under tail-coverts scarlet; irides dark brown; bill horn-colour; feet mealy brown.

Total length, 12 inches; bill, $\frac{5}{8}$; wing, 6; tail, 7; tarsi, $\frac{3}{4}$.

Another specimen, probably immature, has the general colour similar, but has the head and breast pale yellow, interspersed with scarlet feathers.

Hab. Darling Downs, New South Wales.

Remark.—Very nearly allied to, but a more beautiful species than, the *Platycercus eximius*, from which it differs in the extent of the scarlet on the breast, which in this species merely occupies the centre, while in the former it forms a broad band across the breast; the rump also is of a paler green.

"A Description of new species of *Ostreæ*, in the collection of H. Cuming, Esq.," by Sylvanus Hanley, Esq., was then read:—

Ostrea Chemnitzii. *Ost. testâ obovali, plerumque sinistrorsâ, valdè compressâ, solidâ, nitidâ, luteâ aut sordidè rubro-purpurascente, subtuberosâ, nonnunquam paululùm subvesiculosâ, nullis lamellis asperatâ; margine plicato, intusque persæpe scabro; plicis plerumque parvis; superficie internâ albido-virescente; cicatrice satis magnâ, subreniformi.* Long. 3 poll.

Hab. China? Mus. Cuming, Hanley, &c.

A species which is closely allied to *rosacea*, with a peculiar resinous gloss, and invariably attached by the entire surface of the lower valve. The colour varies from dirty yellow to dull reddish purple. The apices are not much attenuated. The figure 994 of Chemnitz is a fair representation.

Ostrea lacerata. *Ost. testâ elongatâ, solidiusculâ, valdè inæquivalvi, haud lamellosâ, ad nates acutas angustatâ, ad latera basimque laceratâ; valvulâ superiore planulatâ, sublævigatâ, aut lutescente radiis sordidè rubro-purpureis ornatâ, aut rubro-purpureâ radiis duobus centralibus nigrescentibus aream angustam albidam includentibus; valvulâ inferiore profundâ, radiis latis atropurpureis strigatâ, costisque raris subangulatis armatâ; superficie internâ albidâ, submargaritaceâ; cardine denticulis nullis munito.* Long. 2 poll.

Hab. Senegal? Mus. Petit, Cuming.

Not unlike *parasitica*, but distinguishable by its claw-like lateral projections. I have never met with any valves attached by the entire surface. The dull crimson specimens, adorned with two central dusky rays, which usually enclose a narrow space of yellowish white, are peculiarly beautiful.

Ostrea multistriata. *Ost. testâ suborbiculari, compressâ, æquivalvi, solidiusculâ aut subtenui, vix lamellosâ, brunneo-rufescente, confertissimè radiatim rugosâ; superficie internâ valvulæ superioris niveâ, purpureo marginatâ; inferioris disco centrali rufo pulcherrimè tinctâ; cardine dentibus validis munito; natibus haud eminentibus; cicatrice satis magnâ.* Long. 3·3 poll.

Mus. Saul, Cuming, Hanley.

The lower valves were attached by their entire surfaces to a ship returning from the coast of Africa.

Ostrea Megodon. *Ost. testâ falcatâ, glabrâ, solidâ, subæquivalvi, pallidè livido-purpurascente, margines versùs plicatâ; plicis anticis 5 aut 6, maximis, subangulatis; posticis minimis, angulatis, paucis, subobsoletis; margine valdè plicato, intusque magis minusve scabro; natibus incurvatis; superficie internâ albo-virescente, nunquam margaritaceâ; cicatrice satis magnâ, reniformi.* Long. 5 poll.

Hab. Peru (Cuming). Mus. Cuming.

A rare and extraordinary species, which bears not the slightest resemblance to any of the recent *Ostreæ*. The narrow sickle-shaped contour and the gigantic marginal tooth-like folds form its most distinctive characteristics. The adult specimens are attached by their apices only.

Ostrea Pes-tigris. *Ost. testâ ovali, aut ovali-subtrigonâ, solidâ,*

concolore, atro-purpureo aut rubro-purpurascente, undique sublamellosâ, ad margines densè plicatâ; lamellis imbricatis, confertis, depressis; plicis regularibus, rotundatis; valvis in longitudine paribus; inferiore profundâ, superiore planulatâ atque in costas planas sulcis latis remotis radiatim divisâ; superficie internâ albidâ, margine interno denticulato; denticulis elongatis; cicatrice satis magnâ, obovali aut suborbiculari. Long. 2 poll.

Hab. Isle of Luzon; on rocks (Cuming). Mus. Cuming, Walton.

In typical specimens the shell is subtriangular, from the anterior side sloping in a produced and straightish line, abruptly from the beaks. The sculpture is both elegant and peculiar, the extremely depressed ribs being divided by rather broad grooves, and assuming a scalloped appearance at their edges, from the crowded sublamellar imbrications which cover the entire surface.

Ostrea bicolor. *Ost. testâ obovatâ, nunquam elongatâ, subtenui aut solidiusculâ, subcompressâ, vix lamellosâ, purpureo-fuscescente radio uno vel radiis duobus albidis ornatâ; margine simplici; natibus subacutis; superficie internâ, albidâ colore externo marginatâ; cardine denticulis nullis munito.* Long. 2½ poll.

Hab. Senegal? Mus. Cuming, Hanley.

As the few specimens I have yet examined of this elegant species have been attached by the entire surface to the sheathing of vessels, I am unable to describe the characteristics of the lower valve. The lamellæ, when existing, are flattened, so that the shell presents a smooth surface, and appears inclined to expand laterally whenever unobstructed in its growth by adjacent substances.

Ostrea Columbiensis. *Ost. testâ subinæquivalvi, subtenui, lamellosâ, albidâ, purpureo radiatâ, subcompressâ; valvulâ inferiore magis convexâ; superficie internâ albidâ, submargaritaceâ; cardine denticulis nullis munito; cicatrice satis magnâ, reniformi.* Long. 2 poll.

Hab. St. Elena, West Columbia, adhering to rocks at half-tide (Cuming). Mus. Cuming.

All the specimens I have seen are attached by the entire surface of the lower valve. The shape varies from oblong to suborbicular, and the valves are of equal length, but the shelly substance of the shallow upper valve fits into the lower one, and is only continued to the margin by the lamellæ, which, when the habitat permits, branch nto wavy foliations.

Ostrea Callichroa. *Ost. testâ obovatâ aut suborbiculari, solidiusculâ, subæquivalvi; valvulâ superiore purpureo alboque lutescente radiatâ, concentricè lamellosâ; lamellis depressis; valvulâ inferiore magis minusve purpureo tinctâ, costisque radiantibus subobtusis densè armatâ; superficie internâ, albâ; margine simplici; cardine denticulis distinctis munito.* Long. 2 poll.

Hab. Island of Chiloe, adhering to stones at low-water mark (Cuming). Mus. Cuming.

The general appearance is that of our edible oyster, but the colouring is magnificent.

October 28, 1845.

George Gulliver, Esq., F.R.S., in the Chair.

A paper was read containing "Descriptions of new species of Shells," by Lovell Reeve:—

Genus Murex.

Murex maculatus. *Mur. testâ ovatâ, subpyramidali, anfractibus brevibus, tuberculato-varicosis, varicibus interstitiisque subtiliter liratis, liris, lirarum interstitiis quoque pulcherrimè fimbriato-cancellatis; albidâ, maculâ rubido-fuscâ inter varices conspicuè tinctâ; columellâ et aperturæ fauce pallidè rosaceâ; canali breviusculo, recurvo.*

Hab. ——?

The whorls of this species are strongly tubercled by the varices, which are very delicately cancellately ridged across.

Murex rusticus. *Mur. testâ ovatâ, spirâ acuminato-turritâ, anfractibus medio tumidis, transversim subobscurè liratis, tuberculato-varicosis, varicibus frondosis, frondibus brevibus, interstitiis minutissimè squamatis; lutescente-albâ, varicibus nigricante-fuscis; aperturâ parvâ, limbo producto; canali breviusculo.*

Hab. ——?

A rather solid shell, with an elevated tubercled spire.

Murex turritus. *Mur. testâ trigono-ovatâ, liris convexis subnodosis irregularibus confertis undique cingulatâ, tuberculo unico inter varices, trifariam varicosâ, varicibus peculiariter laminato-frondosis, frondibus erectis, lateraliter convexis; lutescente livido-olivaceo hic illic saturatiore tinctâ.*

Hab. North Australia; Ince, R.N.

The entire surface of this interesting new species is encircled with very close-set convex ridges, each terminating on the varices in an erect frond, connected together at the side so as to form a continuous laminated frill extending from the suture to the base. From Mr. Cuming's collection.

Murex crocatus. *Mur. testâ trigono-fusiformi, transversim liratâ, liris parvis, granoso-squamatis, tuberculo inter varices; trivaricosâ, varicibus frondosis, frondibus obtuso-ramosis; canali subelongato, frondoso, fuscescente, frondibus rubido-crocatis.*

Hab. ——?

An olive-brown shell, with varices of a bright saffron colour. From Mr. Norris's collection.

Murex pudoricolor. *Mur. testâ abbreviato-fusiformi, obliquè*

trigonâ, transversim liratâ, liris singulis tuberculis duobus, basim versus evanidis, inter varices, lineâ minutâ elevatâ inter liras; trivaricosâ, varicibus rotundatis, prominentibus, squamis frondibusque prototomis basim versus præcipuè, pulcherrimè ornatis; eximiè rubente.

Hab. Island of St. Thomas, West Indies.

An interesting blush-coloured shell, received from M. Grüner of Bremen, of which I have since observed specimens in the British Museum from the island of St. Vincent.

Murex Pleurotomoides. *Mur. testâ pyriformi-ovatâ, anfractibus supernè depressis, transversim liratis et minutissimè crispato-squamatis, multifariam varicosis, varicibus muricato-squamatis; canali subelongato, patulo; columellâ labroque intus dentatis, labro supernè sinuato; albidâ aut flavicante.*

Hab. ——?

A small pyriform prickly shell, having a sinus in the upper part of the lip, after the manner of a *Pleurotoma.*

Murex pistachia. *Mur. testâ ovatâ, subfusiformi, solidiusculâ, anfractibus rotundatis, sulco subobsoleto prope suturam cinctis, transversim crebriliratis, longitudinaliter subobliquè unduloso-varicosis, varicibus obtusis; castaneo-fuscescente, columellâ et aperturæ fauce subrosaceis; canali brevi.*

Hab. ——?

A small chestnut-brown shell, quite distinct from any hitherto described.

Murex eurypteron. *Mur. testâ ovato-oblongâ, basim versus contractâ, spirâ breviusculâ, acuminato-turritâ, suturis subexcavatis; anfractibus supernè depressis, transversim obscurè obtuso-liratis et punctato-striatis, tuberculo superficiario inter varices; trivaricosâ, varicibus tenuibus, erecto-alatis, ultimo latissimè expanso, supernè falcato-recurvo; aperturâ parvâ, ovatâ; canali breviusculo.*

Hab. Japan?

For this new and remarkable shell I am indebted to the kindness of the Rev. W. R. Crotch, whose manuscript name *eurypteron*, from εὐρὺς, *widely extended*, and πτερὸν, *wing*, I feel great pleasure in adopting, as being peculiarly expressive of its curious alate growth. It approaches nearest to the *Murex falcatus*, but in that species there are five varices on a whorl, whilst in this there are but three, and the winged expansions of the *Murex falcatus* are folded over at the superior margin. The specimen above described, and which is, I believe, unique, was received from Holland, and is supposed to have come from Japan.

Genus Pleurotoma.

Pleurotoma rosacea. *Pleur. testâ ovato-turritâ, anfractibus rotundatis, supernè depresso-concavis, transversim subtiliter striatis,*

longitudinaliter crebricostatis; canali brevissimo; sinu lato, subamplo; undique eximiè rosaceâ.
Hab. —— ?

Pleurotoma bætica. *Pleur. testâ turritâ, anfractibus supernè depresso-concavis, transversim elevato-striatis, obliquè costatis, costis plicato-nodulosis; canali brevissimo; sinu lato, amplo; bæticâ.*
Hab. —— ?

Pleurotoma obliqui-costata. *Pleur. testâ ovato-oblongâ, longitudinaliter costatâ, costis angustis, obliquis, subundatis, supernè obtusè mucronatis; canali brevissimo; albidâ, rubido-fusco parcè maculatâ et variegatâ.*
Hab. —— ?

Pleurotoma fucata. *Pleur. testâ ovatâ, crassiusculâ, anfractibus supernè depressiusculis, longitudinaliter costellatis, costellis subobtusis, striis transversis elevatis subobsoletis cancellatis, anfractu ultimo tuberculo gibboso munito; canali brevissimo; labro supernè subsinuato; albâ, croceo-fuscescente fasciatâ et variegatâ.*
Hab. —— ?

Pleurotoma implicata. *Pleur. testâ pyramidali-turritâ, anfractibus supernè peculiariter depressis, infra seriatim nodosis, nodulorum serie supremâ transversim biliratâ; canali brevissimo; aperturâ brevi; albidâ, epidermide corneâ olivaceâ undique indutâ.*
Hab. —— ?

Pleurotoma rubrifasciata. *Pleur. testâ abbreviato-fusiformi, anfractibus supernè concavis, lævibus, infra transversim striatis, et pulcherrimè crebrinodulosis, nodulis supremis, longitudinaliter confluentibus; canali subelongato; flavescente, rubro cinereoque fasciatâ.*
Hab. —— ?

Pleurotoma sacerdos. *Pleur. testâ subfusiformi, utrinque attenuatâ, crassâ; anfractibus supernè valdè depresso-concavis, subangulatis, tuberculis transversim compressis ad angulum cingulatis, infra seriatim nodulosis; canali breviusculo; carneo-albidâ, flammis maculisque purpureo-rufis variegatâ, anfractuum parte superiori cinereo tinctâ.*
Hab. —— ?

Pleurotoma crocata. *Pleur. testâ pyramidali-oblongâ, transversim elevato-striatâ, longitudinaliter costatâ, anfractu ultimo tuberculo parvo gibboso munito; canali brevissimo; aperturâ brevi; sinu lato, amplo; albidâ, epidermide croceo-olivaceâ indutâ.*
Hab. —— ?

Pleurotoma obeliscus. *Pleur. testâ pyramidali-ovatâ, anfractibus supernè concavis, infra nodosis, anfractûs ultimi parte inferiori granoso-liratâ; canali brevi; sinu amplo; albidâ, epidermide flavescente-olivaceâ undique indutâ.*
Hab. —— ?

Pleurotoma armillata. *Pleur. testâ pyramidali-ovatâ, subfusiformi, anfractibus spiraliter carinatis, cariná medianá gemmulatá, gemmulis transversis, canali breviusculo, sinu amplo, profundo; albidá, anfractibus supra carinam gemmulatam fuscescentibus.*
Hab. Philippine Islands; Cuming.

Pleurotoma aquatilis. *Pleur. testâ ovato-turritâ, solidâ, spirâ acuminatâ, anfractibus lævibus, supernè depressis, obliquè plicato-tuberculatis; canali brevissimo, sinu amplo; eburneâ, lineis plurimis subtilissimis undulatis, pallidissimè corneo-fuscescentibus, fasciatim pictâ.*
Hab. ——?

Pleurotoma flavescens. *Pleur. testâ ovato-turritâ, anfractibus supernè valdè concavis, infra transversim striatis, nodosis, nodis subirregulariter costellæformè confluentibus; canali brevissimo; flavescente-olivaceâ.*
Hab. ——?

Pleurotoma fragilis. *Pleur. testâ ovatâ, ventricosâ, tenui, fragili, translucidâ, anfractu ultimo valdè maximo; lineis subtilibus elevatis undique creberrimè reticulatâ quarum transversæ fortiores; apertura amplâ, sinuatâ; columellâ basique truncatis, lucido-albâ.*
Hab. ——?

Pleurotoma pulchella. *Pleur. testâ ovato-turritâ, anfractibus supernè depressis, medio plicato-tuberculatis, tuberculis angustis, confluentibus, anfractu ultimo tuberculo gibboso munito; canali brevissimo, sinu amplo; vividè rosaceâ, fasciâ lineâque castaneis, spiraliter cingulatâ.*
Hab. ——?

Pleurotoma punctata. *Pleur. testâ fusiformi, anfractibus supernè valdè depressis, lævigatis, cariná parvá prope suturam medio nodosis, infra granulatis; canali longiusculo; sinu latiusculo; albidâ, rubido-fusco punctatâ, præcipuè super carinam et inter nodos.*
Hab. ——?

Pleurotoma lanceolata. *Pleur. testâ lanceolatâ, anfractibus supernè concavis, tuberculis obliquis plus minusve obsoletis medio ornatis, lævibus, anfractu ultimo minutissimè granulato; canali breviusculo; aurantio-fuscescente, tuberculis albidis.*
Hab. ——?

Pleurotoma sacra. *Pleur. testâ ovatâ, solidiusculâ, basim versus subgibbosâ; anfractibus supernè depressis nodulorum serie unicâ prope suturam infra longitudinaliter granoso-costatis, transversim minutè liratis; canali brevissimo, sinu lato; albidâ, anfractu ultimo fasciâ pallidè fuscescente cingulatâ.*
Hab. ——?

Pleurotoma rubinicolor. *Pleur. testâ ovatâ, subventricosâ, an-*

fractibus supernè angulato-depressis, ad angulum obtuso-nodosis, nodis subplicato-confluentibus, lævibus, ultimo basim versus obsoletè striato; canali brevissimo; aurantio-rufá, nodis per angulum niveis.
Hab. —— ?

Pleurotoma nux. *Pleur. testá ovatá, subpyramidali, anfractibus convexis, supernè leviter concavis, ultimo subgibboso; canali brevissimo truncato; sinu latiusculo; rubido-castaneá, columellá et aperturæ fauce albis.*
Hab. Cape of Good Hope.

Pleurotoma clara. *Pleur. testá pyramidali, subelongatá, anfractibus obliquè plicato-nodosis, lævibus; canali brevissimo; sinu amplo; purpureo-fuscá, anfractuum parte superiori albá.*
Hab. —— ?

Pleurotoma castanea. *Pleur. testá subelongato-turritá, anfractibus supernè concavis, medio plicato-nodosis; lævigatá, basi subtiliter sulcatá; canali brevissimo; castaneo-fuscá.*
Hab. —— ?

Pleurotoma vidua. *Pleur. testá subobeso-ovatá, spirá acuminatá, anfractibus supernè depressis, medio plicato-nodosis, nodis crebris, longitudinaliter confluentibus, lævigatá, basim versus granosá; canali brevissimo; anfractuum parte superiori niveá, inferiori olivaceo-nigricante, granis albis.*
Hab. Island of Masbate, Philippines (under stones at low water); Cuming.

Pleurotoma palliata. *Pleur. testá ovato-oblongá, anfractibus convexiusculis, transversim subtilissimè crebristriatis, granulorum serie unicá cingulatis, granulis conspicuis, elevatiusculis; canali brevissimo; albidá, epidermide pallidè fulvá undique indutá.*
Hab. —— ?

Pleurotoma exarata. *Pleur. testá pyramidali, anfractibus transversim granoso-striatis, medio leviter angulatis, ad angulum minutè nodulosis, inter nodulos longitudinaliter exaratos; canali brevissimo, truncato; sinu amplo, pallidè fulvo, sulcis longitudinalibus fusco-punctatis.*
Hab. —— ?

Pleurotoma vittata. *Pleur. testá abbreviato-ovatá, solidá, gibbosá, spirá subacuminatá, anfractibus supernè depressis, medio plicato-tuberculatis, infra granulatis; labro incrassato, sinu latiusculo; albidá, vittá fasciáve lutescente-fuscá conspicuá supra tubercula ornatá.*
Hab. —— ?

Pleurotoma olyra. *Pleur. testá cylindraceo-ovatá, tenui, subpellucidá, spirá brevi; lævigatá aut obsoletè striatá; aperturá longiusculá; canali brevissimo, truncato; niveá, apice roseo.*
Hab. —— ?

Pleurotoma subula. *Pleur. testâ acuminato-attenuatâ, striis elevatis transversis et longitudinalibus creberrimè reticulatâ, carinâ plano-obtusâ prope suturam; canali breviusculo, sinu distincto; albidâ, maculis parvis pallidè aurantio-fuscis juxta suturam.*

Hab. Island of Corrigidor, Philippines (found among coarse sand at the depth of seven fathoms); Cuming.

Pleurotoma aureola. *Pleur. testâ acuminato-elongatâ, tenui, semipellucidâ, transversim liratâ, liris parvis, obtusis, longitudinaliter subtilissimè crebristriatâ; canali brevi, labro intus crenulato, sinu parvo, distincto; aureolâ.*

Hab. Island of Luzon, Philippines; Cuming.

Pleurotoma saturata. *Pleur. testâ pyramidali-acuminatâ, infernè subcontractâ, anfractibus striis transversis et longitudinalibus creberrimè granoso-reticulatis; canali breviusculo; labro subtiliter crenulato, sinu distincto; intus extusque fuscâ, fasciis albis longitudinalibus subdistantibus, fasciâ unicâ transversâ in anfractu ultimo ornatâ.*

Hab. Island of Corrigidor, Philippines (found among coarse sand at the depth of seven fathoms); Cuming.

Pleurotoma igniflua. *Pleur. testâ ovato-oblongâ, transversim creberrimè elevato-striatâ, longitudinaliter costis latiusculis approximatis, apicem versus conspicuis, basim versus obsoletis; canali brevi; labro intus crenulato, sinu superficiario; albidâ, flammis fulvo-aurantiis undato-fluentibus ornatâ.*

Hab. ——?

Pleurotoma patula. *Pleur. testâ ovato-oblongâ, infernè ventricosâ, subobliquâ, anfractibus tenuibus, transversim subtilissimè et creberrimè striatis; canali brevissimo, truncato; labro simplici, sinu profundo, aperturâ amplâ; albidâ, flammis fulvo-aurantiis, undatis, longitudinaliter fluentibus ornatâ.*

Hab. Bolinao, island of Luzon, Philippines (found under stones at low water); Cuming.

Pleurotoma putillus. *Pleur. testâ ovatâ, spirâ pyramidali-acuminatâ, anfractibus transversim subtiliter striatis, supernè concavis, infra nodosis, nodis longitudinaliter obliquè confluentibus; canali breviusculo; labro simplici, sinu lato; flavicante-albidâ, lineâ undulatâ fulvo-aurantiâ inter nodos fluente.*

Hab. Calipan, island of Mindoro, Philippines (found among coarse sand at the depth of fifteen fathoms); Cuming.

Pleurotoma spectrum. *Pleur. testâ fusiformi, transversim elevato-striatâ, anfractibus rotundatis, longitudinaliter fortiter obliquè plicato-nodosis, nodis in anfractu ultimo evanidè confluentibus; canali brevi; labro simplici; niveâ, nodis pallidè rufescente-fuscis.*

Hab. Puerto Galero, island of Mindoro, Philippines (found among coral sand at the depth of about nine fathoms); Cuming.

Pleurotoma bilineata. *Pleur. testâ ovato-oblongâ, subpyrami-*

dali, anfractibus medio tumidis, uniseriatim plicato-nodosis, nodis angustis compressiusculis, anfractûs ultimi dorso callositate munito; canali brevissimo, labro simplici, sinu amplo; incarnato-fuscescente, lineis duabus saturatioribus, quarum superior multo subtilior inter nodos cingulata.

Hab. Islands of Capul and Mindoro, Philippines (found on the reefs and among coarse sand at the depth of fifteen fathoms); Cuming.

Pleurotoma Metcalfiana. *Pleur. testâ ovatâ, crassiusculâ, transversim creberrimè elevato-striatâ, longitudinaliter apicem versus subobsoletè sulcatâ; albâ, maculis rufo-fuscis subquadratis fasciatim pictâ; canali brevi.*

Hab. —— ?

Pleurotoma Grayi. *Pleur. testâ ovatâ, subventricosâ, anfractibus supernè angulatis, longitudinaliter obtuso-costatis, transversim creberrimè sulcatis; canali brevi; labro incrassato, sinu amplo; castaneo-fuscâ.*

Hab. —— ?

Pleurotoma luteo-fasciata. *Pleur. testâ subovato-oblongâ, anfractibus prope suturam impressis, longitudinaliter fortiter costatis, costis crebris, obtusis; canali brevissimo; albâ, fasciis luteis pulcherrimè ornatâ.*

Hab. —— ?

Pleurotoma pagodus. *Pleur. testâ pyramidali, anfractibus supernè depressis, subangulatis, ad angulum costatis, costis brevibus, confertis, lineis elevatis decussatis; cinereo-rufescente, maculis rubidis inter costas, columellâ labroque rubido tinctis; canali brevi.*

Hab. —— ?

Pleurotoma urnula. *Pleur. testâ ovatâ, ventricosâ, spirâ breviusculâ, longitudinaliter costatâ, transversim elevato-striatâ; castaneo-fuscâ; canali breviusculo, aperto.*

Hab. —— ?

Pleurotoma Forthiensis. *Pleur. testâ pyramidali-oblongâ, anfractibus supernè subangulatis, longitudinaliter obliquè costatis; basi truncatâ; albidâ.*

Hab. Frith of Forth; Gray.

Pleurotoma reflexa. *Pleur. testâ ovatâ, Tritoniformi, concentricè costatâ, transversim fortiter liratâ; aperturâ longiusculâ sinuosâ, labro reflexo, intus denticulato.*

Hab. —— ?

Pleurotoma quadrata. *Pleur. testâ ovatâ, spirâ turritâ, anfractibus fortiter angulatis, longitudinaliter costatis, costis ad angulum mucronatis, infra striis duabus elevatis cingulatis, anfractûs ultimi parte inferiori lirâ mucronatâ clathratâ; flavicante, costarum interstitiis rufo-castaneis; sinu parvo.*

Hab. —— ?

Pleurotoma parvula. *Pleur. testâ fusiformi-ovatâ, anfractibus tumidiusculis, longitudinaliter costatis, transversim creberrimè liratis; canali breviusculo; lutescente.*
Hab. —— ?

Pleurotoma pseudo-carinata. *Pleur. testâ ovatâ, subpyramidali, anfractibus supernè concavis, subindistinctè carinatis, infra confertim plicato-costatis, transversim crebrisulcatis; basi truncatâ; flavescente.*
Hab. —— ?

Pleurotoma languida. *Pleur. testâ gracili-fusiformi, longitudinaliter noduloso-costatâ, transversim elevato-striatâ, costis striisque subdistantibus; sinu amplo; albâ, rufescente-fusco tinctâ.*
Hab. —— ?

Pleurotoma puncticincta. *Pleur. testâ ovatâ, spirâ breviusculâ, longitudinaliter subobscurè plicatâ, interstitiis minutissimè striatis; sinu subamplo; albidâ, cingulâ unicâ punctatâ spiraliter ornatâ.*
Hab. —— ?

Pleurotoma pyramidula. *Pleur. testâ subpyramidali-elongatâ, liris minutis longitudinalibus et transversis creberrimè clathratâ, suturis unicarinatis; aperturâ parvâ, sinu amplo; basi truncatâ; albidâ.*
Hab. —— ?

Pleurotoma æruginosa. *Pleur. testâ acuminato-turritâ, anfractibus longitudinaliter subobsoletè plicato-costatis, interstitiis minutissimè impresso-striatis; albidâ, suturis livido-viridescentibus, anfractûs ultimi parte inferiori livido-viridescente, punctis nigricantibus marginatâ, apice rufescente-fusco.*
Hab. —— ?

Pleurotoma obliquata. *Pleur. testâ ovatâ, subobesâ, spirâ acuminatâ, anfractibus medio angulato-tumidis, obliquè costatis, costis ad angulum nodosis; intus extusque flavido-fuscâ, zonâ pallidâ angustâ ad angulum cingulatâ.*
Hab. —— ?

Pleurotoma pellis-phocæ. *Pleur. testâ pyramidali, anfractibus convexis, longitudinaliter fortiter et creberrimè granulatis, transversim subsulcatis, aperturâ peculiariter parvâ, sinu indistincto.*
Hab. —— ?

Pleurotoma vexillum. *Pleur. testâ acuminato-elongatâ, longitudinaliter crebricostatâ, basi transversim liratâ; aperturâ parvâ, sinu amplo, albidâ, suturis et anfractûs ultimi parte inferiori fuscis.*
Hab. —— ?

Pleurotoma cardinalis. *Pleur. testâ pyramidali, spirâ acuminatâ, anfractibus longitudinaliter subtiliter plicatis, transversim minutissimè striatis; sinu lato, amplo; albidâ, fasciis violaceo-brunneis cingulatâ.*

Hab. Island of Negros, Philippines (found among sand at the depth of four fathoms); Cuming.

PLEUROTOMA ARATA. *Pleur. testâ pyramidali, suturis peculiariter excavatis, anfractibus lævibus angustis granulosis creberrimè cingulatis; aperturâ parvâ; albâ.*
Hab. ——?

PLEUROTOMA GUILDINGII. *Pleur. testâ pyramidali-oblongâ, anfractibus supernè depresso-concavis, infra obliquè nodoso-plicatis, transversim undique creberrimè striatis; intus extusque piceo-nigrâ.*
Hab. St. Vincent's, West Indies; Guilding.

PLEUROTOMA HYALINA. *Pleur. testâ elongato-acuminatâ, basi truncatâ, tenui, hyalinâ, longitudinaliter undique minutissimè et confertissimè elevato-striatâ; albidâ, lineis rufo-fuscis distantibus cingulatâ; labro simplici, sinu parvo.*
Hab. ——?

PLEUROTOMA TICAONICA. *Pleur. testâ oblongo-ovatâ, spirâ tereti, anfractibus subventricosis, transversim irregulariter liratis, lirarum interstitiis minutissimè clathratis; albidâ, aurantio-fusco hic illic flammatâ; sinu parvo.*
Hab. Island of Ticao, Philippines (found on the reefs); Cuming.

PLEUROTOMA FULVA. *Pleur. testâ oblongo-ovatâ, subturritâ, anfractibus longitudinaliter multicostatis, costis angustis, prominentibus; fulvâ.*
Hab. ——?

PLEUROTOMA CANTHARIS. *Pleur. testâ obtuso-ovatâ, crassâ, solidâ, lævigatâ, anfractibus medio obliquè nodoso-plicatis; sinu subamplo; nigricante-fuscâ, nodis albidis.*
Hab. Sibonga, island of Zebu, Philippines (found under stones at low water); Cuming.

PLEUROTOMA VULTUOSA. *Pleur. testâ ovatâ, anfractibus subrotundis, longitudinaliter obtusè costatis, transversim creberrimè liratis; labro intus denticulato, sinu amplo, lato; albicante, apice pallidè rosaceo.*
Hab. Baclayon, island of Bohol, Philippines (found under stones); Cuming.

PLEUROTOMA OPALUS. *Pleur. testâ oblongo-ovatâ, pentagonali, crassâ, lævigatâ, longitudinaliter costatâ, costis obliquè continuis, subnodosis, angustis, quasi vellicatis, interstitiis plano-concavis; aperturâ parvâ, sinu amplo, profundo; eburneâ, nitente, costarum interstitiis incarnato-fuscescentibus.*
Hab. Cagayan, province of Misamis, island of Mindanao, Philippines (found in sandy mud at the depth of twenty-five fathoms); Cuming.

PLEUROTOMA EBUR. *Pleur. testâ oblongo-ovatâ, pentagonali, crassâ,*

spirâ acuminatâ, longitudinaliter continuè costatâ, transversim striatâ, striis basim versus conspicuis; sinu amplo, profundo; eburneâ.
Hab. ——?

PLEUROTOMA ÆGROTA. *Pleur. testâ oblongo-ovatâ, tenuiculâ, subventricosâ, spiræ suturis profundis, striis impressis longitudinalibus et transversis undique decussatâ; aperturâ subelongatâ, amplâ; albicante.*
Hab. Singapore (found among fine sand at the depth of seven fathoms); Cuming.

PLEUROTOMA CONCENTRICOSTATA. *Pleur. testâ gracili-fusiformi, spirâ acuminatâ, anfractibus creberrimè concentricè costatis, suturis simplicibus; incarnato-fuscescente.*
Hab. ——?

PLEUROTOMA LIRATA. *Pleur. testâ subfusiformi, basi contractâ, transversim undique liratâ, columellâ excavatâ, callositate supernè munitâ, labro subeffuso, leviter incrassato, sinu lato, amplo, canali paululùm elongato; albidâ, labri margine intus rufescente.*
Hab. Islands of Luzon and Mindanao, Philippines (found in sandy mud at the depth of seven fathoms); Cuming.

PLEUROTOMA NEXA. *Pleur. testâ ovatâ, Tritoniformi, anfractibus subrotundatis, plicato-costatis, funiculis exilibus angustis, costas super leviter nodulosis, cingulatis; aperturâ subamplâ, labro planulato, sinu lato; canali brevissimo, recurvo; albâ, fusco undique tinctâ et fasciatâ, funiculis suturatioribus.*
Hab. Islands of Masbate and Luzon, Philippines (found under stones at low water); Cuming.

PLEUROTOMA INQUINATA. *Pleur. testâ acuminato-fusiformi, anfractibus transversim exiliter liratis, longitudinaliter creberrimè striatis; sinu profundo; albidâ, aurantio-fusco hic illic inquinatâ.*
Hab. Gindulman, island of Bohol, Philippines (found among coral sand at the depth of seven fathoms); Cuming.

PLEUROTOMA UNDATICOSTA. *Pleur. testâ fusiformi, anfractibus supernè leviter depressis, costis longitudinalibus undatis concentricè ornatâ; albidâ.*
Hab. ——?

PLEUROTOMA PAXILLUS. *Pleur. testâ abbreviato-ovatâ, spirâ apice acuminatâ; anfractibus supernè concavis, unicarinatis, medio creberrimè plicatis, plicarum interstitiis subtilissimè striatis, infernè liratis; sinu amplo; nigricante-fuscâ.*
Hab. ——?

PLEUROTOMA SORDIDA. *Pleur. testâ ovatâ, longitudinaliter subobliquè costatâ, costarum interstitiis elevatis clathratis; sordidè albâ.*
Hab. ——?

PLEUROTOMA PLURICARINATA. *Pleur. testâ subfusiformi-oblongâ,*

carinis plurimis acutis cingulatâ, quarum interstitia striis longitudinalibus cancellata; aperturâ oblongâ, sinu subamplo; canali leviter recurvo; lutescente, aurantio-fusco pallidè strigato-tinctâ.

Hab. Island of Burias, Philippines (found in sandy mud at the depth of seven fathoms); Cuming.

PLEUROTOMA COMPTA. *Pleur. testâ ovatâ, spirâ nodoso-turritâ, anfractibus supernè concavis, infra latè costatis, liris angustis transversim funiculatis; labro incrassato, intus denticulato, sinu amplo, lato; lutescente-albâ.*

Hab. Baclayon, island of Bohol, Philippines (found under stones at low water on the reefs); Cuming.

PLEUROTOMA HEXAGONALIS. *Pleur. testâ pyramidali-ovatâ, anfractibus costis sex continuis longitudinaliter ornatis; aperturâ parvâ, sinu distincto; fuscescente-albâ.*

Hab. Loay, island of Bohol, Philippines (found in sandy mud at the depth of seventeen fathoms); Cuming.

PLEUROTOMA ARCTATA. *Pleur. testâ pyramidali-elongatâ, anfractibus obliquè costatis, costis striis elevatis funiculatis; labro incrassato, peculiariter effuso, sinu amplo; sordidè albâ.*

Hab. Island of Corrigidor, Philippines (found among coarse sand at the depth of seven fathoms); Cuming.

PLEUROTOMA COCCINATA. *Pleur. testâ ovatâ, apicem versus acuminatâ, anfractibus lævigatis, supernè concavis, infra plicato-nodosis; basi truncatâ; albâ, inter nodos dorsumque coccinatâ.*

Hab. ——?

PLEUROTOMA VITREA. *Pleur. testâ cylindraceo-elongatâ, basi leviter contractâ, tenui, pellucidâ, vitreâ, lævigatâ, anfractibus supernè et infernè subtilissimè sulcatis; albidâ.*

Hab. Singapore and island of Mindanao, Philippines (found at depths of seven and twenty-five fathoms); Cuming.

PLEUROTOMA FORAMINATA. *Pleur. testâ fusiformi-ovatâ, liris angustis longitudinalibus et transversis creberrimè clathratis; lutescente.*

Hab. ——?

PLEUROTOMA EFFICTA. *Pleur. testâ ovatâ, spirâ breviusculâ, acuminatâ, longitudinaliter subconcentricè costatâ, costis striis elevatis cancellatis; aperturâ subamplâ, labro incrassato, sinu latiusculo.*

Hab. ——?

PLEUROTOMA CAVERNOSA. *Pleur. testâ oblongâ, spirâ angulato-turritâ, anfractibus supernè subangulatis, longitudinaliter costatis, costis distantibus, liris angustis elevatiusculis transversis clathratis, anfractu ultimo prope basim peculiariter cavernoso; fuscâ, liris costas super albicantibus.*

Hab. Philippine Islands; Cuming.

Pleurotoma Polynesiensis. *Pleur. testâ acuminato-turritâ, anfractibus parvis, rotundatis, longitudinaliter crebricostatis, transversim striatis; labro incrassato, sinu amplo; albicante.*
Hab. Lord Hood's Island; Cuming.

The following paper, entitled "Déscription de quelques nouvelles Nérites Fluviatiles, du cabinet de H. Cuming, Esq.," par C. A. Récluz, was then read:—

I. Neritæ subhemisphæricæ.

1. Nerita Rossmassleriana. *Ner. testâ subhemisphæricâ, convexâ, luteo-fulvâ, nigro-irregulariter reticulatâ; anfractu unico lævissimè perlongum striato; peritremate ovato-rotundato, basi obtusè anguloso; aperturâ croceâ; columellâ planissimâ, declivi, margine acuto, in medio subarcuato et obsoletissimè 3–4-denticulato.*
Hab. ——?
Alt. 10, lat. 18, convex. 10 mill.
Cette *Néritine* par son extérieur rappelle très bien la forme et la coloration extérieure de la *Nerita Sayana*, Récl., et par son ouverture la *Nerita Bruguiereana*, Récl. Ces deux circonstances peuvent servir à la faire distinguer de toutes les deux; mais c'est principalement par ses caractères spécifiques qu'il est aisé de la différencier. Nous la dédions au savant professeur et conchyliologue distingué, Mr. Rossmassler.

2. Nerita violacea, Gmelin; *Ner. crepidularia*, Lamk.
Var. *β. Testâ ellipticâ, luteo-pallidâ, violaceo-nigricante reticulatâ; aperturâ nigricante; peritremate continuo.*
Hab. ——? Cabinet de Mr. H. Cuming.

II. Serratæ.

A. *Globosæ.*

3. Nerita sobrina. *Ner. testâ globoso-ovatâ, lutescente, lineis nigris distantibus latiusculis undatis vel angulato-flexuosis fulgurantibusque pictâ; anfractibus tribus, ad suturam nigro-marginatis; spirâ semisphæricâ; columellâ convexiusculâ, supernè plus minusve callosâ, infernè compresso-subcanaliculatâ, margine rectâ, vix denticulatâ; labro semi-elliptico, intus incrassato.*
Hab. Cayenne?
Alt. 20, lat. 23, conv. 15 mill.
Nérite si voisine de la *Ner. zebra*, Bruguière, var. *major*, Encycl. Méth. pl. 455. fig. 3, *a. b*, que l'on serait tenté de la confondre avec cette espèce déjà si variable, si elle n'était plus solide, plus grande et à lignes colorantes plus larges, plus espacées et plus anguleuses. Sa suture noire comme sur cette dernière, sur la *Ner. lineolata*, Lamk., et sur la *Ner. reclivata*, Say, dont elle se rapproche aussi par la forme extérieure et les caractères de l'ouverture, sembleraient faire pencher vers sa fusion avec la *Ner. zebra*. Cependant comme nous

n'en connaissons que peu d'exemplaires, nous avons pensé qu'il ne serait pas inutile de la signaler ici. Ce sera seulement lorsqu'elle sera plus abondante qu'on pourra décider si elle doit rester indépendante de la première ou lui être réunie.

B. *Ovatæ vel ovato-oblongæ.*

4. Nerita Zelandica. *Ner. testâ ovato-oblongâ, ventricosâ, tenuiusculâ; anfractibus 3–4 supremis sæpiùs derosis, infimo subsuturâ horizontaliterque compresso; nigrâ lineis ravidis longitudinalibus angulato-flexuosis creberrimis pictâ, interdum lutescente supernè et infernè latè fasciatâ; columellâ subcompressâ, croceâ, margine denticulatâ et in medio vix arcuatâ; labro tenui, margine sordidè rubente, intus lacteo ac parùm incrassato.*

Hab. New Zealand: on stones in mountain-streams.

Alt. 19–20, lat. 18–19, conv. 12 mill.

Néritine intermédiaire entre la *Nerita turrita*, Chemnitz, et la *Nerita communis*, Quoy et Gaimard (*Neritina sinensis*, Beck, *ex fide propria*). Elle est toujours d'une texture plus mince que ces dernières, presque fragile, autrement colorée et constante dans ses caractères.

III. Spinosæ (*Clithon*, Montfort, Leach).

C. *Muticæ.*

5. Nerita solium. *Ner. testâ ovato-ventricosâ, olivaceâ, posticè maculis rufis triangularibus transversisque obsoletè pictâ; anfractibus 1½; infimo supra medium vix anguloso, supernè depresso; apice puncto excavato notato; aperturâ albâ, margine pallidè lutescente sive aurantiâ; columellâ plano-compressâ, supernè callosâ, margine rugosâ et in medio excavatâ.*

Hab. Bencoonet, isle of Sumatra; in a muddy stream.

Alt. 22, lat. 26½, convex. 18 mill.

Celle-ci a de l'affinité avec la *Nerita bicolor*, Récl.; elle est néanmoins plus transversale ou oblique, plus épaisse et pesante, et d'une coloration tout-à-fait différente.

6. Nerita celata. *Ner. testâ globoso-ovatâ, olivaceo-lutescente, posticè pallidiore, striis intensioribus longitudinalibusque pictâ; anfractibus 1½; infimo supra medium subanguloso; aperturâ albido-cærulescente pallido; columellâ plano-compressâ, supernè callosâ, margine denticulatâ, medio breviter ac rectè emarginatâ.*

Hab. ——?

Alt. 17, lat. 20½, convex. 14 mill.

Espèce intermédiaire entre la *Nerit. bicolor* et la *Ner. olivacea*, Récl.; elle a la coloration intérieure et presque l'extérieure de la première, si ce n'est qu'elle est brillante, et l'autre a un ton de couleur presque mat; elle n'a qu'un tour et demi, formant une spire basse: l'autre en a trois disposés en cône. Son sommet est entier tandis que sur la *Ner. bicolor*, ce sommet est toujours tronqué par rapport à sa corrodation; enfin l'échancrure de la maize columellaire toujours plus étroite, a un peu plus de profondeur. Sa forme générale la rapproche seulement de la *Ner. olivacea*.

7. Nerita Doingii. *Ner. testâ parvâ, globoso-ovatâ vel subglobosâ, parùm obliquâ, tenuiusculâ; anfractibus* $1\frac{1}{2}$–2 *obliquè rugulosis, transversim et sub lente creberrimè ac obsoletè striolatis; aperturâ viridulâ; columellâ ferè planâ, margine denticulatâ et in medio subarcuatâ; labro tenui, semicirculari.*

Var. α. *Testâ lineolis longitudinalibus undulatis nigris et luteis creberrimè pictâ.*

Var. β. *Testâ ut in var.* α, *et zonis lutescentibus plus minusve numerosis cinctâ.*

Hab. Hanover Bay, North Australia. Collected by Mr. T. E. Doing, R.N.

Alt. $9\frac{1}{3}$, lat. 10, convex. 7 mill.

Les stries longitudinales sont en forme déridés dans la moitié supérieure du dernier tour et s'affaiblissent sur l'autre moitié au fur et à mesure qu'elles avancent vers sa basse; les transversales sont très fines, pressées et ne se montrent complètement que sous la loupe.

8. Nerita Colombaria. *Ner. testâ ovato-globosâ, lævissimè striatâ; anfractu unico, rufescente, viridescente pallido obsoletè fasciatâ, maculis minimis luteis nigro seu roseo marginatis pictâ; columellâ callosâ, subconvexâ, denticulatâ, medio vix emarginatâ; labro anticè subtruncato, basi et intus incrassato.*

Operculo crasso, externè viridulo, lutescente pallido undato, medio perlongum striâ bipartito.

Var. β. *Testâ viridi-olivaceâ, striis luteis distantibus ornatâ, medio et infernè lutescente latè fasciatâ; fasciis nebulis rubris pictis.*

Hab. Colombo, Ceylon. Collected by Capt. Templeton.

Alt. 9–$10\frac{1}{2}$, lat. $10\frac{3}{4}$–11, convex. 7–8 mill.

Espèce bien distincte.

IV. Subauriculatæ.

9. Nerita Jordani, Butler, Sowerby, Conch. Illustr.

Var. α. *Major. Testâ ovatâ vel oblongâ, albidâ, lineis undulatis nigris, rubris, violaceisve pictâ; aperturâ obliquè semi-ovatâ; labro interdum supernè dilatato.*

Var. β. *Strangulata. Testâ minor, rotundatâ, ovatâ seu subconicâ, medio horizontaliter compressâ, ferè strangulatâ, albidâ lineis roseis rubrisve pictâ; spirâ sæpiùs obtusâ, interdum acutâ; labro supernè interdum dilatato.*

Var. γ. *Nitida. Testâ major, nigerrimâ, nitidissimâ.*

Var. δ. *Limosa. Testâ parvâ, sæpissime argillâ crasse obductâ, subtùs albidâ aut luteo-viridescente lineis nigris, violaceis, rubrisve undulatis pictâ, interdum omnino nigerrimâ sive lutescente.—Nerita lutescens,* Megerle?

Hab. La var. α. Le Jourdain; la var. β. Smyrne; la var. γ. La Syrie; la var. δ. Céphalonie.

Nous n'avons pu trouver des caractères propres à différencier toutes ces coquilles très variables dans la forme générale et la coloration; elles sont arrondies, ovales, oblongues ou en cône aigü; leur ouverture souvent semisphérique ou semiovale tend à s'étendre en

aîle vers la marge supérieure du labre. Leur opercule est le même. Nous avons acquis, sous le nom de *Ner. lutescens*, Megerle, une variété de cette espèce tantôt ovale transverse mince et noire, tantôt ovale selon l'axe longitudinal, plus forte et zébrée ; toutes les deux remarquables par un enduit argilleux, épais, dur, qui enveloppait leur test dans une épaisseur de 3 à 5 millimètres. Cette particularité que l'on remarque également sur la *Nerita domingensis*, Lamarck, et même sur certaines coquilles de la *Nerita fluviatilis*, Lamarck, vivant dans les mares, doit-elle être attribuée à l'état d'apathie de l'animal, dont le repos faciliterait les dépôts successifs du limon, ou bien serait-il un moyen employé par ces animaux pour se préserver de l'attaque de leurs ennemis, ou d'une trop grande chaleur ou d'un grand froid, selon les climats dans lesquels ils vivent ? Ce qu'il y a de certain c'est que beaucoup de ces coquilles ainsi recouvertes ont la spire généralement corrodée. Quelques observateurs ont cru remarquer, que la corrodation de la spire des coquilles fluviatiles habitant les eaux vives ou agitées était un fait dû à ce mouvement des eaux ; nous ne pensons pas que cette raison soit la seule, et il ne serait pas sans intérêt d'en étudier la cause, sur plusieurs parties de notre globe.

"Déscription d'une nouvelle espèce de *Conovulus*," par C. A. Récluz :—

Conovulus Cumingianus. *Con. testâ oblongo-acutâ, lævigatâ, nitidâ, castaneâ ; anfractibus* 10–12, *planis, angustis, ultimo supra medium obtusissimè carinato, carinâ zonâ lutescente cinctâ ; spirâ conico-acutâ ; aperturâ angustatâ ; columellâ obliquâ, triplicatâ, plicâ superiori parvulâ, secundâ majori, ab inferiori porrectâ sulco profundo disjunctâ ; labro acuto, fulvo, intus albo, subcalloso et sulcato ; umbilico nullo.*

Long. 16 mill, larg. 7 mill.

Hab. Isle of Negros : in a rivulet.

Rapportée par Mr. Cuming.

November 25, 1845.

William Horton Lloyd, Esq., in the Chair.

A paper was read containing "Descriptions of fourteen new species of *Helix*, belonging to the collection of H. Cuming, Esq.," by Dr. L. Pfeiffer:—

1. Helix albocincta, Pfr. *Hel. testâ umbilicatâ, orbiculato-convexâ, tenuiusculâ, supernè regulariter et confertim striatâ, sericinâ, fulvo-corneâ, carinatâ; spirâ depresso-conicâ, apice obtuso; anfractibus 5½ convexis, cariná albâ cinctis, ultimo basi sublævigato, lineis subtilibus, concentricis notato; umbilico mediocri, pervio; aperturâ obliquâ, angulato-lunari; peristomate simplice, acuto.*
Diam. 11, alt. 5 mill.
Collected by Mr. Cuming at Himamaylan, island of Negros.

2. Helix Boholensis, Pfr. *Hel. testâ imperforatâ, depressâ, lenticulari, acutè carinatâ, tenui, corneo-albidâ; spirâ convexiusculâ; anfractibus 7 planulatis, regulariter confertim striatis, juxta carinam lineis 2 acutè elevatis approximatis cinctis, ultimo basi convexiusculo, striatulo, medio vix impresso, anticè non descendente; aperturâ verticali, depressissimâ, latè angulato-lunari; peristomate simplice, acuto, margine supero brevissimo.*
Diam. 14, alt. 6 mill.
Var. *minor, anfractibus* 6½. Diam. 10, alt. 4 mill.
Collected by Mr. Cuming at Loboc, island of Bohol.

3. Helix cyathus, Pfr. *Hel. testâ umbilicatâ, orbiculato-conicâ, supernè arcuatim costulato-striatâ, unicolore fuscâ; spirâ elevatâ, obtusè conicâ; suturâ distinctâ, crenulato-marginatâ; anfractibus 6½ convexiusculis, ultimo carinato, basi sublævigato, planiusculo; umbilico magno, profundo, cyathiformi; aperturâ subverticali, angulato-lunari; peristomate simplice, margine supero recto, basali arcuato, reflexiusculo, columellari breviter descendente.*
Diam. 8, alt. 4½ mill.
Collected by Mr. Cuming at S. Jaun, province of Cagayan, island of Luzon, on the leaves of trees.

4. Helix dubiosa, Pfr. *Hel. testâ imperforatâ, depresso-globosâ, tenui, obsoletè malleatâ, fulvâ, fasciâ suturali et areâ columellari nigro-rufis, fasciis plurimis angustis epidermidis hydrophanæ albidæ ornatâ; spirâ subsemiglobosâ; anfractibus 4 convexiusculis, celeriter accrescentibus; columellâ intrante, planulatâ, declivi; aperturâ lunato-rotundatâ, intus margaritaceâ; peristomate tenui, albo, latè expanso, vix reflexiusculo, margine basali cum columellâ angulum obsoletum formante.*

Diam. 35, alt. 26 mill.

β. Fasciis 2 nigricantibus ad peripheriam.

Collected by Mr. Cuming on the island of Samar. This is the shell figured by Mr. Reeve under the name of *H. decipiens*, Sowerby (Conchologia Sytematica, vol. ii. pl. 145. fig. 16); it is nearer allied to *H. mirabilis*, Fér., but may be distinguished as a good species.

5. Helix filocincta, Pfr. *Hel. testâ perforatâ, depressâ, tenui, pellucidâ, corneâ, striatulâ, nitidâ; spirâ parùm elevatâ, obtusâ; anfractibus 5½ convexiusculis, carinatis, ultimo basi convexo; cariná filiformi, in anfractibus superioribus conspicuâ, sed non exsertâ; aperturâ verticali, lunato-subauriformi; peristomate simplice, recto, margine columellari perobliquo, elongato, descendente, ad dextram subitò ascendente.*

Diam. 11, alt. 5½ mill.

Collected by Mr. Cuming at Cagayan, province of Misamis, island of Mindanao.

6. Helix Gouldi, Pfr. *Hel. testâ umbilicatâ, orbiculato-conicâ, tenuiusculâ, subtiliter striatulâ, vix nitidulâ, unicolore fuscâ; spirâ elevatâ, conoideâ; anfractibus 6 convexiusculis, ultimo carinato, anticè subrotundato, basi planiore; umbilico mediocri, pervio; aperturâ lunato-orbiculari; peristomate simplice, marginibus subconniventibus, dextro recto, columellari subdilatato, patente, basali reflexiusculo.*

Diam. 9½, alt. 6 mill.

Collected by Mr. Cuming in the province of Laguna, island of Luzon, and on the island of Negros.

7. Helix orthostoma, Pfr. *Hel. testâ umbilicatâ, depressâ, supernè confertim subarcuato-striatâ, tenui, pellucidâ, pallidè corneâ; spirâ vix elevatâ, obtusâ; anfractibus 6 angustis, convexiusculis, ultimo basi sublævigato; umbilico majusculo, cylindraceo; aperturâ verticali, obliquè lunari; peristomate simplice, acuto, margine supero brevi, basali valdè arcuato, columellari dilatato, sinuato.*

Diam. 10, alt. 5 mill.

Collected by Mr. Cuming at Dingle, island of Panay, under decayed leaves.

8. Helix strigilis, Pfr. *Hel. testâ umbilicatâ, depressâ, lenticulari, tenui, pellucidâ, pallidè corneâ, acutè carinatâ; anfractibus 6 angustis, vix convexiusculis, supernè confertim costulato-striatis, lineis elevatis concentricis reticulatis, ultimo basi convexiore, lævigato, nitido; umbilico mediocri, cylindrico; aperturâ subverticali, angulato-lunari; peristomate simplice, acuto, margine supero brevi, strictiusculo, basali valdè arcuato.*

Diam. 12, alt. 5½ mill.

Collected by Mr. Cuming at Himamaylan, island of Negros.

9. Helix conspersula, Pfr. *Hel. testâ imperforatâ, turbinatâ, striatulâ, opacâ, tenuiusculâ, stramineâ vel cinnamomeâ, punctis albis confertissimè conspersâ; spirâ conoideâ, apice obtusiusculo,*

nigricante; suturâ mediocri, castaneo-marginatâ; anfractibus 6 convexiusculis, ultimo subangulato, basi planiusculo; columellâ obliquâ, subarcuatâ, subexcavatâ, albâ, castaneo-marginatâ; aperturâ amplâ, lunato-ovali; peristomate simplice, breviter expanso.
Diam. $23\frac{1}{2}$, alt. 15 mill.
Hab. —— ?

10. Helix Hartmanni, Pfr. *Hel. testâ umbilicatâ, depressâ, subdiscoideâ, acutè carinatâ, arcuatim distinctè striatâ, unicolore fuscâ; spirâ vix elatâ; suturâ lineari; anfractibus 6 planulatis, ultimo non descendente, basi convexiusculo; umbilico magno, perspectivo; aperturâ depressâ, securiformi; peristomate recto, margine supero simplice, antrorsum arcuato, basali subincrassato.*
Diam. 26, alt. 8 mill.
Hab. —— ?

11. Helix helicophantoides, Pfr. *Hel. testâ perforatâ, depressâ, tenui, obliquè et confertim costulato-striatâ, stramineâ, rufo tessellatâ et strigatâ; spirâ planiusculâ; anfractibus $3\frac{1}{2}$ vix convexiusculis, rapidè crescentibus, ultimo depresso; aperturâ perobliquâ, amplâ, subovali; peristomate simplice, acuto, marginibus approximatis, callo tenuissimo junctis.*
Diam. maj. $4\frac{2}{3}$, alt. 2 mill. (Spec. max. coll. Cuming.)
Hab. Island of Juan Fernandez.

The shape of this shell is very like that of *Helicophanta rufa*. Perhaps it may belong to the same genus.

12. Helix marmorella, Pfr. *Hel. testâ perforatâ, depressâ, tenuissimâ, distanter costulatâ, pellucidâ, stramineâ, strigis obliquis et maculis rufis marmoratâ; spirâ planâ; anfractibus 3 vix convexiusculis, rapidè accrescentibus, ultimo basi paulò convexiore; aperturâ perobliquâ, amplâ, lunato-ovali; peristomate simplice, acuto, marginibus callo tenui junctis, supero antrorsum arcuato.*
Diam. 7, alt. 3 mill.
Hab. Island of Juan Fernandez.

13. Helix Kingi, Pfr. *Hel. testâ umbilicatâ, depressâ, sub lente confertissimè striatâ, tenui, diaphanâ, stramineâ, rufo-flammulatâ et 1–2-fasciatâ; spirâ depressâ; anfractibus $5\frac{1}{2}$ convexiusculis, celeriter accrescentibus; umbilico majusculo, perspectivo; aperturâ lunato-ovali; peristomate simplice, acuto, marginibus conniventibus, columellari subdilatato, patente.*
Diam. 7, alt. 3 mill. (Spec. max. coll. Cuming.)
Hab. Island of Juan Fernandez.—An *H. pusio*, King?

14. Helix radiella, Pfr. *Hel. testâ umbilicatâ, depressâ, sublenticulari, tenui, utrinque confertim costulatâ, corneâ, strigis crebris undatis, castaneis, ad peripheriam latioribus radiatâ; spirâ vix elevatâ; anfractibus $5\frac{1}{2}$ convexiusculis, ultimo subangulato, basi planiusculo; umbilico mediocri, pervio; aperturâ subverticali, latè lunari; peristomate simplice, tenui.*
Diam. $4\frac{3}{4}$, alt. $2\frac{1}{2}$ mill.
Collected by Mr. Cuming on the island of Opara.

A paper was also read containing "Descriptions of thirty-six new species of *Helix*, belonging to the collection of H. Cuming, Esq.," by Dr. L. Pfeiffer:—

1. Helix Incei, Pfr. *Hel. testâ umbilicatâ, depresso-globosâ, solidulâ, striatâ, sub epidermide pallidè fulvâ albâ, fasciis angustis castaneis cingulatâ; spirâ elevatâ, acutiusculâ; anfractibus 7 vix convexiusculis, ultimo circa umbilicum mediocrem, pervium subcompresso; columellâ arcuatâ; aperturâ perobliquâ, lunato-ovali; peristomate albo, tenui, intus sublabiato, margine dextro vix expanso, basali reflexo, columellari in laminam triangularem dilatatâ, umbilicum semitegente.*
Diam. 38, alt. 28 mill.
β. Minor, epidermide castanea, fasciis indistinctis, anfractu ultimo basi flavo.
Diam. 32, alt. 21 mill.
From North Australia, collected by Lieut. Ince, R.N.

2. Helix Jonasi, Pfr. *Hel. testâ imperforatâ, globoso-conoideâ, solidiusculâ, lævigatâ, non nitens, pallidè virescens; spirâ obtusè conicâ; anfractibus 5 convexiusculis, ultimo basi subplanato; columellâ albâ, obliquâ; aperturâ lunari; peristomate breviter incrassato, margine columellari subdilatato, adpresso.*
Diam. 28, alt. 24 mill.
β. Tenuior, apice rubicundo, anfractu ultimo basi nigricante, fascia angusta, nigra ad suturam: H. dimera, Jonas.
From the Philippine Islands, Mindoro.

3. Helix Buschi, Pfr. *Hel. testâ imperforatâ, conico-globosâ, solidiusculâ, tenuiter striatâ, parùm nitidulâ, citrinâ; spirâ conoideâ, obtusiusculâ; anfractibus 5½ convexiusculis, ultimo rotundato; columellâ subobliquâ, strictâ, dilatatâ, albo-callosâ; aperturâ rotundato-lunari, intus nitidâ, concolore; peristomate tenui, albo, breviter expanso, margine basali cum columellari angulum formante.*
Diam. 23, alt. 23 mill.
From the island of Mindoro.

4. Helix pelodes, Pfr. *Hel. testâ umbilicatâ, subglobosâ, tenuiusculâ, striatâ et minutè granulatâ, rubello-fuscâ; spirâ brevi, obtusiusculâ; anfractibus 6 convexiusculis, ultimo inflato, anticè breviter descendente; umbilico mediocri, pervio; aperturâ lunato-orbiculari, intus margaritaceâ; peristomate expanso, saturatè carneo, margine columellari perdilatato, fornicatim reflexo.*
Diam. 31, alt. 20 mill.
From the north coast of Australia: found under decayed leaves (Lieut. Ince, R.N.).

5. Helix Hartwegi, Pfr. *Hel. testâ umbilicatâ, depressâ, carinatâ, solidulâ, striatulâ, fuscâ; spirâ vix elevatâ; anfractibus 5 planulatis, ultimo basi paulò convexiore, anticè non descendente; umbilico angusto, pervio; aperturâ perobliquâ, irregulariter subquadratâ; peristomate albo, incrassato, breviter reflexo, margini-*

bus callo junctis, dextro sinuoso, basali subrecto, dilatato, introrsum calloso, dente unico interposito.

Diam. 23, alt. 12 mill.

From El Catamaija, near Loxa, republic of the Equator (Hartweg).

6. Helix leptogramma, Pfr. *Hel. testâ umbilicatâ, globosâ, tenui, striatâ, lineis impressis, concentricis, confertis, sculptâ, carneo-albidâ, supernè fasciis 3–4 angustis, rufis ornatâ; anfractibus $4\frac{1}{2}$ convexiusculis, ultimo inflato, anticè breviter descendente; aperturâ vix obliquâ, rotundato-lunari, intus concolore; peristomate albo, simplice, breviter expanso, marginibus callo tenuissimo diffuso junctis, columellari valdè dilatato, albo, nitido, reflexo, umbilicum angustum semioccultante.*

Diam. 17, alt. 13 mill.

From Cygnet Bay, North Australia (Lieut. Ince, R.N.).

7. Helix Gilberti, Pfr. *Hel. testâ umbilicatâ, depressâ, distinctè striatâ, minutissimè granulatâ, tenui, pallidè corneâ, lineâ rufâ ad suturam cinctâ; anfractibus $4\frac{1}{2}$ convexiusculis, ultimo basi convexo; umbilico mediocri, pervio; aperturâ rotundato-lunari; peristomate simplice, recto, margine columellari parùm dilatato, reflexo.*

Diam. 16, alt. 9 mill.

From Darling Downs, East Australia (Gilbert).

8. Helix Zonites, Pfr. *Hel. testâ umbilicatâ, depressâ, tenui, diaphanâ, confertim costulato-striatâ, lutescenti-corneâ; spirâ vix elatâ; anfractibus 6 convexiusculis, regulariter accrescentibus, ultimo supra medium lineâ rufâ, ad apicem usque conspicuâ ornato, basi læviore, subplanulato; umbilico mediocri, pervio; aperturâ depressâ, obliquè lunato-ovali; intus margaritaceâ; peristomate simplice, recto, margine columellari breviter patente.*

Diam. 25, alt. $12\frac{1}{2}$ mill.

Hab. Unknown.

9. Helix Griffithi, Pfr. *Hel. testâ umbilicatâ, globoso-depressâ, solidiusculâ, lævigatâ, supernè leviter striatulâ, corneo-lutescente; spirâ breviter elevatâ, conoideâ; anfractibus 6 convexiusculis, ultimo ad suturam castaneo-marginato, ventroso; umbilico mediocri, pervio; aperturâ vix obliquâ, amplâ, rotundato-lunari, intus margaritaceâ; peristomate simplice, acuto, marginibus callo tenuissimo junctis, columellari breviter patente.*

Diam. 26, alt. 14 mill.

Locality unknown.

10. Helix Kochi, Pfr. *Hel. testâ umbilicatâ, globoso-depressâ, solidulâ, obliquè distinctè striatâ, albidâ, fasciis pluribus rufis ad peripheriam ornatâ; spirâ parùm elevatâ, obtusiusculâ; anfractibus 6 convexis, sensim accrescentibus, ultimo subcylindrico; umbilico magno, pervio; aperturâ lunato-orbiculari, intus concolore, nitidâ; peristomate simplice, acuto, marginibus conniventibus dextro antrorsum arcuato, columellari dilatato, patente.*

Diam. 30, alt. 16 mill.
Locality unknown.

11. Helix variolosa, Pfr. *Hel. testâ perforatâ, depressâ, acutè carinatâ, solidulâ, opacâ, lutescente, supernè confertissimè plicatâ, lineisque concentricis irregulariter decussatâ, pustulis albis subfasciatim obsitâ; spirâ planiusculâ; anfractibus $3\frac{1}{2}$ vix convexiusculis, rapidè crescentibus, ultimo basi convexo, infra carinam compresso; columellâ brevi, verticali; aperturâ latè securiformi; peristomate simplice, acuto, margine columellari breviter reflexo.*
Diam. 23, alt. 10 mill.
Locality unknown.

12. Helix induta, Pfr. *Hel. testâ perforatâ, lenticulari, acutè carinatâ, solidâ, supernè confertim plicato-striatâ, lineis confertis concentricis decussatâ, subtùs striatâ, spadiceâ, basi pallescente, circa perforationem castaneo-areolatâ, epidermide tenuissimâ corneo-griseâ undique indutâ; anfractibus 5 planis, sensim accrescentibus; aperturâ subrhombeâ; peristomate simplice, margine columellari vix reflexiusculo.*
Diam. 21, alt. 11 mill.
Locality unknown.

13. Helix bilineata, Pfr. *Hel. testâ umbilicatâ, depressâ, tenui, nitidâ, pellucidâ, lævigatâ, lutescenti-corneâ; spirâ planiusculâ; suturâ striolatâ; anfractibus 5 vix convexiusculis, regulariter crescentibus, ultimo subdepresso, lineis 2 castaneis, alterâ supra peripheriam, alterâ suturali ad apicem usque conspicuâ ornato; umbilico angusto; aperturâ obliquè lunari; peristomate simplice, acuto, margine columellari brevissimè reflexo.*
Diam. 15, alt. 7 mill.
Locality unknown.

14. Helix Belcheri, Pfr. *Hel. testâ latè umbilicatâ, depressâ, tenui, diaphanâ, supernè confertim costulato-striatâ, subtùs sublævigatâ, nitidâ, concolore corneo-cereâ; spirâ vix convexâ; anfractibus 5 vix convexiusculis, ultimo basi subplanulato; aperturâ obliquâ, lunato-ovali; peristomate simplice.*
Diam. $8\frac{1}{3}$, alt. 4 mill.
Locality unknown. Brought by the 'Sulphur,' Capt. Belcher.

15. Helix ceratodes, Pfr. *Hel. testâ subperforatâ, globoso-depressâ, tenui, minutè striatâ, nitidulâ, pellucidâ, corneâ; spirâ parùm elevatâ; anfractibus 5 subplanulatis, celeriter crescentibus, ultimo subdepresso; aperturâ amplâ, obliquè lunari; peristomate simplice, acuto, margine columellari breviter reflexiusculo, perforationem ferè occultante.*
Diam. $16\frac{1}{2}$, alt. 9 mill.
Collected on the islands of Luzon and Mindoro, by H. Cuming, Esq.

16. Helix splendidula, Pfr. *Hel. testâ latè umbilicatâ, depres-*

sissimâ, pallidè olivaceo-corneâ, nitidâ, striatulâ, lineis concentricis, magis minusve distinctis obsoletè reticulatâ; spirâ planâ; suturâ profundâ; anfractibus $3\frac{1}{2}$ *subplanulatis, celeriter crescentibus, ultimo lato; umbilico lato, perspectivo; aperturâ obliquâ, lunato-ovali; peristomate simplice, acuto, marginibus conniventibus, dextro obliquè descendente, antrorsum subarcuato.*

Diam. $8\frac{1}{2}$, alt. $3\frac{1}{2}$ mill.

Hab. East Australia, near Torres Strait (Lieut. Ince, R.N.).

17. Helix papillata, Pfr. *Hel. testâ umbilicatâ, depressâ, subdiscoideâ, solidiusculâ, irregulariter striatâ, opacâ, albidâ, spadiceo nebulosâ, saturatiusque strigatâ et maculatâ; spirâ planâ, apice papillatim prominente; anfractibus 5 planiusculis, ultimo descendente, depresso-rotundato; umbilico angusto, pervio; aperturâ obliquâ, lunato-orbiculari; peristomate simplice, acuto, margine columellari vix dilatato.*

Diam. 23, alt. 11 mill.

Locality unknown.

18. Helix spirulata, Pfr. *Hel. testâ imperforatâ, depressâ, lenticulari, subtilissimè striatâ, lineis elevatis concentricis utrinque notatâ, tenui, fulvâ, carinatâ; carinâ compressâ, subexsertâ; spirâ parùm elevatâ; anfractibus 5 lentè crescentibus, supra carinam convexiusculis, ultimo basi vix convexo, medio impresso; aperturâ depressâ, subrhomboideâ; peristomate simplice, acuto.*

Diam. 9, alt. 4 mill.

Hab. Real Llejos, Central America; found on trunks of trees (Cuming).

19. Helix insculpta, Pfr. *Hel. testâ imperforatâ, depressâ, utrinque convexiusculâ, acutè carinatâ, solidulâ, castaneâ, supernè costulis confertis et lineâ spirali, carinæ parallelâ, insculptâ; anfractibus 5 planulatis, ultimo basi lævigato, juxta carinam lineâ impressâ notato; columellâ dente unico brevi, acuto, albo munitâ; aperturâ depressâ, securiformi; peristomate simplice.*

Diam. 8, alt. 4 mill.

Locality unknown.

20. Helix Sinaitensis, Pfr. *Hel. testâ umbilicatâ, orbiculato-convexâ, tenui, confertim striatâ, corneâ; spirâ convexâ, obtusâ; anfractibus 7 angustis, vix convexiusculis, carinâ filiformi cinctis, ultimo basi convexiore; umbilico lato, perspectivo; aperturâ rotundato-lunari; peristomate simplice, margine supero brevi, recto, basali valdè arcuato, breviter reflexo.*

Diam. 10, alt. 4 mill.

From Sinait, province of North Ilocos, isle of Luzon (Cuming).

21. Helix andicola, Pfr. *Hel. testâ umbilicatâ, depressâ, tenui, undique granulatâ, opacâ, corneo-albidâ, fasciis pluribus rufis interruptis, denticulatis vel maculoso-tessellatis tæniatâ, interstitiis rufo-flammulatis; spirâ planâ; anfractibus 4 convexis, ultimo dilatato, rotundato; aperturâ rotundato-lunari; peristomate tenui,*

marginibus callo tenui junctis, supero breviter expanso, basali reflexiusculo, columellari dilatato, reflexo, umbilicum angustum semitegente.
Diam. 20, alt. 11 mill.
From the Eastern Cordilleras.

22. Helix hians, Pfr. *Hel. testâ subobtectè perforatâ, depressâ, tenui, pellucidâ, nitidiusculâ, undique regulariter et confertim granulatâ, pallidè corneâ, strigis angustis, rufis, approximatis, undulatis, interdum ramosis, et ad suturam fasciâ pallidâ, maculis irregularibus rufis tessellatâ ornatâ; spirâ planâ; anfractibus* $4\frac{1}{2}$ *convexis, ultimo inflato, subcompresso, anticè vix descendente; aperturâ subobliquâ, amplâ, lunato-rotundatâ, intus concolore; peristomate tenui, expanso, marginibus distantibus, supero expanso, basali breviter reflexo, columellari membranaceo-dilatato, fornicatim reflexo, perforationem tegente.*
Diam. 25, alt. 12 mill.
Locality unknown.

23. Helix rectangula, Pfr. *Hel. testâ imperforatâ, orbiculato-conicâ, solidâ, striatulâ, griseo-stramineâ, areâ basali, lineâ suturali et fasciis latis castaneis ornatâ; spirâ elevatâ, obtusâ; anfractibus* 6–$6\frac{1}{2}$ *convexiusculis, ultimo subrectanguldè carinato, basi planiusculo, medio subexcavato; aperturâ depressâ, subtrapeziâ, margine columellari incrassato, calloso-subunidentato.*
Diam. 13, alt. 10 mill.
From the Marquesas islands (M. Rohr).

24. Helix Nystiana, Pfr. *Hel. testâ latè umbilicatâ, depressâ, subdiscoideâ, tenui, sub lente minutissimè granulato-striatâ, haud nitente, pallidè corneâ, fasciis angustis, rufis* 3–4 *circumdatâ; spirâ vix elevatâ; anfractibus* 4 *convexis, ultimo anticè subdeflexo, basi vix latiore; umbilico latissimo; aperturâ perobliquâ, suborbiculari; peristomate simplice, marginibus ferè contiguis, supero recto, basali breviter reflexo.*
Diam. 11, alt. 4 mill.
From Real Llejos, Central America (Cuming).

25. Helix nilagirica, Pfr. *Hel. testâ latè umbilicatâ, depressâ, discoideâ, striatâ, corneo-albidâ, lineâ unicâ rufâ supra peripheriam cinctâ; spirâ planiusculâ; anfractibus* 5 *convexiusculis, lentè accrescentibus, ultimo anticè abruptè deflexo; umbilico latissimo, anfractum penultimum latè monstrante, medio angusto, pervio; aperturâ parvâ, horizontali, rotundato-ovali; peristomate albo, sublabiato, reflexo, marginibus contiguis.*
Diam. $14\frac{1}{2}$, alt. $5\frac{1}{2}$ mill.
From the Neelgherries, East Indies.

26. Helix tumida, Pfr. *Hel. testâ imperforatâ, globosâ, solidâ, rugoso-striatâ, nitidiusculâ, sub epidermide sordidè viridi, saturatius radiatâ albâ; spirâ parvulâ, elevatâ; anfractibus* 5 *tumidis, ultimo permagno; columellâ subverticali, elongatâ, basi subtortâ,*

albo-callosâ; aperturâ amplâ, lunato-rotundatâ, intus cærulescente; peristomate simplice, recto, margine dextro arcuato, basali cum columellâ angulum formante.
Diam. 27, alt. 21 mill.
Locality unknown.

27. Helix Caucasica, Pfr. *Hel. testâ umbilicatâ, globoso-depressâ, tenui, subtiliter rugoso-striatâ, sub lente granulatâ, corneo-albidâ, pellucidâ, fasciâ latâ, subopacâ ad suturam, angustiore albâ ad peripheriam ornatâ; anfractibus 6 convexiusculis, ultimo anticè subdeflexo; aperturâ lunato-rotundatâ; peristomate acuto, expanso, intus callo albo, acuto labiato, margine columellari dilatato, umbilicum angustum, pervium semitegente.*
Diam. 16, alt. 10 mill.
From the Caucasus.

28. Helix Knysnaensis, Pfr. *Hel. testâ umbilicatâ, globosâ, solidiusculâ, costulato-striatâ, sericinâ, corneo-olivaceâ; spirâ brevi, obtusâ; anfractibus 4 convexiusculis, ultimo inflato, basi sublævigato, nitidissimo; umbilico angusto, pervio; aperturâ rotundato-lunari, intus margaritaceâ; peristomate simplice, acuto, margine columellari supernè dilatato, patente.*
Diam. 24, alt. 16 mill.
From Knysna, Cape of Good Hope.

29. Helix Jenynsi, Pfr. *Hel. testâ subperforatâ, turbiniformi, striatulâ, tenui, nitidâ, carinatâ, lacteâ, supra carinam fusco-unifasciatâ; spirâ brevi, conicâ, acutâ; anfractibus 5½ vix convexiusculis, ultimo basi convexiore; aperturâ angulato-lunari; peristomate simplice, acuto, margine columellari supernè reflexiusculo, perforationem ferè claudente.*
Diam. 12, alt. 7½ mill.
Locality unknown.

30. Helix Bronni, Pfr. *Hel. testâ imperforatâ, semiglobosâ, striatulâ, sub lente punctatâ, nitidulâ, castaneâ, apice obtuso pallidâ; anfractibus 5 convexiusculis, ultimo obsoletè carinato, basi planiusculo, granulato, cærulescenti-albido, infra carinam fascia 1 castaneâ ornato, anticè deflexo, profundè scrobiculato; aperturâ subhorizontali, elliptico-oblongâ; peristomate latè incrassato, marginibus callo tenui junctis, basali dilatato, reflexo, fusco-maculato, intus 4 dentato; dentibus 2 anticis majoribus, compressis, à margine remotis.*
Diam. 25, alt. 15 mill.
From Jamaica; sent by Mr. Adams with *H. sinuata*, Born, to which it is nearly allied.

31. Helix ventrosula, Pfr. *Hel. testâ rimato-perforatâ, depresso-globosâ, tenui, subtiliter striatâ, pellucidâ, corneo-albidâ; spirâ vix elevatâ; anfractibus 5½ vix convexiusculis, ultimo subitò deflexo, supernè subangulato, basi inflato, anticè gibbo et valdè constricto; aperturâ perobliquâ, ringente; peristomate acuto, latè*

reflexo, marginibus vix conniventibus, laminas elevatas, in ventre anfractus penultimi angulatim junctas emittentibus, dextro laminâ subperpendiculari dilatatâ, basali dentibus 2 acutis munito.
Diam. 13, alt. $7\frac{1}{2}$ mill.
From Mexico (Hinds), and Texas (Sowerby).

32. Helix Hindsi, Pfr. *Hel. testâ umbilicatâ, depressâ, subtiliter striatâ, corneo-lutescente, diaphanâ, nitidâ; spirâ parùm elevatâ; anfractibus 5 planiusculis, ultimo basi convexiore, anticè supernè deflexo, subtùs constricto; umbilico angusto, pervio; aperturâ perobliquâ, lunari, ringente; peristomate breviter reflexo, marginibus conniventibus, callo triangulari, dentiformi, bicrurè junctis, dextro lamellâ subverticali, basali dentibus 2 acutis munito.*
Diam. 8, alt. $4\frac{1}{2}$ mill.
From Mexico (Hinds), and Texas (Sowerby).

33. Helix Hedenborgi, Pfr. *Hel. testâ subperforatâ, depressissimâ, subdiscoideâ, acutè carinatâ, tenuiusculâ, confertim rugoso-striatâ, supernè albido et fusco-variegatâ, basi subunicolore fuscescente; spirâ vix elevatâ; anfractibus $5\frac{1}{2}$ planis, non exsertis, ultimo basi vix ventrosiore, anticè non descendente; aperturâ depressâ, angulato-lunari; peristomate tenui, marginibus subparallelis, supero recto, basali breviter reflexo, columellari vix dilatato, reflexo, adpresso.*
Diam. 18, alt. 6 mill.
On cliffs at the river Baher el Killo, at the Road of Marc Aurel, Egypt (Dr. Hedenborg).

34. Helix platyodon, Pfr. *Hel. testâ imperforatâ, depresso-turbinatâ, minutissimè granulato-striatâ, albâ, fasciis fuscis, albo-guttatis ornatâ; spirâ elevatâ, obtusiusculâ; anfractibus 6 vix convexiusculis, ultimo basi subplanulato, anticè deflexo; aperturâ perobliquâ, lunato-ovali, intus albâ; peristomate latè expanso, reflexo, marginibus callo albo junctis, columellari perdilatato, adpresso, dente lato compresso munito.*
Diam. 30, alt. 19 mill.
Locality unknown.

35. Helix retusa, Pfr. *Hel. testâ imperforatâ, subglobosâ, apice retuso, tenui, lævigato, basi concentricè striolatâ, castaneo-fulvâ, albo latè strigatâ et flammulatâ, epidermide hydrophanâ, albidâ, deciduâ partim indutâ, sursùm pallescente, castaneo-fasciatâ; spirâ brevi; anfractibus 4 convexiusculis, ultimo subangulato, vix descendente; columellâ intrante, albâ, supernè dentato-dilatatâ; aperturâ rotundato-lunari, intus margaritaceâ; peristomate latè expanso.*
Diam. 28, alt. 20 mill.
From the island of Samar; found on leaves of trees (H. Cuming).

36. Helix pratensis, Pfr. *Hel. testâ umbilicatâ, orbiculato-convexâ, ruguloso-striatâ, albidâ, fasciis 2 castaneis cinctâ vel subunicolore; spirâ subelevatâ; anfractibus 6 convexiusculis, ultimo*

anticè vix descendente; umbilico mediocri, pervio; aperturâ rotundato-lunari; peristomate expanso, intus remotè albo-labiato, marginibus conniventibus, columellari subdilatato, patente.

Diam. 17, alt. $9\frac{1}{2}$ mill.

From the banks of the river Tortoom (As. Russ.); found in damp meadows.

"On the Growth and Re-calcification of the Shell in *Cypræa*, a genus of Pectinibranchiate Mollusca":—

The *Cypræa* is a mollusk of very peculiar character: first, on account of the different phases presented by its shell at different periods of growth; and, secondly, on account of the curious property which the animal possesses of dissolving and renewing its shell. The original growth of the Cowry is, undoubtedly, a process of time; but the re-calcification of a shell at maturer age appears to be the work of a few days only.

The first stage of advancement produces a simple convolution of shell around a columella axis in the form of a long drawn-out Bulla, the columella being smooth, the outer lip thin, and the colour usually diffused in bands of waves. In the second epoch of growth the shell solidifies, the lip and columella begin to thicken, and present gradual indications of teeth, the teeth become more and more perfectly developed, and the dorsal surface is overlaid with a strong coat of livid colouring matter also diffused in obscure bands or waves. The calcifying energies of the mantle, which, extending in two unequal lobes, one from either side of the shell's aperture, have been chiefly exercised during the second epoch of growth upon the dorsal surface, are now more particularly directed to the base and sides. The teeth are strengthened, the sides become thickened with a rich coating of enamel, and the growth of the shell is completed by a light fabric of colouring matter deposed in lines, blotches, waves, or reticulations, of various hues and patterns.

The re-calcification of a shell at maturer age has been a subject of some difference of opinion amongst naturalists. Bruguière first introduced the fact, and Lamarck says, "I possess observations which tend to prove that the Cowry, arrived at the power of forming a complete shell, has still the faculty of enlarging its habitation, and is then obliged to quit the shell in order to form a new one. It results from this that the same individual has the power of forming a successive number of shells during both the second and third stages of growth, and which accounts for our often meeting with so many different sizes of the same species"!

M. Deshayes, after furnishing us with an excellent account of the zoological characters of *Cypræa*, derived mainly from the observations of MM. Quoy and Gaimard, argues against the possibility of any remodelling of the shell taking place, and regards the statement of Lamarck as a theory opposed to the common laws of organization. To the supposition of Bruguière that the Cowries cast their shells after the manner of Crabs, M. Deshayes very properly replies that there can be no analogy between them. The new shell of the

Crustacea is formed by a secretion of equal consistency from every part of the body, whereas the *Mollusca* have a muscular attachment to the columella, and increase the growth of their shell by an exudation, not from the whole body, but from a particular organ; the mantle being the sole agent charged with that faculty. It is further argued by the same distinguished naturalist that the Cowry must lose the power of forming the inner chambers of the columella anew, after having once passed that early process of development which induces their formation. "How is it possible," asks M. Deshayes, "that the animal can, under the circumstances of its nature, secrete a new shell from all parts of the body at once, and with all the different phases of colour exhibited in the original, when it has reached to an advanced condition of its existence?"

It is, however, certain that the Cowry is enabled to effect a very important change in the shell during one or more periods of its life; and I think the fact may be fully established without prejudice to the excellent arguments of my illustrious contemporary. From the testimony of a gentleman who worthily employs the opportunities afforded him as a Naval Officer to the advancement of science, whose veracity is beyond all question, and whose communication (given verbatim)* contains nothing more than a simple narrative of the phænomena of which he was himself an eye-witness, it may, I think, be deduced that it is the outer wall of the shell only which is reconstructed, the columella, with its spiral compartments, remaining undisturbed. The animal does not quit the shell, as Lamarck supposed, but dissolves the outer portion with its acetose juices. All visible trace of the shell may be thus removed without weakening M. Deshayes' proposition, founded on the circumstance of the mantle being the only organ charged with the secretive fluid. The mantle is always capable of extension over the shell, and the same power

* Lieut. J. B. Hankey, R.N., to Lovell Reeve.

My dear Sir, H.M.S. Collingwood, August 6th, 1844.

Will you allow me to offer you a few remarks on the habits of the Cypræa as regards the fact of its making a new shell, at an advanced age, of which process I have been myself in more than one instance an eye-witness? I have seen the Cowry crawl into some hollow or sheltered place, evidently for some predetermined purpose. The growth of the animal appears to increase too large for its cell; it gradually swells and cracks the shell, and I think that some powerful solvent or decomposing fluid is distributed over the outer surface by the mantle of the fish, for it gets thinner in substance, and the colours duller in appearance. The shell then entirely disappears, the Cowry becomes, to all appearance, a naked mollusk, with no other covering than its membranous mantle, and in a short time secretes a thin layer of glutinous matter which in a few days obtains the fragile consistency of shell-lac. From this step its growth is more rapid, and it becomes more and more consolidated into the adult shell. When in the first stage of renewal it has the appearance of shell-lac it is always of the Cymba form, but I have never succeeded in preserving any specimens in this state on account of their extreme fragility.

Trusting that you may make some use of these notes, and that (as I have a good dredge with me) I may, like Mr. Cuming, succeed in bringing home something worthy of notice, I shall conclude myself, my dear sir,

Yours very truly,

John B. Hankey.

which furnishes the adult with its last coating of enamel can be exerted to the formation of as many superincumbent layers as may be necessary to replace all that has been decomposed. That a dissolution takes place there can be no doubt: "the shell gradually swells," says Lieut. Hankey, "and cracks, becomes thinner, and duller in colour, and finally disappears;" a circumstance which may be easily credited when it is remembered that the *Murex* possesses the faculty of removing spines or any similar obstacles to its advancement of growth, and that the *Pholades* and other terebrating mollusks exercise a power of absorbing which enables them to penetrate the hardest limestone rock. The microscopical structure of the Cowry shell is, moreover, of a nature peculiarly tenacious of absorption; it is composed of a large quantity of carbonate of lime in proportion to the amount of membranous substance; and this accounts for its surface becoming vitrified, as it were, to such a highly polished state of enamel when in contact with the acidity of the soft parts.

There is another circumstance in Lieut. Hankey's narrative to which attention should be given, respecting the formation of the new shell. The glutinous matter, which has the appearance of shellac, and is so fragile that it yields to the touch, does not assume the narrow cylindrical *Bulla* form; it does not follow the original plan of revolving round a columellar axis, but is of the wide ventricose shape of a *Cymba*, and rapidly consolidates into the adult shell.

With these generalizations I think it may be assumed that the Cowry possesses the faculty of decomposing, during one or more periods of its existence, any portion of the shell that is liable to resist its advancement of growth; that the renewal of the shell is accomplished within a comparatively short space of time; and that the columella with its internal spiral partitions remains undisturbed. It may, however, be inferred that it is an operation of extremely rare occurrence, and one which only happens under peculiar conditions.

December 9, 1845.

William Yarrell, Esq., Vice-President, in the Chair.

A paper was read containing "Descriptions, by Dr. L. Pfeiffer, of new species of Land-Shells from Jamaica, collected by Mr. Gosse."

1. Helix ptychodes, Pfr. *Hel. testâ umbilicatâ, depressissimâ, discoideâ, tenuissimâ, arcuato-plicatâ, sub epidermide tenui, fuscâ, deciduâ hyalinâ; spirâ planiusculâ; anfractibus* $4\frac{1}{2}$—5 *planulatis, ultimo basi vix convexiore; umbilico mediocri; aperturâ perobliquâ, amplâ, angulato-lunari; peristomate simplice, acuto.*
Diam. $10\frac{1}{3}$, alt. $3\frac{1}{3}$ mill.

2. Bulimus Gossei, Pfr. *Bul. testâ rimatâ, turrito-cylindraceâ, obliquè costulatâ, albidâ, opacâ, strigis semilunaribus, punctisque pellucidis corneis ornatâ; spirâ cylindraceâ, apice attenuato, acuto; suturâ crenulatâ; anfractibus* 11 *convexis, ultimo* $\frac{1}{4}$ *longitudinis vix superante, rotundato, basi subangulato; aperturâ suborbiculari; peristomate breviter expanso, marginibus approximatis, columellari reflexo, patente.*
Long. 11, diam. $3\frac{2}{3}$ mill.
Nearly allied to *Bul. unicarinatus* and *Bul. turricula.*

3. Cylindrella Gossei, Pfr. *Cyl. testâ subcylindraceâ, sursum attenuatâ, non truncatâ, tenui, diaphanâ, obliquè et arcuatim leviter costulatâ, pallidè corneâ vel albidâ; anfractibus* 16 *vix convexiusculis, ultimo basi acutè carinato, non protracto; aperturâ oblongâ, basi subangulatâ; peristomate simplice, tenui, breviter expanso, marginibus vix junctis.*
Long. 21, diam. 4 mill.

4. Glandina Jamaicensis, Pfr. *Gland. testâ fusiformi-turritâ, confertim et verticaliter costatâ, nitidâ, albidâ, strigis raris rufis ornatâ; spirâ turritâ, acutiusculâ; suturâ crenulatâ, submarginatâ; anfractibus* 10 *planiusculis, ultimo* $\frac{1}{3}$ *longitudinis subæquante, plurivaricoso, infra medium sublævigato, attenuato; columellâ subrectâ, basi obliquè truncatâ; aperturâ angustâ, semiovali.*
Long. 22, diam. 7 mill.

5. Glandina curvilabris, Pfr. *Gland. testâ oblongo-turritâ, solidiusculâ, confertissimè costulatâ, diaphanâ, nitidâ, luteo-corneâ, remotè albido-strigatâ; spirâ turritâ; suturâ marginatâ; anfractibus* 8 *planiusculis, ultimo* $\frac{3}{7}$ *longitudinis subæquante, anticè medio impresso; columellâ verticali, ad basin aperturæ abruptè truncatâ; aperturâ angustâ, oblongâ; peristomate albido-limbato, margine dextro antrorsum curvato.*
Long. 16, diam. 5 mill.

6. Glandina arcuata, Pfr. *Gland. testâ fusiformi-turritâ, tenuiusculâ, nitidâ, subarcuatim et confertim costulatâ, succineo-flavidâ, strigis angustis, remotis, arcuatis, rufis, pallidè marginatis ornatâ; spirâ subulatâ, acutâ; suturâ crenulatâ; anfractibus 9 planis, ultimo $\frac{1}{3}$ longitudinis subæquante; columellâ strictiusculâ, breviter truncatâ; aperturâ oblongâ; peristomate simplice.*
Long. 13, diam. $3\frac{1}{2}$ mill.

7. Achatina Adamsii, Pfr. (*Bul. costulatus*, Adams). *Ach. testâ fusiformi-turritâ, longitudinaliter distinctè costatâ, inter costas basi anfractûs ultimi evanescentes subtilissimè striatâ, corneâ, strigis rufis irregulariter ornatâ; spirâ turritâ, apice acuto; anfractibus 8 convexis, ultimo $\frac{1}{3}$ longitudinis subæquante; columellâ subrectâ, basi obliquè truncatâ; aperturâ subrhombeâ.*
Long. 7, diam. $2\frac{1}{2}$ mill.

8. Achatina Gossei, Pfr. *Ach. testâ subulatâ, tenui, diaphanâ, cereâ, remotè costatâ, inter costas in anfractibus ultimis deorsum obsolescentes subtilissimè striatâ; anfractibus 9—10 convexiusculis, ultimo $\frac{1}{4}$ longitudinis vix superante; columellâ obliquâ, basin aperturæ attingente, breviter truncatâ; aperturâ angustâ, oblongâ; peristomate simplice, margine dextro deorsum dilatato.*
Long. 12, diam. $2\frac{2}{3}$ mill.

9. Achatina aberrans, Pfr. *Ach. testâ subulatâ, tenui, nitidâ, lineis impressis longitudinalibus, regulariter distantibus notatâ, pallidè succineâ, strigis rufulis, angustis, obliquis, sparsis ornatâ; spirâ subulatâ, apice acutiusculo; suturâ leviter crenulatâ; anfractibus 7 planiusculis, ultimo $\frac{1}{3}$ longitudinis æquante; columellâ callosâ, torto-subtruncatâ; aperturâ oblongâ; peristomate simplice.*
Long. 7, diam. 2 mill.

This species belongs to a peculiar aberrant group of the genus *Achatina*, of which the type seems to be *Ach. columnaris*. The columella is not exactly truncated, but rather contorted, and forms a prominent angle, which appears similar to the truncated columella of the true Achatinas. To this same group may be referred another very distinct and beautiful species, collected by Mr. Lattre in Central America, and making, like all formerly described species, part of the rich collection of Mr. Cuming.

10. Achatina Lattrei, Pfr. *Ach. testâ glandiformi, lævissimâ, nitidâ, fulvâ, strigis castaneis leviter arcuatis irregulariter ornatâ; spirâ brevi, conoideâ, acutiusculâ; anfractibus 7 planis, ultimo $\frac{3}{4}$ longitudinis ferè æquante; columellâ callosâ, contortâ, extus subtruncatâ; aperturâ angustissimâ, basi dilatatâ; peristomate simplice, obtuso, margine dextro antrorsum leviter arcuato.*
Long. 38, diam. 14 mill.

A paper by Dr. Philippi was then read, containing "Descriptions of a new species of *Trochus*, and of eighteen new species of *Littorina*, in the collection of H. Cuming, Esq." :—

Trochus Cumingii. *Tr. testâ latè conicâ, umbilicatâ, acutâ, car-*

neo-cineréd; anfractibus convexiusculis, transversè striatis, et serie triplici spinularum ornatis; spinis supremis solidis compressis, medianis fornicatis majoribus, infimis fornicatis confertissimis; aperturâ suborbiculari, violacescente; margine umbilici acuto, prominente.

Altit. 8, diam. 8, altit. aperturæ $4\frac{3}{4}$ lin.

Hab. Guimaras, insula Philippinarum.

This very interesting species was found on rocks at high water-mark; its operculum is orbicular, horny, and consists of 5–6 volutions.

1. Littorina lemniscata. *Lit. testâ parvâ, ovato-oblongâ, nigrâ, striis transversis et lineâ triplici, elevatâ, moniliformi sculptâ; anfractibus planiusculis; basi nodulosâ; aperturâ spiram non æquante, nigrâ, basi albo-fasciatâ; columellâ depressâ, basi subeffusâ.*

Altit. $4\frac{1}{2}$, diam. 3, altit. aperturæ $2\frac{1}{2}$ lin.

Hab. Cuba?

2. Littorina aspera. *Lit. testâ oblongâ, acutâ, crassâ, fuscescente, lineis nigricantibus longitudinalibus obliquis pictâ, ad basin subangulatâ; anfractibus parùm convexis, liris elevatis transversis sculptis; aperturâ ovatâ, fuscâ, fasciis duabus albidis; labro intus albido, fusco-punctato.*

Altit. 8, diam. $5\frac{1}{2}$, altit. aperturæ $4\frac{1}{2}$ lin.

Hab. Ad oram occidentalem Americæ borealis (from Sitka, New Albion, found on rocks at low water by Mr. Barclay; from Mexico, found by Hegewisch; from Conchagua, province of San Salvador, Central America, Cuming). By the character of its aperture, this species belongs to the group of *L. ziczac*, *L. zebra* (*Phasianella peruviana*, Lamarck), and is easily distinguished from all allied species by its sculpture.

3. Littorina picta. *Lit. testâ parvâ, ovatâ, acutâ, basi obscurè angulatâ, transversim striatâ; fasciâ ad partem superiorem anfractuum, aliâque ad basin albis, lineis fuscis longitudinalibus pictis; aperturâ semiorbiculari, fuscâ, basi albo-fasciatâ; columellâ satis compressâ ferè rectilineâ.*

Altit. 4, diam. 3, altit. aperturæ $2\frac{1}{2}$ lin.

Hab. ad insulas Sandwich.

Var. β. *Anfractibus supernè angulatis, parte medianâ anfractûs ultimi albido-marmoratâ.*

This species has nearly the shape and size of *L. Basteroti* (*Turbo petræus*, *Turbo cærulescens*, etc.), which I believe the true *Turbo neritoides* of Linnæus, and the colouring of the interrupted variety of *L. ziczac*.

4. Littorina porcata. *Lit. testâ parvâ, ovatâ, obtusiusculâ, umbilicatâ, è cærulescente-albidâ, lineis elevatis distantibus porcatâ; aperturâ magnâ, ovatâ, semiorbiculatâ; faucibus fuscis, albo-bifasciatis; limbo labri albo.*

Altit. 3, diam. $2\frac{1}{2}$, altit. aperturæ 2 lin.

Hab. ad insulas Gallapagos (on high exposed rocks); Cuming.

5. Littorina Sitkana. *Lit. testâ transversim ovatâ, obtusiusculâ, castaneâ, transversim grossè sulcatâ; anfractibus rotundatis, ultimo dilatato; aperturâ ovatâ, patulâ; columellâ albâ, vix dilatatâ, sulco umbilicari exaratâ.*

Altit. 6, diam. 6, altit. aperturæ $4\frac{1}{2}$.

Hab. ad Sitka, Nova Albion (on rocks, half-tide); collected by Mr. Barclay.

Very nearly allied to *L. groenlandica*, but more depressed, blunt, the aperture more dilated. The elevated transverse lines are three in number on the upper volutions, about twelve on the last.

6. Littorina glabrata. *Lit. testâ ovato-oblongâ, acutâ, albido-carneâ, strigis pallidè fuscis obliquis pictâ; anfractibus parùm convexis, lævibus, supremis sub lente lineis impressis 6–8 exaratis, ultimo basi angulato; aperturâ ovatâ, rufâ; columellâ depressâ, violaceâ.*

Altit. $8\frac{1}{2}$, diam. 6, altit. aperturæ $4\frac{1}{2}$–5 lin.

Hab. ad Payta Peru (on rocks, half-tide); Cuming. Ad Caput Natale (Wahlberg).

Perhaps only a variety of *L. obesa*, Sow., though easily distinguished by the pale oblique longitudinal lines: very like *L. ziczac*, D'Orb. (non Chemn.)

7. Littorina lævis. *Lit. testâ ovato-oblongâ, acutâ, albidâ, cinereo-marmoratâ; anfractibus parùm convexis, lævissimis (sub lente fortiori vix tenuissimè striatis); ultimo basi obscurè angulato; aperturâ ovatâ, fusco-violaceâ, basi albido-fasciatâ; columellâ depressâ, violaceâ.*

Altit. $8\frac{1}{2}$, diam. 6, altit. aperturæ 5 lin.

Hab. Unknown.

This species scarcely differs, except in colouring, from *L. obesa*.

8. Littorina debilis. *Lit. testâ parvâ, ovato-oblongâ, acutâ, tenui, cærulescente-albidâ, interdum lineis obliquis pallidissimè fuscis pictâ, apice obscuro; anfractibus læviusculis (sub lente lineis confertis impressis sculptis), ultimo basi angulato; aperturâ ovato-oblongâ, rufâ, basi productâ et subangulatâ; columellâ parùm depressâ, fuscescente.*

Altit. $4\frac{1}{2}$, diam. 3, altit. aperturæ $2\frac{1}{2}$ lin.

Hab. Unknown.

A *L. glabrata* in miniature; it differs however essentially from that species by its aperture, which is produced into a distinct angle at the base.

9. Littorina Sayi. *Lit. testâ ovato-oblongâ, acutâ, solidiusculâ, transversim multisulcatâ, albâ, punctis pallidè rufis ornatâ; spirâ violacescente; anfractibus convexiusculis, suturâ profundâ divisis; aperturâ ovato-orbiculari; columellâ rufâ; labro intus albo.*

Altit. 9, diam. $6\frac{1}{2}$, altit. aperturæ 5 lin.

Hab. ad Floridam (communicated by Say).

Very nearly allied to *L. irrorata*, but thinner, more slender, the aperture not narrowed, nor the outer lip mottled within.

10. Littorina modesta. *Lit. testâ ovato-oblongâ, acutâ, tenuiusculâ, albidâ, aut obsoletè rufo-punctatâ, profundè transversim sulcatâ; anfractibus convexiusculis, suturâ profundâ divisis, ultimo haud carinato; aperturâ semiorbiculari, luteâ vel fusco infumatâ; columellâ ferè rectilineâ, dilatatâ, depressâ, infuscatâ; anfractu ultimo ad columellam eroso.*

Altit. 8, diam. 6, altit. aperturæ 5 lin.

Hab. ad Sitka, Nova Albion (on rocks, half-tide), Mr. Barclay; ad insulam Mauritii, Capt. Caldwell.

This species has the sculpture of *L. aspera*, the shape and colour of *L. Sayi*.

11. Littorina intermedia. *Lit. testâ oblongo-conicâ, basi ventricosâ, tenui, varii coloris, lineis impressis circa 8 in anfractu penultimo exaratâ, lævi; anfractibus convexis, ultimo rotundato haud carinato; aperturâ ovatâ; columellâ albâ vel violaceâ, foveâ exaratâ.*

Altit. 10, diam. $7\frac{1}{2}$, altit. aperturæ $5\frac{1}{2}$ lin. et minor.

Hab. Mare Rubrum, ad oram Natal; Swan Point, in Novâ Hollandiâ boreali; Jimamailan, in insula Negrorum; Tahiti; insula Elisabeth in Oceano Pacifico (Cuming).

This species is intermediate between *L. scabra* (*Helix scabra*, L. not auct.) and *L. angulifera*, Lamk., not Quoy and Gaim.; it has the shape and colouring of the latter, which is easily known by its very numerous impressed spiral lines. With *L. scabra* it agrees in the number of the impressed lines, but differs by its smoothness to feeling and by the absence of the basal keel. This latter character distinguishes it from *L. luteola*, Q. et G., a species which, however, I have not seen in nature. It is very variable in colouring, and we may distinguish principally the following varieties:—

1. punctata, *testâ lutescente aut rufescente, lineis transversis fuscis irregulariter interruptis punctatâ.*
2. articulata, *testâ interstitiis sulcorum regulariter albido et fusco articulatis.* (From Swan Point; only 6 lin. high.)
3. strigata, *testâ in fundo flavescente strigis latis, irregularibus nigris ornatâ.* (From Jimamailan; only 6 lin. high.)

12. Littorina conica. *Lit. testâ tenuissimâ, oblongâ, exactè conicâ, basi carinatâ, confertim et obsoletè transversim striatâ, albidâ, unicolore vel fusco pictâ; aperturâ ovatâ, perobliquâ; columellâ basi rectâ, excavatâ.*

Altit. 10, diam. $7\frac{1}{2}$, altit. aperturæ 6 lin.

Hab. Insula Java.

13. Littorina tenuis. *Lit. testâ ovato-oblongâ, acutâ, tenuissimâ, tenuissimè transversim striatâ, carneo-albidâ, lineis angulatis rufis pallidissimis pictâ; suturâ sæpius infuscatâ; anfractibus planius-*

culis, ultimo basi rotundato, minimè angulato; aperturâ ovatâ, concolore; columellâ arcuatâ, vix compressâ.

Altit. 7, diam. $4\frac{2}{3}$, altit. aperturæ $3\frac{2}{3}$.

Hab. Insula Ticao, Philippinarum (on rocks, high water; Cuming).

14. Littorina pallescens. *Lit. testâ oblongâ, subturritâ, solidâ, albidâ; anfractibus convexiusculis, superioribus lineis impressis novem, ultimis lineis elevatis obtusis (circa quatuor in anfractu penultimo) sculptis; aperturâ patulâ, semiorbiculari; columellâ brevi, compressâ.*

Altit. 10, diam. 7, altit. aperturæ $5\frac{1}{2}$ lin.

Hab. Insula Mindanao (Cagayan, province of Misamis, found on mangrove-trees; Cuming).

This species differs from *L. filosa*, Sow., in being much more solid, in its broader and blunter elevated transverse lines and broad compressed columella.

15. Littorina Sieboldii. *Lit. testâ oblongâ, subturritâ, tenuiusculâ, flavescente, subunicolore; anfractibus convexiusculis, supremis lineis impressis, inferioribus lineis elevatis confertis, acutiusculis (circa 9 in anfractu penultimo) sculptis; aperturâ patulâ, semiorbiculari; columellâ compressâ, subcanaliculatâ, albâ.*

Altit. 13, diam. 8, altit. aperturæ 7 lin.

Hab. Japonia, Siebold.

Perhaps only a variety of *L. scabra*, from which it differs almost only in its high raised transverse ridges and very obscurely angulated base.

16. Littorina cingulata. *Lit. testâ oblongâ, acutâ, tenui, pallidè griseâ, apice obscuro; anfractibus convexiusculis, suturâ profundâ divisis, sulcatis; ultimis cingulis elevatis croceis ornatis; basi haud carinatâ; aperturâ ovatâ, patulâ; columellâ arcuatâ, albâ, haud compressâ; faucibus albis, rufo-lineatis.*

Altit. 9, diam. $6\frac{1}{2}$, altit. aperturæ $4\frac{1}{2}$ lin.

Hab. Ad oram borealem Novæ Hollandiæ (found on the mangrove-trees by I. E. Dring, Esq.).

17. Littorina sulculosa. *Lit. testâ oblongâ, acutâ, tenui, flavescente, fasciis transversis pallidè fuscis pictâ; anfractibus convexiusculis, suturâ profundâ divisis et sulcis 3–4 exaratis; ultimo subangulato; aperturâ semiorbiculari, albâ; faucibus fusco-fasciatis; columellâ parùm arcuatâ, compressiusculâ.*

Altit. $8\frac{1}{2}$, diam. $5\frac{1}{4}$, altit. aperturæ $4\frac{1}{2}$ lin.

Hab. in orâ boreali Novæ Hollandiæ (found on the mangrove-trees by I. E. Dring, Esq.).

The sculpture of this species is exactly like that of *Trochus rostratus*, Gm.

18. Littorina? aberrans. *Lit. testâ elongatâ, subturritâ, subperforatâ, tenui, obsoletè striatâ, albidâ; anfractibus rotundatis, suturâ profundâ divisis, ultimo ventricoso; aperturâ patulâ, orbi-*

culari-ovatâ, intus nigro-marginatâ; columellâ brevi, tereti, extus reflexâ.

Altit. 8, diam. 5, altit. aperturæ $3\frac{3}{4}$ lin.

Hab. Panama (found on the rocks, half-tide, Cuming).

This species differs by its aperture so much from the other species of *Littorina*, and so nearly resembles a *Bulimus*, that I am very doubtful whether it be placed in its right genus.

December 23, 1845.

No Meeting was held.

INDEX.

The names of New Species, and of Species newly characterized, are printed in Roman Characters: those of Species previously known in *Italics*: those of Species respecting which Anatomical Observations are made, in CAPITALS.

	Page
Accentor, Auct.	34
Accentor Cacharensis, *Hodgson*	34
—— immaculatus, *Hodgson*	34
—— Nipalensis, *Hodgson*	34
—— strophiatus, *Hodgson*	34
Achatina ——?	11
—— aberrans, *Pfr.*	138
—— Adamsii, *Pfr.*	138
—— *columnaris*	138
—— costulata, *Pfr.*	75
—— fusiformis, *Pfr.*	75
—— Gossei, *Pfr.*	138
—— Lattrei, *Pfr.*	138
—— papyracea, *Pfr.*	74
—— reticulata, *Pfr.*	74
—— semisculpta, *Pfr.*	74
Achatinella Swainson	89
Achatinella acuta, Swains.	89
—— brevis, *Pfr.*	90
—— *bulimoides*, Swains.	89
—— clara, *Pfr.*	90
—— corneola, *Pfr.*	90
—— *gravida*	90
—— *livida*, Swains.	89
—— *lugubris*, Chemn.	89
—— *luteola*	90
—— *perversa*, Swains.	89
—— *pica*, Swains.	89
—— picta, *Pfr.*	90
—— *pulcherrima*, Swains.	89
—— pyramis, *Pfr.*	90
—— radiata, *Pfr.*	89
—— *rosea*, Swains.	89
—— *tristis*	89
—— *turritella*	89
—— *ventulus*	89
Alaudinæ	33
Alcopus rufifrons, *Hodgson*	24
ALCYONES	100
ALECTORIDES	101
AMPHIBIA	102
Amphipeplea Cumingiana, *Pfr.*	68
Ampullaria ——?	11
ANISODACTYLI	100
Anous, Leach	103
Anous cinereus, *Gould*	104
—— leucocapillus, *Gould*	103
—— melanops, *Gould*	103
—— *niger*, Steph.	103
—— parvulus, *Gould*	104
—— *stolidus*	103
—— *tenuirostris*	104
Ardea (Herodias) picata, *Gould*	62
Ardeola exilis, Bonap.	1
Artemis sculpta, *Hanley*	12
—— simplex, *Hanley*	11
—— subquadrata, *Hanley*	11
Asphalax Zokar	76
AVES	98
Boa constrictor, Auct.	43
Brachypodinæ, Swains.	22
BRADYPUS DIDACTYLUS	93, 98
Bulimus	89
Bulimus canaliculatus, *Pfr.*	68
—— castaneus, *Pfr.*	68
—— coarctatus, *Pfr.*	73
—— *costulatus*, Adams	138
—— *decorus*, Pfr.	89
—— Deshayesii, *Pfr.*	73
—— egregius, *Pfr.*	67
—— gilvus, *Sow.*	45
—— Gossei, *Pfr.*	137
—— Grayanus, *Pfr.*	73
—— Leopardus, *Pfr.*	67
—— *loratus*, Pfr.	89
—— Siquijorensis, *Pfr.*	74
—— Thompsonii, *Pfr.*	74
—— *tristis*, Pfr.	89
—— *turritella*, Pfr.	89
—— *ventulus*, Pfr.	89
—— *vulpinus*, Pfr.	89
Buteoninæ	37
Buteo leucocephalus, *Hodgson*	37
—— plumipes, *Hodgson*	37
—— *vulgaris*, Flem.	13
Calamoherpe longirostris, *Gould*	20
Cancer Norvegicus	13
CARNIVORA	97
CETACEA	97
CHEIROPTERA	96

Page
Chelidorynx, n. g., *Hodgson* 32
Chelidorynx chrysoschistos, *Hodgson* 32
CHELIONES 100
Chloropsis, Jard. 24
Cilathora, Auct. (Stachyris, *Hodgson*) 22
Clithon, Montfort, Leach 120
CLUPEA HARENGUS 91
Coccothraustes rosea, *Auct.* 36
COLUMBÆ 100
Colluricincla parvula, *Gould* 62
—— rufogaster, *Gould* 80
Conovulus Cumingianus, *Récl.* 122
Corvus pastinator, *Gould* 1
Crateropodinæ 24
Cuculus dumetorum, *Gould* 19
—— insperatus, *Gould* 19
—— optatus, *Gould* 18
CURSORES 101
Cylindrella Gossei, *Pfr.* 137
CYPRÆA 133
Cysticola campestris, *Gould* 20
Cytherea Ovum, *Hanley* 21
Digenea, *Hodgson* 26
Digenea leucomelanura, *Hodgson* ... 26
—— tricolor, *Hodgson* 26
Dimorpha, n. g., *Hodgson* 25
Dimorpha? monileger, *Hodgson* ... 26
——? rubrocyanea, *Hodgson* 26
—— *strophiata*, Hodgson 26
Dipus Jaculus 76
Donacola flaviprymna, *Gould* 80
Donax asper, *Hanley* 14
—— assimilis, *Hanley* 17
—— culter, *Hanley* 14
—— gracilis, *Hanley* 15
—— lubricus, *Hanley* 17
—— navicula, *Hanley* 15
—— sordidus, *Hanley* 15
—— Ticaonicus, *Hanley* 14
Dromicia concinna, *Gould* 2
ECHIDNA HYSTRIX 80
EDENTATA 98
ELEPHAS INDICUS 93, 97
Emberiza 35
Emberiza oinops, *Hodyson* 35
Erpornis, *Hodgson* 23
Erpornis xanthochlora, *Hodgson* ... 23
Falconidæ 37
Fringilla rhodochroa 36
—— *rhodopepla* 36
Fringillinæ 36
Fulica ater, Penn. 13
—— Australis, *Gould* 2
GALLINÆ 100
Garrulus glandarius, Flem. 13
Gavia fusca, Brehm 103
Genetta vulgaris, Cuv. 11
Geomelania, n. g., *Pfr.* 45
Geomelania Jamaicensis, *Pfr.* 45
Glandina arcuata, *Pfr.* 138

Page
Glandina curvilabris, *Pfr* 137
—— Jamaicensis, *Pfr.* 137
—— monilifera, *Pfr.* 75
—— nigricans, *Pfr.* 75
—— obtusa, *Pfr.* 42
Glaucopinæ, Swains. 31
GRALLATORES 101
GRANIVORÆ 99
Hæmorhous rosea, Auct. 36
Hapalotis murinus, *Gould* 78
Heliceæ 89
Helix ——? 11
Helix acutimargo, *Pfr.* 40
—— Adamsii, *Pfr.* 66
—— albocincta, *Pfr.* 123
—— amœna, *Pfr.* 65
—— andicola, *Pfr.* 129
—— Bahamensis, *Pfr.* 66
—— Bainbridgii, *Pfr.* 44
—— Belcheri, *Pfr.* 128
—— Bermudensis, *Pfr.* 67
—— biangulata, *Pfr.* 40
—— bilineata, *Pfr.* 128
—— Boholensis, *Pfr.* 123
—— Bronni, *Pfr.* 131
—— Bruguieriana, *Pfr.* 44
—— Buschi, *Pfr.* 126
—— campanula, *Pfr.* 65
—— Caucasica, *Pfr.* 131
—— ceratodes, *Pfr.* 128
—— Chemnitziana, *Pfr.* 43
—— cinerascens, *Pfr.* 64
—— conspersula, *Pfr.* 124
—— constricta, *Pfr.* 39
—— cyathus, *Pfr.* 123
—— *decipiens*, Sow. 124
—— *decora*, Fér. 89
—— dilatata, *Pfr.* 42
—— *dimera*, Jonas 126
—— dubiosa, *Pfr.* 123
—— euryomphala, *Pfr.* 71
—— excentrica, *Pfr.* 41
—— eximia, *Pfr.* 41
—— filaris, *Valenc.* 38
—— filicosta, *Pfr.* 73
—— filocincta, *Pfr.* 124
—— fodiens, *Pfr.* 39
—— Forbesii, *Pfr.* 71
—— gallinula, *Pfr.* 40
—— Gilberti, *Pfr.* 127
—— Gmeliniana, *Pfr.* 43
—— Gouldi, *Pfr.* 124
—— grandis, *Pfr.* 43
—— *gravida*, Fér. 90
—— Griffithi, *Pfr.* 127
—— Gruneri, *Pfr.* 63
—— Hanleyi, *Pfr.* 65
—— Hartmanni, *Pfr.* 125
—— Hartwegi, *Pfr.* 126
—— Hedenborgi, *Pfr.* 132
—— helicophantoides, *Pfr.* 125

Page
Helix hians, *Pfr.* 130
—— Hindsi, *Pfr.* 132
—— horizontalis, *Pfr.* 40
—— Incei, *Pfr.* 126
—— induta, *Pfr.* 128
—— insculpta, *Pfr.* 129
—— involuta, *Pfr.* 65
—— Jenynsi, *Pfr.* 131
—— Jonasi, *Pfr.* 126
—— Kingi, *Pfr.* 125
—— Knysnaensis, *Pfr.* 131
—— Kochi, *Pfr.* 127
—— labiata, *Pfr.* 65
—— leptogramma, *Pfr.* 127
—— Linnæana, *Pfr.* 43
—— *lorata*, Fér. 89
—— *luteola*, Fér. 90
—— marmorella, *Pfr.* 125
—— Martiniana, *Pfr.* 44
—— Metcalfii, *Pfr.* 66
—— micans, *Pfr.* 71
—— Neogranatensis, *Pfr.* 64
—— nilagirica, *Pfr.* 130
—— Nystiana, *Pfr.* 130
—— obtusa, *Pfr.* 38
—— Okeniana, *Pfr.* 63
—— omphalodes, *Pfr.* 64
—— orthostoma, *Pfr.* 124
—— pachystyla, *Pfr.* 71
—— papillata, *Pfr.* 129
—— paradoxa, *Pfr.* 39
—— pelodes, *Pfr.* 126
—— Pennantiana, *Pfr.* 67
—— planissima, *Pfr.* 72
—— platyodon, *Pfr.* 132
—— ponderosa, *Pfr.* 38
—— pratensis, *Pfr.* 132
—— ptychodes, *Pfr.* 137
—— radiella, *Pfr.* 125
—— radula, *Pfr.* 40
—— rectangula, *Pfr.* 130
—— retifera, *Pfr.* 73
—— retusa, *Pfr.* 132
—— rhombostoma, *Pfr.* 72
—— rubicunda, *Pfr.* 72
—— Sauliæ, *Pfr.* 72
—— Schroeteriana, *Pfr.* 44
—— semiglobosa, *Pfr.* 38
—— Sinaitensis, *Pfr.* 129
—— spectabilis, *Pfr.* 41
—— *spirizona*, Fér. 89
—— spirulata, *Pfr.* 129
—— splendidula, *Pfr.* 128
—— strigilis, *Pfr.* 124
—— succinea, *Pfr.* 39
—— tenuis, *Pfr.* 41
—— trigonostoma, *Pfr.* 41
—— *tristis*, Fér. 89
—— tristis, *Pfr.* 66
—— tumida, *Pfr.* 130
—— Turbo, *Pfr.* 64

Page
Helix turritella, Fér. 89
—— unicolor, *Pfr.* 64
—— variolosa, *Pfr.* 128
—— ventrosula, *Pfr.* 131
—— *ventulus*, Fér. 89
—— *vulpina*, Fér. 89
—— Zonites, *Pfr.* 127
Hemichelidon, n. g., *Hodgson* 32
Hemichelidon ferruginea, *Hodgson* .. 32
—— fuliginosa, *Hodgson* 32
Hemipodius scintillans, *Gould* 62
Hemipus, n. g., *Hodgson* 32
Hemipus picæcolor, *Hodgson* 33
Heterura, n. g., *Hodgson* 33
Heterura sylvana, *Hodgson* 33
Homo 96
Horeites, *Hodgson* 30
Horeites pollicaris, *Hodgson* 30
—— schistilatus, *Hodgson* 30
Horornis, n. g., *Hodgson* 31
Horornis flaviventris, *Hodgson* 31
—— fortipes, *Hodgson* 31
—— ? fuligiventer, *Hodgson* 31
—— ? fulviventris, *Hodgson* 31
Hypsipetes, Vig. 24
Insectivora 96
Insectivores 99
Ixops 24
Ixulus, n. g., *Hodgson* 23
Lagomys Nepalensis, *Hodgson* 13
Larus argentatus, Mont. 13
—— Bridgesii, *Fraser* 16
—— *capistratus*, Temm. 68
—— *ridibundus*, Auct. 68
Lemuridæ 96
Leuciscus —— ? 17
Littorina ? aberrans, *Phil.* 142
—— articulata, *Phil.* 141
—— aspera, *Phil.* 139
—— cingulata, *Phil.* 142
—— conica, *Phil.* 141
—— debilis, *Phil.* 140
—— glabrata, *Phil.* 140
—— intermedia, *Phil.* 141
—— lævis, *Phil.* 140
—— lemniscata, *Phil.* 139
—— modesta, *Phil.* 141
—— pallescens, *Phil.* 142
—— picta, *Phil.* 139
—— porcata, *Phil.* 139
—— punctata, *Phil.* 141
—— Sayi, *Phil.* 140
—— Sieboldii, *Phil.* 142
—— Sitkana, *Phil.* 140
—— strigata, *Phil.* 141
—— sulculosa, *Phil.* 142
—— tenuis, *Phil.* 141
Lorius superbus, *Fraser* 16
Loxia 35
Loxia himalayana, *Hodgson* 35
—— *leucoptera* 91

Page
MAMMALIA 93, 96
Mareca (*Anas Penelope*, Linn.) 13
MARSUPIATA 98
Megalopterus, Boie 103
Melania? ——? 11
Melithreptus melanocephalus, *Gould* 62
Mergus Orientalis, *Gould* 1
Meriones opimus 76
Micrura squamata, Gould 24
Mitra ægra, *Reeve* 50
—— Æthiops, *Reeve* 60
—— alveolus, *Reeve* 61
—— amabilis, *Reeve* 53
—— amanda, *Reeve* 59
—— analogica, *Reeve* 56
—— armiger, *Reeve* 55
—— armillata, *Reeve* 58
—— articulata, *Reeve* 56
—— Auriculoides, *Reeve* 46
—— avenacea, *Reeve* 49
—— bilineata, *Reeve* 56
—— brumalis, *Reeve* 54
—— Bulimoides, *Reeve* 46
—— cælata, *Reeve* 51
—— callosa, *Reeve* 50
—— candida, *Reeve* 60
—— chelonia, *Reeve* 55
—— cimelium, *Reeve* 51
—— cineracea, *Reeve* 57
—— cithara, *Reeve* 49
—— cœligena, *Reeve* 46
—— consanguinea, *Reeve* 48
—— corallina, *Reeve* 61
—— coriacea, *Reeve* 47
—— cremans, *Reeve* 48
—— crocea, *Reeve* 59
—— dædala, *Reeve* 54
—— decora, *Reeve* 47
—— discoloria, *Reeve* 46
—— duplilirata, *Reeve* 46
—— elegans, *Reeve* 47
—— exilis, *Reeve* 58
—— fastigium, *Reeve* 45
—— festa, *Reeve* 56
—— forticostata, *Reeve* 48
—— gausapata, *Reeve* 59
—— glandiformis, *Reeve* 57
—— Graia, *Reeve* 60
—— granata, *Reeve* 52
—— gratiosa, *Reeve* 53
—— hebes, *Reeve* 55
—— incarnata, *Reeve* 56
—— inermis, *Reeve* 54
—— infausta, *Reeve* 60
—— lacryma, *Reeve* 51
—— lauta, *Reeve* 49
—— leucodesma, *Reeve* 49
—— limata, *Reeve* 58
—— lota, *Reeve* 48
—— lubens, *Reeve* 61
—— lucida, *Reeve* 51

Page
Mitra luculenta, *Reeve* 49
—— mœsta, *Reeve* 59
—— mica, *Reeve* 58
—— micans, *Reeve* 55
—— militaris, *Reeve* 48
—— milium, *Reeve* 50
—— mirifica, *Reeve* 53
—— modesta, *Reeve* 50
—— mutabilis, *Reeve* 47
—— nympha, *Reeve* 50
—— Pacifica, *Reeve* 52
—— patula, *Reeve* 61
—— peculiaris, *Reeve* 57
—— pica, *Reeve* 49
—— pinguis, *Reeve* 57
—— puella, *Reeve* 53
—— purpurata, *Reeve* 53
—— radius, *Reeve* 57
—— recurva, *Reeve* 56
—— rhodia, *Reeve* 46
—— roborea, *Reeve* 57
—— rosacea, *Reeve* 59
—— rustica, *Reeve* 60
—— sculptilis, *Reeve* 55
—— semen, *Reeve* 50
—— spicata, *Reeve* 55
—— suturata, *Reeve* 54
—— tornata, *Reeve* 52
—— Tornatelloides, *Reeve* 58
—— tuberosa, *Reeve* 48
—— turgida, *Reeve* 52
—— turriger, *Reeve* 51
—— tusa, *Reeve* 54
—— typha, *Reeve* 52
—— verrucosa, *Reeve* 47
—— vultuosa, *Reeve* 52
—— zelotypa, *Reeve* 60
Mixornis, n. g., *Hodgson* 23
Mixornis ruficeps, *Hodgson* 23
Monodonta seminigra, Lamarck ... 89
MOSCHUS JAVANICUS 94, 97
—— STANLEYANUS 94, 97
Murex alabaster, *Reeve* 86
—— ambiguus, *Reeve* 86
—— bellus, *Reeve* 88
—— bipinnatus, *Reeve* 85
—— crassivaricosa, *Reeve* 86
—— crocatus, *Reeve* 108
—— eurypteron, *Reeve* 109
—— funiculatus, *Reeve* 88
—— Gambiensis, *Reeve* 88
—— maculatus, *Reeve* 108
—— Martinianus, *Reeve* 88
—— nigrispinosus, *Reeve* 88
—— oculatus, *Reeve* 86
—— osseus, *Reeve* 87
—— pellucidus, *Reeve* 87
—— pistachia, *Reeve* 109
—— Pleurotomoides, *Reeve* 109
—— pudoricolor, *Reeve* 108
—— rubiginosus, *Reeve* 86

Page
Murex rusticus, *Reeve* 108
—— Sinensis, *Reeve* 85
—— Steeriæ, *Reeve* 85
—— triformis, *Reeve* 87
—— turritus, *Reeve* 108
Mus albocinereus, *Gould* 78
—— gracilicaudatus, *Gould* 77
—— lineolatus, *Gould* 77
Muscicapa leucura, Gmel. 26
Muscicapinæ 32
Muscisylvia, n. g., *Hodgson* 27
Muscisylvia leucura, *Hodgson* 27
Mustela Altaica 76
Mygale moschata 76
Myotherinæ 24
Nemura, n. g., *Hodgson* 27
Nemura cyanura, *Hodgson* 27
—— flavolivacea, *Hodgson* 27
—— rufilatus, *Hodgson* 27
Nerita celata, *Récl.* 120
—— Columbaria, *Récl.* 121
—— *crepidularia*, Lamk. 119
—— Doingii, *Récl.* 121
—— *domingensis*, Lamk. 122
—— *fluviatilis*, Lamk. 122
—— Jordani, *Butler*, *Sow.* 121
—— *lutescens*, Megerle 122
—— sobrina, *Récl.* 119
—— solium, *Récl.* 120
—— Rossmassleriana, *Récl.* 119
—— violacea, *Gmelin* 119
—— Zelandica, *Récl.* 120
Neritæ globosæ 119
—— *muticæ* 120
—— *ovatæ vel ovato-oblongæ* 120
—— *serratæ* 119
—— *spinosæ* 120
—— *subhemisphæricæ* 119
Neritina —— ? 11
Nycticejus 10
Ocyris, *Hodgson* 35
Œdicnemus crepitans, Selby 13
Oligura, n. g., *Hodgson* 25
Oligura cyaniventer, *Hodgson* 25
—— flaviventer, *Hodgson* 25
Omnivoræ 99
Orthotomus, Horsf. 28
Orthotomus Patia, *Hodgson* 29
Ostrea bicolor, *Hanley* 107
—— callichroa, *Hanley* 107
—— Chemnitzii, *Hanley* 106
—— Columbiensis, *Hanley* 107
—— lacerata, *Hanley* 106
—— Megodon, *Hanley* 106
—— multistriata, *Hanley* 106
—— Pes-tigris, *Hanley* 106
Pachycephala glaucura, *Gould* 19
Pachydermata 97
Palæornis modestus, *Fraser* 16
Palmipedes 101
Parianæ ? 34

Page
Pelecanopus pelecanoides 104
Phascolomys latifrons, *Owen* 82
—— Vombatus, Auct. 82
Philomelinæ 27
Pica caudata, Flem. 13
—— serica, *Gould* 2
Picus major ? 13
Pinnatipedes 100
Pisces 102
Planorbis —— ? 11
Plantigrada 96
Platycercus splendidus, *Gould* 105
Pleurotoma ægrota, *Reeve* 117
—— æruginosa, *Reeve* 115
—— aquatilis, *Reeve* 111
—— arata, *Reeve* 116
—— arctata, *Reeve* 118
—— armillata, *Reeve* 111
—— aureola, *Reeve* 113
—— bætica, *Reeve* 110
—— bilineata, *Reeve* 113
—— cantharis, *Reeve* 116
—— cardinalis, *Reeve* 115
—— castanea, *Reeve* 112
—— cavernosa, *Reeve* 118
—— clara, *Reeve* 112
—— coccinata, *Reeve* 118
—— compta, *Reeve* 118
—— concentricostata, *Reeve* 117
—— crocata, *Reeve* 110
—— ebur, *Reeve* 116
—— efficta, *Reeve* 118
—— exarata, *Reeve* 112
—— flavescens, *Reeve* 111
—— foraminata, *Reeve* 118
—— Forthiensis, *Reeve* 114
—— fragilis, *Reeve* 111
—— fucata, *Reeve* 110
—— fulva, *Reeve* 116
—— Grayi, *Reeve* 114
—— Guildingii, *Reeve* 116
—— hexagonalis, *Reeve* 118
—— hyalina, *Reeve* 116
—— igniflua, *Reeve* 113
—— implicata, *Reeve* 110
—— inquinata, *Reeve* 117
—— lanceolata, *Reeve* 111
—— languida, *Reeve* 115
—— lirata, *Reeve* 117
—— luteo-fasciata, *Reeve* 114
—— Metcalfiana, *Reeve* 114
—— nexa, *Reeve* 117
—— nux, *Reeve* 112
—— obeliscus, *Reeve* 110
—— obliquata, *Reeve* 115
—— obliqui-costata, *Reeve* 110
—— olyra, *Reeve* 112
—— opalus, *Reeve* 116
—— pagodus, *Reeve* 114
—— palliata, *Reeve* 112
—— parvula, *Reeve* 115

Page
Pleurotoma patula, *Reeve* 113
—— paxillus, *Reeve* 117
—— pellis-phocæ, *Reeve* 115
—— pluricarinata, *Reeve* 115
—— Polynesiensis, *Reeve* 119
—— pseudo-carinata, *Reeve* 115
—— pulchella, *Reeve* 111
—— punctata, *Reeve* 111
—— puncticincta, *Reeve* 115
—— putillus, *Reeve* 113
—— pyramidula, *Reeve* 115
—— quadrata, *Reeve* 114
—— reflexa, *Reeve* 114
—— rosacea, *Reeve* 109
—— rubinicolor, *Reeve* 111
—— rubrifasciata, *Reeve* 110
—— sacerdos, *Reeve* 110
—— sacra, *Reeve* 111
—— saturata, *Reeve* 113
—— sordida, *Reeve* 117
—— spectrum, *Reeve* 113
—— subula, *Reeve* 113
—— Ticaonica, *Reeve* 116
—— undaticostata, *Reeve* 117
—— urnula, *Reeve* 114
—— vexillum, *Reeve* 115
—— vidua, *Reeve* 112
—— vitrea, *Reeve* 118
—— vittata, *Reeve* 112
—— vultuosa, *Reeve* 116
Pnoepyga (olim *Tesia*), n. g., *Hodgson* 24
Pnoepyga albiventer, *Hodgson* 24
—— pusillus, *Hodgson* 25
—— rufiventer, *Hodgson* 25
—— unicolor, *Hodgson* 25
Podabrus macrourus, *Gould* 79
Podargus plumiferus, *Gould* 104
Polyodon flavicollis, Hodgson 24
Prinia, Horsf. 29
Prinia brunnifrons, *Hodgson* 29
—— fusca, *Hodgson* 29
—— *ruficapilla*, Auct.? 29
Propasser, n. g., *Hodgson* 36
Propyrrhula Rubeculoides, *Hodgson* 36
Pterocles guttatus ? Temm. 13
Pyctoris, n. g., *Hodgson* 24
Pyrrhoplectes, n. g., *Hodgson* 36
Pyrrhula 36
Pyrrhula epauletta, Hodgson 36
Pyrrhulinæ 35
Pyrrhulinota, n. g., *Hodgson* 36
Pyrrhulinota roseata, *Hodgson* 36
Rana arborea 18
Rapaces 98
Reptilia 101
Rodentia 98
Ruminantia 97

Page
Salamandra 18
Salamandra maculosa, Bonap. 11
Saxicola rubeculoides, Sykes 26
Saxicolinæ 25
Scolopendra cingulata 18
Simiæ Catarrhini 96
—— Platyrrhini 96
Siphia 25
Spatula (*Anas clypeata*, Linn.) 13
Sphenœacus gramineus, *Gould* 19
Stachyris, *Hodgson* (olim *Cilathora*) 22
Stachyris chrysæus, *Hodgson* 23
—— nigriceps, *Hodgson* 22
—— pyrops, *Hodgson* 23
Sterna gracilis, *Gould* 76
—— *Inca*, Less. 1
—— *stolida*, Linn. 103
—— *tenuirostris*, Temm. 104
Strix tenebricosus, *Gould* 80
Sturnus vulgaris, Linn. 13
Sylvia putoria, Auct. 29
—— *sphenura*, Auct. 29
—— *ruficapilla*, Auct. 29
Sylviadæ 25
Sylvianæ 28
Synornis, *Hodgson* 26
Synornis Joulaimus, *Hodgson* 27
Taphozous Philippinensis, *Waterh.* . 9
Tarsiger, n. g., *Hodgson* 28
Tarsiger chrysæus, *Hodgson* 28
Temnoris (olim *Suthora*), *Hodgson* .. 31
Temnoris atrifrons, *Hodgson* 31
—— fulvifrons, *Hodgson* 31
Tetrao medius 13
—— *urogallus* 13
Timalia hypoleucos, Auct. 24
Tomogeres turbinatus, *Pfr.* 45
Tribura, n. g., *Hodgson* 30
Tribura luteoventris, *Hodgson* 30
Trochus Cumingii, *Phil.* 138
Trogon puella, *Gould* 18
Tyrrhaptes paradoxus 76
Valvata ——? 11
Venus Bruguieri, *Hanley* 21
—— magnifica, *Hanley* 21
Vertebrata 93
Vespertilio 3
Vespertilio Eschscholtzii, *Waterh.* ... 4
—— macrotarsus, *Waterh.* 5
—— Meyeni, *Waterh.* 7
—— pellucidus, *Waterh.* 6
—— rufo-pictus, *Waterh.* 8
—— tristis, *Waterh.* 3
Yuhina flavicollis 24
Zeus conchifer, Lowe 103
Zosterops, Vig. et Horsf. 24
Zygodactyli 99

END OF PART XIII.

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30
8-3
1

LIST

OF

CONTRIBUTORS,

With References to the several Articles contributed by each.

BRIDGES, THOMAS, Esq. *page*

Letter from, addressed to G. R. Waterhouse, Esq., containing notices of Bolivian Mammals and Birds 7

CUMING, HUGH, Esq.

Descriptions of New Species of *Chama* by Lovell Reeve, communicated by 117

FAYRER, R. J., Esq., Lieut. R.N.

Letter from, accompanying some Specimens of the Bische de Mer, or Trepang 67

FRY, EDWARD.

On the Osteology of the Active Gibbon (*Hylobates agilis*) 11

On the Relation of the Edentata to the Reptiles, especially of the Armadillos to the Tortoises 72

GASKOIN, J. S., Esq.

Descriptions of three New Species of *Cypræa* 23

GOULD, JOHN, Esq., F.R.S.

On a New Species of *Nyctibius* 1

Descriptions of eleven New Species of Australian Birds . 18

Descriptions of three New Species of the family of *Trochilidæ* 44

Descriptions of six New Species of Birds 67

Letter addressed to, detailing the circumstances of the death of Mr. John Gilbert 79

Descriptions of two New Species of Australian Birds . . 83

On twenty New Species of *Trochilidæ* or Humming Birds 85

Descriptions of three New Australian Birds 106

GULLIVER, GEORGE, Esq., F.R.S.

Note on the Spermatozoa of the Polar Bear (*Ursus maritimus*) 11

Note on the Size of the Blood-Corpuscles of Birds, with Measurements by Dr. Davy of the Blood-Corpuscles of some Fishes and of a Humming-Bird 26

HERON, Sir ROBERT, Bart. *page*
Note on the Genus *Crax* 67

HILL, RICHARD, Esq.
Description of a Seal found on a shoal, south of Jamaica . 80

JONAS, Dr. J. H.
Descriptions of New Species of Shells 34
Descriptions of two New Shells 120

LOWE, the Rev. R. T.
Letter from, accompanying a specimen of *Lichia Vadigo*, Cuv. & Val. 23
On a new Genus of the Family *Lophidæ* (les Pectorales Pédiculées, *Cuv.*) discovered in Madeira 81

OWEN, Professor.
Notes on the Dissection of a Female Chimpanzee (*Troglodytes niger*) 2
Memoir on the *Dinornis*, Part II. 46
Observations on the Skull and on the Osteology of the Foot of the Dodo (*Didus ineptus*) 51

PFEIFFER, Dr. L.
Descriptions of thirty New Species of *Helicea*, belonging to the collection of Hugh Cuming, Esq. 28
Descriptions of twenty New Species of *Helicea*, in the collection of Hugh Cuming, Esq. 37
Descriptions of nine New Species of *Helicea*, collected by Hugh Cuming, Esq. 41
Descriptions of thirty-eight New Species of Land-Shells . 109

REEVE, LOVELL, Esq.
On New Species of *Pleurotoma* 3
Descriptions of two New Species of *Cypræa* 23
Descriptions of forty New Species of *Haliotis*, from the collection of Hugh Cuming, Esq. 53
Descriptions of fifty-four New Species of *Mangelia*, from the collection of Hugh Cuming, Esq. 59

SOWERBY, G. B., Esq.
Descriptions of thirteen New Species of *Brachiopoda* . . 91
Descriptions of New Species of *Marginella* 95

STRICKLAND, H. E., Esq.
Exhibition of a New Species of *Corvus*, discovered by Captain H. M. Drummond, 42nd R.H. 43
Notes on certain Species of Birds from Malacca . . . 99

TOMES, —, Esq.
Exhibition of a Female Specimen of the Bimaculated Duck (*Anas glocitans*) 121

WATERHOUSE, G. R., Esq.
Description of a New Mammal from Bolivia (*Hesperomys Boliviensis*) 8

PROCEEDINGS

OF THE

ZOOLOGICAL SOCIETY OF LONDON.

January 13, 1846.

William Yarrell, Esq., Vice-President, in the Chair.

Mr. Gould described a new species of *Nyctibius*, which he proposed to name

NYCTIBIUS BRACTEATUS. *Nyct. castaneo-fuscus; scapularum apicibus, et abdomine, maculis albis, quasi bracteis, ornatis.*

The general plumage rich chestnut-brown; the feathers of the head, back and breast freckled with black, and with an irregular-shaped blotch of black at the extremity of each feather; near the tip of each of the scapularies a spot of white encircled with black; on the lower part of the abdomen are two lunar-shaped marks of white, formed by a square spot of silvery white, bounded above and below with a narrow line of black, occupying the extremities of the feathers; wings dark brown, with the exception of the outer margins of the primaries, which are cinnamon-brown; tail chestnut, crossed with numerous bars, composed of two irregular narrow lines of black, and with a small spot of white at the tip; under tail-coverts buff, with a square spot of white at the tip.

Total length, $9\frac{1}{2}$ inches; bill, $1\frac{1}{4}$; wing, 6; tail, $5\frac{1}{2}$; tarsi, $\frac{1}{2}$.

Hab. Santa Fé de Bogota.

Remark.—This species is the least of the genus that has come under my notice; the description is taken from a fine specimen in the collection of the Royal Institution of Liverpool.

January 27, 1846.

William Yarrell, Esq., Vice-President, in the Chair.

A paper by Professor Owen was read, containing the following notes on the dissection of the Chimpanzee (*Troglodytes niger*) which died in the menagerie of the Society Dec. 29, 1845:—

Chimpanzee (female):—Weight $42\frac{1}{2}$ lbs.

MEASUREMENTS.	ft.	in.
From vertex to under-side of heel	3	6
From vertex to coccyx	2	0
From trochanter major femoris to external condyle of femur	0	$9\frac{1}{2}$
From external condyle of femur to external malleolus	0	$9\frac{1}{4}$
From heel to end of middle toe	0	$8\frac{3}{4}$
From distal end of first metatarsal to distal end of phalanges of first toe	0	$2\frac{1}{2}$
From acromion to external condyle of humerus	0	$9\frac{1}{2}$
From external condyle of humerus to distal end of radius	0	10
From distal end of radius to extremity of middle finger	0	10
Circumference of proximal part of arm	0	8
Circumference of proximal part of forearm	0	$8\frac{1}{8}$
Circumference of distal part of fore-arm	0	$6\frac{1}{8}$
Circumference of wrist	0	6
Circumference of proximal part of thigh	0	11
Circumference of distal part of thigh	0	$9\frac{1}{4}$
Circumference of proximal part of leg	0	7
Circumference of distal part of leg	0	$6\frac{1}{4}$
Circumference of metatarsus	0	7

Weight of brain (covered by arachnoid and pia mater), 13 oz. 4 dr.
Weight of liver, 2 lbs.
Weight of spleen, $2\frac{1}{2}$ oz.
Weight of kidneys, 3 oz. each.

All the deciduous teeth were shed, and all the permanent teeth (on the right or healthy side of the mouth) were in place, except the canines and last molars; these latter teeth were more advanced in their development than the canines. This stage of dentition corresponds with that of the human subject at about the twelfth year; but allowance must be made for the later period of development of the canines in the Chimpanzee. Both upper and lower jaws on the left side were enlarged by disease; the gums inflamed and sloughy; the bicuspides or premolars and the first and second true molars had been pushed out, and their fangs more or less absorbed. The left outer permanent incisor of the upper jaw was half an inch distant

from the inner or median incisor, owing to intervening swelling of the jaw. A section of the diseased left ramus of the lower jaw showed the matrices of the canine and last molar in a healthy state in the closed alveolar cavities.

The irritation had extended to the left submaxillary and sublingual glands, which were much enlarged. Both tonsils were ulcerated. Both pleuræ, but particularly the left, were partly closed by old adhesions, which had obliterated the divisions of the lobes of the lungs. Only one small portion of the pulmonary tissue was consolidated by inflammation; it was about the size of a walnut, and situated in the lower lobe of the right lung, close to an adhesion of the pleura, but there were no tubercles developed in any part of the lungs.

A few old adhesions bound the spleen and omentum to the walls of the abdomen; all the other viscera of the abdominal cavity were healthy. The most remarkable morbid appearance was found upon the upper surface of the posterior lobe of the right hemisphere of the brain, where a circumscribed depression of two convolutions was formed, to which the dura mater strongly adhered, by the medium of a yellowish firm lymph; but there was no superficial ulceration of the cerebral substance.

With regard to the normal anatomy, I may at present add to the full descriptions that have been published of the dissections of younger Chimpanzees, that in this nearly adult individual the laryngeal pouch extended over the front of the neck, beneath the platysma myoides, as far down as the left axilla, passing there beneath the upper border of the great pectoral muscle.

The continuation of Mr. Lovell Reeve's paper on new species of *Pleurotoma* was then read:—

PLEUROTOMA DELICATA. *Pleur. testâ subulatâ, tenui, hyalinâ, transversim minutè et creberrimè elevato-striatâ, aperturâ brevi; pellucido-albâ, aurantio pallidissimè maculatâ.*

Hab. Lord Hood's Island, Pacific Ocean; Cuming.

PLEUROTOMA AXIS. *Pleur. testâ recto-acuminatâ, infernè contractâ, anfractibus supernè bicarinatis, infra transversim exiliter liratis, aperturâ oblongâ, sinu profundo, albidâ, aurantio-fusco subindistinctè tinctâ.*

Hab. Philippine Islands; Cuming.

PLEUROTOMA CREBRIPLICATA. *Pleur. testâ ovatâ, infernè ventricoso-sinuatâ, anfractibus concentricè crebriplicatis, transversim crebriliratis, aperturâ patulâ; albidâ, aurantio-fusco profusè variegatâ.*

Hab. Bolinao, Island of Luzon, Philippines (found under stones at low water); Cuming.

PLEUROTOMA ROSARIA. *Pleur. testâ abbreviato-subulatâ, basi truncatâ, anfractibus concentricè plicatis, lævibus, aperturâ brevi, vividè coccineo-rosea, anfractuum parte supremâ albizonatâ.*

Hab. ——?

Pleurotoma Dysoni. *Pleur. testâ ovatâ, spirâ subturritâ, anfractibus supernè concavis et obtusè carinatis, infra rotundatis, longitudinaliter costatis, liris transversis decussatis, aperturâ brevi, sinu amplo; castaneo-fuscâ, anfractuum parte superiori hic illic interruptè albifasciatâ.*

Hab. Honduras; Dyson.

I have much pleasure in naming this shell, at the request of Mr. Cuming, after Mr. Dyson, whose adventurous researches after objects of natural history in a country not the most healthy for European travellers are certainly worthy of being recorded.

Pleurotoma Hondurasensis. *Pleur. testâ oblongo-ovatâ, spirâ acutâ, anfractibus rotundatis, nodoso-costatis; cinereo luteoque alternatim fasciatâ; labro incrassato.*

Hab. Honduras; Dyson.

Pleurotoma fenestrata. *Pleur. testâ fusiformi-ovatâ, subinflatâ, tenui, pellucidâ, anfractibus rotundis, liris superficiariis subdistantibus undique clathratis, labro simplici, sinu latiusculo; pellucido-albâ, aurantio pallidè tinctâ.*

Hab. Island of Mindoro, Philippines (found among coral).

Pleurotoma granicostata. *Pleur. testâ abbreviato-ovatâ, basi truncatâ, spirâ brevi, anfractibus pulcherrimè granoso-costatis, liris transversis clathratis; albidâ, roseo-fuscescente tinctâ, granis saturatioribus.*

Hab. ——?

Pleurotoma regularis. *Pleur. testâ subpyramidali-ovatâ, anfractibus supernè concavis, medio obliquè regulariter costatis, aperturâ parvâ, sinu lato; albidâ.*

Hab. ——?

Pleurotoma angicostata. *Pleur. testâ oblongo-ovatâ, spirâ turritâ, lævigatâ, anfractibus longitudinaliter costatis, costis subdistantibus, angustis, supernè angulatis, submucronatis; niveâ.*

Hab. ——?

Pleurotoma mucronata. *Pleur. testâ acuminato-pyramidali, anfractibus longitudinaliter subobscurè plicato-costatis, costis nodulosis, aperturâ brevi; fuscâ, nodorum serie mediânâ albicante.*

Hab. ——?

Pleurotoma Cagayanensis. *Pleur. testâ fusiformi-ovatâ, spirâ acuminatâ, anfractibus supernè unicarinatis, infra tuberculato-plicatis, transversim conspicuè liratis; sinu amplo; albâ.*

Hab. Cagayan, province of Misamis, island of Mindanao, Philippines (found in sandy mud at the depth of seven fathoms); Cuming.

Pleurotoma tessellata. *Pleur. testâ pyramidali, anfractibus supernè concavis, medio confertim tuberculato-plicatis, aperturâ parvâ; albâ, maculis grandibus conspicuis rufo-fuscis tessellatâ.*

Hab. Isle of Capul, Philippines (on the reefs); Cuming.

PLEUROTOMA SEMEN. *Pleur. testâ oblongâ, spirâ mucronatâ, anfractibus lævibus, medio obliquè plicatis, aperturâ parvâ, sinu profundo; castaneo-fuscâ, plicis albidis.*
Hab. San Nicolas, island of Zebu, Philippines (under stones at low water); Cuming.

PLEUROTOMA PARIA. *Pleur. testâ oblongâ, spirâ acuminato-turritâ, anfractibus supernè concavis, infra plicato-costatis, costis angustis, subflexuosis; albâ, fasciâ pallidè aurantiâ indistinctâ cingulatâ.*
Hab. —— ?

PLEUROTOMA SCALPTA. *Pleur. testâ pyramidali-ovatâ, lævigatâ aut minutissimè reticulatâ, aperturâ brevi, sinu distincto; albâ, lineis fuscis brevibus tessellatim pictâ.*
Hab. —— ?

PLEUROTOMA FORBESII. *Pleur. testâ turritâ, anfractibus rotundatis, longitudinaliter obtusè costatis, transversim liratis, aperturâ parvâ; rufescente-fuscâ, liris saturatioribus.*
Hab. Paros, Grecian Archipelago; Forbes.
I have much pleasure in dedicating this little species to Professor Edward Forbes, whose submarine researches among the islands of the Grecian Archipelago have afforded matter of so much interest and novelty.

PLEUROTOMA SYMMETRICA. *Pleur. testâ ovatâ, spirâ breviusculâ, anfractibus supernè depressis, longitudinaliter costatis, costarum interstitiis subtilissimè elevato-striatis; lutescente, anfractuum parte superiori albâ.*
Hab. —— ?

PLEUROTOMA CORNEA. *Pleur. testâ ovatâ, spirâ acuminatâ, corneâ, subpellucidâ, concentricè tenuicostatâ; fuscescente, zonâ angustâ pallidâ cingulatâ.*
Hab. —— ?

PLEUROTOMA FOVEOLATA. *Pleur. testâ ovatâ, liris fortibus elevatis undique reticulatis, liris ad decussationem granosis; albâ.*
Hab. —— ?

PLEUROTOMA PAGODA. *Pleur. testâ pyramidali-acuminatâ, anfractibus longitudinaliter crassicostatis, transversim subtilissimè liratis, aperturâ brevi; olivaceo-fuscâ.*
Hab. —— ?

PLEUROTOMA SEMIGRANOSA. *Pleur. testâ acuminato-turritâ, anfractibus supernè concavis, medio nodoso-costatis, infra granosis, aperturâ parvâ; albidâ, fasciâ aurantiâ infernè cingulatâ.*
Hab. —— ?

PLEUROTOMA TINCTA. *Pleur. testâ oblongo-ovatâ, anfractibus rotundis, longitudinaliter crassicostatis, liris transversis fortiter clathratis, interstitiis profundis, labro incrassato, sinu lato, canali*

subrecurvo; albâ, anfractibus supra et infra aurantio-fusco fasciatim maculatis.
Hab. —— ?

Pleurotoma canaliculata. *Pleur. testâ ovato-turritâ, spiræ suturâ canaliculatâ, anfractibus striis elevatis, subtiliter clathratis, sinu amplo; albicante.*
Hab. —— ?

Pleurotoma Fusoides. *Pleur. testâ fusiformi, spirâ acuminatâ, anfractibus supernè angulatis, striis elevatis creberrimè reticulatis, labro subincrassato, sinu lato; albicante, intus fuscescente.*
Hab. Island of Mindanao, Philippines (found in sandy mud at the depth of twenty-five fathoms); Cuming.

Pleurotoma albifuniculata. *Pleur. testâ oblongâ, anfractibus rotundatis, longitudinaliter crebricostatis, liris subtilibus transversis funiculatis, canali subrecurvo, sinu lato; albicante, aurantio hic illic tinctâ, liris opalo-albis, apice rosaceo.*
Hab. South Pacific.

Pleurotoma albinodata. *Pleur. testâ ovato-turritâ, medio gibbosâ, anfractibus superne angulatis, ad angulum tuberculatis, transversim granoso-liratis; nigricante-fuscâ, tuberculis albis.*
Hab. —— ?

Pleurotoma scarabæus. *Pleur. testâ obeso-ovatâ, spirâ brevi, apice elevato; lævigatâ, spirâ apicem versus obsoletè hexagonali; castaneo-fuscâ, anfractu ultimo zonâ subobscurâ lutescente cingulatâ, apice albo.*
Hab. Honduras; Dyson.

Pleurotoma dædala. *Pleur. testâ subfusiformi, anfractibus longitudinaliter tenuicostatis, interstitiis transversim creberrimè elevato-striatis, labro incrassato; albidâ, fuscescente pallidissimè tinctâ.*
Hab. —— ?

Pleurotoma obtusa. *Pleur. testâ oblongâ, spirâ breviusculâ, obtusâ, anfractibus rotundis, obtuso-costatis, transversim tenuiliratis, labro incrassato, sinu lato; lutescente.*
Hab. —— ?

February 10, 1846.

R. C. Griffith, Esq., in the Chair.

The following letter was read, addressed to G. R. Waterhouse, Esq., by the Society's Corresponding Member Thomas Bridges, Esq.:—

"I am much delighted to learn that several of the little Rodents I sent from Chile previous to my departure proved new, and I thank you sincerely for the honour you have done me by affixing my name to the new Octodon. I now with pleasure give you its habitat. Many years ago I found this species inhabiting holes in sandy banks and hillocks near the borders of the river Jeno, in the province of Colchagua, nor do I remember having found it in any other locality in Chile. It is much less abundant than *O. Cumingii*, but, like that species, it feeds on herbs and dried grass. In the winter months I have observed it eats the bark of *Mimosa Cavenia*, which abounds in that part of Chile. Of this species, on my return to Chile, I shall endeavour to procure other specimens; also a skeleton and cranium for your inspection. Like *O. Cumingii*, it makes its appearance and feeds during the day, especially when the weather is cloudy.

"The *Lagotis Cuvieri* of Bennett, of which I sent beautiful specimens, were captured on the western side of the Andes, in the province of Colchagua. This animal I have also found in great abundance in Bolivia; you would be delighted to see it in its native country. It abounds in bold, rocky and steep precipices, and sometimes on the slopes amongst large stones tumbled one on the other, amongst the crevices of which it takes shelter. I have never yet seen it make caves or burrows. It is highly amusing to see it bound from one huge block to another, taking leaps equal almost to those of the squirrel; this it accomplishes from the structure of its hind legs and the assistance of its tail. On examining several females lately, I find that they only produce one or two at a birth. Their food is coarse grass. It appears that this animal has an immense mountainous range from lat. 33° to 18°, and probably is found much further north and south. I have found it often from 10,000 to 12,000 feet of elevation in Bolivia. If not mistaken, I have discovered in my rambles from Cobija to this place, a distance of 900 miles, another species of *Lagotis**. It is somewhat less in size, more compact, with a shorter tail, and the fur is of a rusty colour, especially that of the flanks and abdomen; nor is the dark line over the vertebra so well-marked as in *L. Cuvieri*. When you possess the skins you will be better able to discover if it is a distinct species.

* I did not perceive any other species of *Lagotis* beyond the *L. Cuvieri* in Mr. Bridges' collection.—G. R. W.

"The Chinchilla I have never been able to capture, although I spent a day or two in Cobija for that purpose. It is entirely a nocturnal animal, never making its appearance during the day, therefore it cannot be taken with the gun: its habits and abode are similar to the Viscacha.

"The native hunters of this little animal domesticate the Quique of Molina, which they term here Huron, the Spanish for ferret*; the Huron enters the crevices and holes made by the Chinchilla, and drives them out, when they are either killed with sticks by the hunters or taken by the dogs trained for that purpose.

"I find near the coast of Bolivia, where scarcely any vegetation exists, the Chinchilla lives on the seed-vessel of a tall long-spined species of *Cereus*, which it collects in small piles, and eats during the night. These seed-vessels contain a great deal of pulpy substance surrounding the seeds, and the exterior is covered with long hair. They are shaped like a pear, and are called by the natives *Pasas canas* (hairy figs). The *Canis fulvipes* I am persuaded does not exist in the northern provinces of Chile; had this been the case I should have taken it. Molina describes the Culpeo and the Chilla, and as I have not his work here I cannot give you his specific names; why not adopt them, as I consider them prior to those of other authors? On my return to Chile I will consult his work and send you them.

"During my journey in Bolivia I have paid every attention to the Mammalia, and only a few days ago I forwarded a box of skins to Valparaiso, requesting my friend there to forward three species which are highly interesting, and at the same time to me quite new. They are—

"1. *Kerodon*.—This animal I consider different from *K. Kingii*; it is found in the vicinity of Chuquisaca and Cochabamba in rocky places, and not uncommon in fields surrounded by stone walls, in which it takes shelter and lives. It is more solitary than *K. Kingii*, as that species I found near Mendoza in what may be termed large communities. This animal feeds during the day on grass and herbage, but, I have observed, after the dew is evaporated from the ground. The hair of this animal appears, from what I remember, to be more coarse and bristly; however, comparison will decide; I may perhaps be mistaken. Native name, 'Conejito†.'

"2. A large Rat, with short tail and strong claws‡. This curious and astonishing animal I first found a few leagues south of Potosi, at an elevation of 12,000 feet, in sandy slopes and valleys, at no great distance from water. Large patches of land are completely undermined by its workings, which are similar to those of *Schizodon fuscus*. I at first concluded that it burrowed for amusement, or the change of residence, but on deeper consideration I consider it does so in pursuit of bulbs and the roots of grass for food, like *Poëphagomys ater*. It may be seen working in the morning, throwing out the

* This is the *Galictis vittata* of Bell.—G. R. W.

† The species referred to is the *Cavia cobaia* of authors.—G. R. W.

‡ *Ctenomys Braziliensis* of De Blainville.—G R. W.

sand, and now and then turns round and protrudes its head out of the new-made burrow. It was then our only chance to shoot them, and if not killed on the spot, there is no hope of obtaining them. Only in one or two instances do I remember seeing them leave their holes to feed on the grass. I think you will find this animal distinct from all the other South American Rodents, and perhaps it will form the type of a new genus. Its native name is 'Tufo' and 'Tojo,' pronounced 'Tu-fo' and 'To-ko.'

"3. A large Mouse, with soft fur and large ears*. This charming little animal we found in the same locality as the above, inhabiting the abandoned caves of the former species. It makes its appearance in the afternoon, when the sun is nearly on the horizon, to feed on grass, and is often seen sitting on its hind legs; and it then presents its pretty white abdomen and erect ears. In this position it has the appearance of a rabbit in miniature. The natives call it 'Achohalla,' pronounced 'Ha-cho-ha-ya.'

"I have taken the *Didelphis Azaræ* with a litter of eight young ones. I have not forwarded this animal with the others; it will remain till my return to Chile; also several species of Mice and Bats.

"In ornithology I have been very successful, having obtained about 100 species differing from the birds of Chile. I have found a considerable portion of the birds figured in D'Orbigny's splendid work, and before I leave Bolivia I hope to obtain the greater part, especially as in a few days I intend leaving Cochabamba and travelling down the river Mamoré towards the frontiers of Brazil, traversing the country of the Yaracares Indians, where D'Orbigny found an immense number of novelties.

"Amongst the *Perdicaræ* I have found a beautiful species of *Endromia*, differing from *E. elegans* of D'Orbigny; also a third species of *Tinachorus*, much larger than *T. D'Orbignyanus*; and in the valley of Cochabamba and mountains in the vicinity I have of late had the good fortune to take three distinct species of *Nocthura*, all of beautifully marked plumage, and different from *N. Perdicaria* of Chile. These have given me excellent sport. Amongst many other interesting birds which I have lately taken, I have found *Serrirostrum carbonarium* and *sittoides*. My intention is, before I leave Cochabamba, to write a communication to the Zoological Society, having now the honour to be a Corresponding Member, giving them a brief idea of what I have accomplished since I arrived in this country. I have no doubt that the Earl of Derby and the Messrs. Gray will have much pleasure at the sight of the Bolivian birds when they arrive in England. I have many interesting insects, amongst which there are three species of *Nyctelia* and two or three of the genus *Phanæus*, with others which I am sure will afford you pleasure and amusement."

HESPEROMYS BOLIVIENSIS. *Hesp. pallidè ochraceus, corpore suprà fusco-penicillato, subtùs albo; pedibus albis flavo-lavatis; caudâ quoad longitudinem corpus ferè æquante, albâ, suprà flavâ: auribus permagnis, extùs rufescenti-flavis.*

* *Hesperomys Boliviensis*, a new species hereafter described.—G. R. W.

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin....	5	3
——— *caudæ*	3	5
——— *tarsi digitorumque*	1	$1\frac{1}{2}$
——— *auris*	0	$9\frac{1}{2}$

Hab. Bolivia, near Potosi.

The most striking features of this species are the large size of its ears, combined with its delicate ochre-yellow colouring. It is apparently a stout-bodied animal, and has long and soft fur, which on all parts of the body is of a deep slate-grey colour next the skin; on the under parts each hair has the outer half white; on the sides of the body the visible portions of the hairs are ochreous, obscurely tinted with rufous on the rump: the hairs on the back are similarly coloured, but they are brown at the point, and many of them are blackish. The feet are white, but slightly suffused with yellowish; the tail is well-clothed for a mouse, white beneath, and of a pale yellow colour above; the eyes are margined with brown; the ears are clothed with small pale yellow hairs internally, and the hairs on the outer surface, which are much longer, are of a rusty yellow hue. The hairs of the moustaches are numerous and very long, some of them white and some black. The incisor teeth, which are narrow in proportion to the animal, are of a very pale orange colour. The fore-feet are small; the tarsi moderate.

The *Hesperomys Boliviensis*, in the large size of its ears, must approach the *Mus auritus* of Desmarest; but judging from the description of that animal, it should differ in being of a larger size, in having the tarsi shorter in proportion, and its colouring must be very dissimilar, the *M. auritus* being described as of a grey hue.—G. W.

February 24, 1846.

George Gulliver, Esq., F.R.S., in the Chair.

The following Note on the Spermatozoa of the Polar Bear, by George Gulliver, Esq., F.R.S., was read:—

The question of the true nature of these curious bodies is as interesting as it is obscure. Whether they be independent animalcules or merely free and floating cilia has never been clearly proved.

Professor Valentin*, indeed, described an amount of organization in the spermatozoa of a Bear, quite sufficient, if confirmed, to prove that they are really distinct beings. Therefore I took an opportunity of obtaining them for examination from the Polar Bear which died this morning in the Society's menagerie. The animal was a very large adult, in good condition; his testes well-developed, containing in the seminal tubes plenty of cells and immature spermatozoa, and an abundance of them perfectly formed in the vas deferens. These were carefully examined. They presented none of the marks of mouth, anus and internal vesicles depicted by Professor Valentin. In short, the spermatozoa of the Polar Bear were similar in all respects to those of numerous other Mammalia, as may be seen by comparing my drawings, now exhibited to the Society, of the spermatozoa of the following animals, viz. the Polar Bear (*Ursus maritimus*, Linn.), the Stoat (*Mustela Erminea*, Linn.), the Indian Badger (*Arctonyx collaris*, F. Cuv.), the Dromedary (*Camelus Dromedarius*, Linn.), and the Camel (*Camelus Bactrianus*, Auct.). I gave a notice of the spermatozoa of the two last animals in the Proc. of this Society, July 26, 1842, p. 101, and April 11, 1843, p. 50.

A paper by Edward Fry was then read:—

"On the Osteology of the Active Gibbon (*Hylobates agilis*)."

I have never met with any detailed account of the osteology of any species of the genus *Hylobates*. Professor Owen's memoir on that of the Orang Utan and Chimpanzee seems to make one desirable, for the sake of comparison, as the Gibbons are the next group of *Simiadæ* to the Orangs. Their skeleton too is highly interesting, as exhibiting a striking adaptation to progression amongst the branches of trees, well-fitting the animal to be a walker amongst woods, a *Hylobates*.

The individual, whose skeleton I am about to describe, was a female, which lived for some years in the Zoological Gardens at Bristol, having been brought thither from Macao, where she had been kept in confinement. Of two young ones which were taken with their mother in the forests of Malacca, she alone attained maturity. She was pro-

* Wagner's Physiology, tr. by Dr. Willis, p. 228; 8vo, Lond. 1844.

bably nine or ten years of age at the time of her death. Of her agility and her cry I shall say nothing; much has already been written on these subjects, and no account of mine could give any adequate impression of her wonderful manners.

This individual is the one which was exhibited in London in 1840, and of which mention is made in Martin's 'Natural History of Quadrupeds,' Part 8.

Section I.—Of the Skull.

The cranium of the *Hylobates agilis* is elongate and ovate in form, much-contracted behind the orbits, which are very projecting and deep and surmounted by very elevated supraciliary ridges. The muzzle is rounded and broad, so that the face, although considerably prominent, has not attained the lengthened shape of the Baboons or of the adult Orang Utan. The forehead, which is narrow, is but slightly arched above the orbits, so that the whole of the cranium is behind the face.

A slightly elevated ridge of bone, arising from the supraorbital ridges, which becomes contracted during its passage over the coronal aspect of the skull, and again expands towards the occiput, marks the boundary on either side of the temporal muscles. This elevated medial portion is smooth, whilst the lateral portions of the skull are roughened by muscular attachments. This development is similar to that of the Chimpanzee, whilst in the Orang Utan the sagittal and temporal crests are elevated to an extraordinary extent.

The supraorbital ridges, we have before remarked, are much-developed. Such is the case in the Chimpanzee, where however they form a junction across the face, which does not take place in the Active Gibbon. The orbits have a very prominent margin, are very large and deep, and are much swelled out externally, so that their outer portion "projects very boldly from the cranium." Sir Thomas Stamford Raffles says of the Siamang, "The orbits of the eyes are circular and remarkably prominent," Linn. Trans. vol. xiii. p. 242. Such too is the character of the skull of the adult Hoolock figured by Dr. Harlan in the Transactions of the American Philosophical Society, vol. iv. New Series, p. 52.

The nasal bones make a slight elevation, thus resembling Man more than the Orang Utan or even the Chimpanzee. The osseous opening of the nose is wide and rather large. The figure of the face viewed in front, from between the orbits to the dental edge, resembles a wedge whose point is directed downwards. This form is contrary to that of the Baboons, where the wedge is inverted. The infraorbital canal opens by a single hole, as in Man and the Chimpanzee. This foramen is smaller in the Gibbon than in those animals.

The outward curvature of the zygomatic arch is not great; it is placed far more posteriorly than in Man, in consequence of the lengthening of the facial portion of the skull.

The skull of this Gibbon is anchylosed, externally at least, into one piece. Prof. Owen tells us that the cranial sutures are obliterated in the adult Orang Utan, Syndactylous Ape, and frequently

in the Baboons and other Quadrumana. I have observed it in *Pithecia Satanus*, an American species. It sometimes occurs in the adult human cranium.

The lower jaw is rather lengthened in figure, decidedly more so than in Man, in consequence of the production of the muzzle. It is shallowest just below the termination of the molar series, deepening towards the symphysis, which is not very retreating, so that the Gibbon has a pretty good chin for a monkey. In this respect it appears to approach Man more nearly than the higher Orangs. The lower jaw of Man is more uniform in its depth than that of this Gibbon: its angle too is not quite so much rounded; the external edges of the ascending and horizontal branches do not form quite so obtuse an angle at their meeting.

The question may be asked, What are the effects of age in altering the form of the skull in the Gibbons? In answer I will remark, first, that the muzzle is elongated and the cranium thrown in a more backward position, in consequence of the necessity for lengthening the dental edge to receive the second or permanent series of teeth. This will be evident by a comparison of the skulls of the young White-cheeked and Hoolock Gibbons, figured in Martin's Nat. Hist. Quad., Part 8, with that of the adult Agile Gibbon in the Bristol Institution (the subject of this paper) and with Dr. Harlan's plate of that of the adult Hoolock, Trans. Amer. Phil. Soc., *ubi supra*. The latter comparison is very satisfactory on this point, as the specimens compared are of the same species. A corresponding elongation of the facial parts takes place in the Orangs, as demonstrated by Prof. Owen, Zool. Trans. vol. i. or Zool. Proc. 1835, p. 30. A similar change is also observable in the human species; the facial angle of the infant decreases with age until the second teeth are cut. Secondly, with increasing age another change takes place in the greater prominence of the supraciliary ridges and the margin of the orbit. I appeal again to the illustrations of Martin and Harlan, and to the original sketch of the Agile Gibbon. A similar development of the cranial ridges takes place in the Orang Utan and Chimpanzee with age; in the former, in the temporal and sagittal crests; in the latter, in the orbital margin. Thirdly, in the anchylosis of the bones of the cranium and the face. This would appear to have taken place in the skull of the Hoolock figured by the late Dr. Richard Harlan (*ubi supra*), whilst in the immature one figured by Martin (*ubi supra*) the sutures are represented. This change is observed to take place in the adult Orang, but not in the Chimpanzee. Fourthly, it appears probable, from a comparison of the before-mentioned materials, that the infra-orbital foramen, and the foramen which gives exit to the dental blood-vessel and nerve in the lower jaw, become smaller by age.

From these observations it will be apparent that the skull of the Gibbons, like that of the Orangs, is far more anthropoid in youth than in mature age. The prolongation of the muzzle, the retrogression of the cranium, the smallness of the facial angle, the development of the orbital ridges, the anchylosis of the bones, and the small-

ness of the foramina, all distance the aged more than the immature Gibbon from the human race.

Compared with the human skull, the head of this Gibbon is distinguished by its lengthened ovate figure; its narrowness, especially behind the orbits; by the large size and inflated parietes of the orbits; by the want of vertical elevation of the forehead, and the consequent position of the brain behind, not above the face; by the great elevation of the supraorbital ridges; by the development of the muzzle, necessitating the backward position of the zygomatic arches and the elongation of the palate; by the small proportional size of the infraorbital foramen; by the obliquity of the occipital plane, and by the large size of the canine teeth; by the elongation of the lower jaws, in consequence of the length of the muzzle and palate; by the increased depth of the symphysis, and by the small size of the foramen which gives exit to the blood-vessel nourishing the teeth and the accompanying nerve.

This skull agrees with that of the Chimpanzee in its smallness proportionally to the body, in its generally elongated form, in its anterior contraction, in the marks of the attachments of the temporal muscles, in the large supraorbital ridges, in the obliquity of the plane of the foramen magnum, and in the slight arch of the nasal bones.

It differs from that of the Chimpanzee in the supraorbital ridges not uniting, in the obliteration of the sutures, in the smaller size of the infraorbital foramen and of the foramen of the dental blood-vessel. The lower jaw is proportionally shallower. The cranium of the young Chimpanzee is far broader, more arched and less anteriorly compressed, and therefore far more anthropoid. These characters however degenerate with age.

It differs yet more from the form of skull exhibited by the adult Orang Utan, where the strongly developed cranial ridges and widely expanded zygomatic arches give the skull a carnivorous aspect. These peculiarities we have seen to be absent in the Gibbon. The flatness of the bones of the nose of this Ape is an additional distinction. On the other hand, it agrees with the Orang in the obliteration of the cranial sutures of the adult.

In the large development of the supraciliary ridges this skull reminds us of the Baboons, which present however a more degraded form, and may be distinguished by the greater narrowness of the cranium, by the less circular form of the orbits, by the greater prolongation of the muzzle and the greater space between the zygomatic arch and the skull.

The dentition of the Gibbon claims no especial notice; the incisors and molars are moderate in size, whilst the canines are large, their roots apparently reaching nearly to the internal corner of the orbits.

Section II.—Of the Trunk.

The vertebral formula of the Agile Gibbon is—cervical, 7; dorsal, 13; lumbar, 5; sacral, 4; coccygeal, 4. The comparison of these

numbers with those of some of its congeners and near allies will be exhibited by the following table:—

Name of Animal.	Cervical.	Dorsal.	Lumbar.	Sacral.	Coccygeal.	Total.
Man	7	12	5	5	4	33
Chimpanzee	7	13	4	5	4	33
Orang Utan	7	12	4	5	3	31
Hylobates concolor.	7	14	5	5	5	36
Hylobates lar	7	12	6	3	3	31
Hylobates agilis ...	7	13	5	4	4	33

Of the cervical vertebræ I need only remark, that the transverse processes of the atlas are produced long and narrow, more so than in Man. The first dorsal vertebra is the smallest, after which they gradually increase in size. The transverse processes of the lumbar vertebræ are less developed than in Man, and are more uniform in size. It will be noticed that whilst the lumbar vertebræ of the Chimpanzee and Orang Utan are four, two of the Gibbons have five and one has six; in the extent of this region therefore they approach Man. The sacral vertebræ are perfectly anchylosed together, but not to the coccygeal, and form about their middle an angle, the lower part being curved backwards. The upper portion thus remains in a line with the vertebral column, and part only is thrown backwards instead of the whole, as in Man. The first pair of foramina are almost obliterated, and are therefore not so large as in Man and the Chimpanzee; the three following are persistent. As in the Orangs, the sacrum is narrower than in the human skeleton. The weakness of these parts indicates the less amount of capability of assuming the erect posture than is granted to Man. The Gibbons are especially fitted for arboreal progression; and although by the assistance of their lengthened fore extremities, touching the ground on either side, and as it were acting as crutches, they are perhaps more at home in the erect posture on level surfaces than either the Chimpanzee or Orang Utan, yet their movements are awkward and constrained. The Gibbons are the only Mammals which can assume the erect posture whilst they walk on all four extremities.

The thorax, which is formed by seven true and six false ribs, is larger and more conical in form than in Man. The great activity of the Gibbons requires large respiratory organs; hence we find the thorax proportionally large (see Prof. Owen on Orangs, *ubi supra*); at the same time it affords increased attachments to the strong pectoral muscles required by the lengthened arms. One contrivance thus answers two ends.

The last three ribs are unattached by cartilage to the sternum, which consists of five pieces, whereof the last is free. In the number of its component pieces the sternum of the Active Gibbon agrees with Man and the Chimpanzee, and differs from the Orang Utan, where it is formed of seven or eight small pieces arranged in a double row. The manubrium differs slightly from the human in being proportionally broader.

Compared with the ribs of the Chimpanzee, those of the Active Gibbon are slight in form: compared with those of a Baboon, they are strong.

A reference to the dorsal column of the table of vertebræ given above will show that the number of ribs varies considerably in the genus *Hylobates*.

Section III.—Of the Fore Extremities.

The clavicles, which from their great length throw the scapulæ far backwards, and give great breadth to the shoulders, are flattened horizontally, have but little marks of tendinous attachment, and present neither the double curvature of Man nor the straightness of the Orang Utan, but a simple gentle curvature outwards.

The scapulæ are of a more lengthened shape than in the human subject, from which they also differ in having the aspect of the glenoid cavity far less laterally and more upwardly directed, in the upper edge of the bone rather descending than ascending from this cavity, in the convexity instead of concavity of the humeral edge, and the far greater acuteness of the inferior angle.

The peculiarities to be remarked in the humerus are its extraordinary length, reaching to just above the head of the femur, its slightness of form, and the general weakness of its elevations. The tubercles at the superior head are very small. Its twist occurs about one-third from the upper extremity of the bone, as in Man. The external apophysis can scarcely be said to exist; the internal is present.

The fore-arm is remarkable for its length (which is yet more extraordinary than that of the arm), for the slenderness of its form, and for the extent of the interosseous space formed by the great outward curvature of the radius: by this last character the Gibbon is distanced from Man, but approximated to the Orangs. The greatest distance of the radius from the ulna occurs about one-third of the length of the fore-arm from the superior articulation; not near the inferior head, as in the human skeleton. The olecranon of the ulna appears neither so broad nor so strong as in Man.

In this specimen the fore-arm is two inches longer than the arm. In the adult Hoolock the difference is about $1\frac{1}{3}$ inch; in the *Hylobates concolor* about $2\frac{1}{2}$ inches. These proportions correspond with those of the Orangs, but are at variance with the human, where the arm is about two inches longer than the fore-arm. Now it is remarkable that in the immature Gibbons the proportion of these parts has been found to resemble the human (see Dr. Harlan, *ubi supra*). Not only then are the skulls of these monkeys more anthropoid in youth than maturity, but likewise the proportions of the anterior extremities. Retrogression with advancing age from a superior to an inferior type of organization is not so common in nature as the converse.

The carpus of the Agile Gibbon appears to contain the same eight bones as in Man; not eleven, as Daubenton states that the *Hylobates*

lar possesses (Martin, *ubi supra*). The whole hand is remarkable for its slenderness and length, by which it is beautifully adapted for grasping the boughs of trees or any such objects: the fingers maintain similar proportions, one to another, to those of Man. The thumb, longer than in the Chimpanzee, where it does not quite equal in length the metacarpal bone of the first finger, is slender in form.

So extraordinary is the length of the fore extremity, that the humerus reaches to nearly the same part of the trunk as the wrist in Man, and that the fingers really rest on the ground when the animal assumes the erect posture. The length of the fore-arm of this skeleton, whose total height is only about two feet, positively exceeds in length that of the adult human subject, being eleven inches long.

Never have I seen a skeleton which better illustrates the law of animal mechanics, that rapidity of movement depends on the elongation of the short arm of the lever (which every bone represents) in proportion to the long arm of the same; or (otherwise expressed) on the extent of the distance between the fulcrum and weight in proportion to the distance between the fulcrum and the power.

As respects the proportions of the fore-limbs, the Orang Utan approaches the Gibbons, and retrogresses from Man more than the Chimpanzee, since in the former the arms reach to the heel, in the latter to about the knee-joint.

Section IV.—Of the Hind Extremities.

The pelvis presents us with a type far degraded from the Bimanous. The hips are narrow; the iliac bones long and flat, and their superior margins do not present an arc of a circle, as in Man, and indeed to a certain extent in the Chimpanzee. The ischiatic bones, instead of retreating far backward from the symphysis of the pubes, are nearly on a plane with the iliac wings; their inferior margins are not circular, as in Man, but present three sides of a lengthened parallelogram. The symphysis of the pubic bones resembles that of Man more than does that of the young Chimpanzee.

The bones of the lower extremities are characterized, as those of the pectoral limbs, by the slenderness of their form and the slightness of their elevations.

The trochanters of the femur are small; the *linea aspera* absent. The ligamentum teres appears to have been present, thus agreeing with Man and all the *Simiadæ*, excepting the Orang Utan.

The tibia and fibula have rather a larger interosseous space than in Man, consequent on the bowing of the fibula. This space is large in the Orang Utan (Owen, *ubi supra*).

The relative proportions of the leg and fore-leg are similar to the human.

Let me here introduce a remark made on this animal by Yarrell, viz. that both the upper and lower extremities are incapable of the same extension as in Man, owing to the strong facial expansion of the flexor tendons passing before the elbows and behind the knee-joints to be attached to the upper halves of their respective bones

below these parts (Notes on Dissection of Active Gibbon, Zoological Journal, vol. v. p. 14).

The foot is remarkable for the smallness of the os calcis, a character common to the Orangs and the lower Monkeys, and which, giving less basal surface to the foot, indicates less power of supporting the frame in the erect posture. The hind-foot is formed for grasping the branches of trees and not for walking on the ground. The metatarsal bones decrease in strength (as in the hand) from the first towards the little finger. The thumb is strongly formed, especially its metatarsal bone. The ungueal phalanges are wanting in the second and third finger, and the ungueal and penultimate in the little finger of the only hind extremity mounted on the skeleton. These defects in the hind-foot arise from the animal having been affected some time previous to her death with a morbid state of constitution (supposed to arise from confinement), which caused her to gnaw off the ends of some of her fingers. The foot is thrown less on the external edge than in the lower Quadrumana.

I am fully conscious of the imperfection of this account of the osteology of the Active Gibbon, yet trust that I have called attention to some points in which the organization of the skeleton is beautifully adapted to the habits of the creature. No part of the studies of a naturalist is more interesting or instructive than thus to trace, however imperfectly, the hand of an all-wise Creator in the works of nature. EDW. FRY.

The next paper contained "Descriptions of eleven new species of Australian Birds," by John Gould, Esq.:—

ATHENE MARMORATA. *Ath. omni superiore corpore, alis, caudâque, saturatè fuscis, nuchâ autem, alarum tectricibus, et scapularibus, obscurè albo maculatis; pogoniis internis primariorum ad basin et rectricum lateralium fasciis stramineis, ad extremam pogoniam albicantibus, ornatis; facie et mento albidis; corpore inferiore saturatè fusco, albo et arenaceo colore maculato.*

All the upper surface, wings and tail dark brown, obscurely spotted with white round the back of the neck, on the wing-coverts and scapularies; inner webs of the primaries at their base, and the inner webs of the lateral tail-feathers crossed by bands, which are buff next the shaft and white towards the extremity of the webs; face and chin whitish; under surface dark brown, blotched with white and sandy brown; legs and thighs fawn-colour; bill horn-colour; feet yellow.

Total length, 14 inches; bill, $1\frac{1}{8}$; wing, $9\frac{1}{2}$; tail, 6; tarsi, 2.

Hab. South Australia.

Remark.—Nearly allied to *Athene maculata*, but much exceeding that species in size.

ATHENE RUFA. *Ath. disco faciali saturatè fusco; omni corpore, suprâ saturatè fusco, infrâ arenaceo-rufo, multis autem lineis rufo-fuscis transversim fasciato.*

Facial disc dark brown; all the upper surface dark brown, crossed by numerous narrow bars of reddish brown, the tints becoming paler

and the barrings larger and more distinct on the lower part of the body, wings and tail; all the under surface sandy red, crossed by numerous bars of reddish brown; the feathers of the throat with a line of brown down the centre; vent, legs and thighs of a paler tint, with the bars more numerous, but not so decided; bill horn-colour; toes yellowish, slightly clothed with feathers.

Total length, 20 inches; bill, $1\frac{3}{4}$; wing, $13\frac{1}{2}$; tail, $9\frac{1}{2}$; tarsi, $2\frac{1}{4}$.

Hab. Port Essington.

Remark.—A very powerful species, nearly allied to *Athene strenua.*

Alcyone pulchra. *Alc. omni corpore superiore splendidè purpurascente-cyaneo; alis fusco-nigris; loris, cristulâ post aurem, et gulâ, stramineis; lateribus pectoris purpurascente-cyaneis, in vini colorem ad latera mergentibus.*

All the upper surface shining purplish blue; wings brownish black; lores, tuft behind the ear and throat buff; under surface deep ferruginous orange; sides of the chest fine purplish blue, passing into a rich vinous tint on the flanks; irides and bill black; feet orange.

Total length, 6 inches; bill, 2; wing, $2\frac{7}{8}$; tail, $1\frac{1}{2}$; tarsi, $\frac{3}{8}$.

Hab. Port Essington.

Remark.—This is by far the finest of the Australian Alcyones, and is at once distinguished by the rich blue of the upper surface and the beautiful vinous colouring of the flanks.

Alcyone Diemenensis. *Alc. omni superiore corpore intensè cyaneo, ad uropygium et tectrices caudæ superiores splendidius; alis nigris cyaneo lavatis; gulâ stramineâ; vertice nigro indistinctè fasciato.*

All the upper surface deep blue, becoming more vivid on the rump and upper tail-coverts; wings black, washed with blue; throat buff; under surface of the body and wings ferruginous orange; on each side of the chest a patch of bluish black; lores and a small patch behind the ears buff; crown of the head indistinctly barred with black; irides and bill black; feet orange.

Total length, $6\frac{1}{2}$ inches; bill, 2; wing, $3\frac{1}{8}$; tail, $1\frac{3}{4}$; tarsi, $\frac{1}{2}$.

Hab. Van Diemen's Land.

Remark.—Rather more robust than *Alcyone azurea* or *A. pulchra,* and differing from both in the blue of the upper surface, which is less brilliant and of a slight greenish tinge.

Eöpsaltria leucogaster. *Eöps. parvo maculo triangulari ante oculum nigro; vertice, corpore superiore, alis caudâque, saturatè griseis; corpore inferiore albo.*

Immediately before the eye a small triangular-shaped spot of black; above the eye a faint line of greyish white; crown of the head, all the upper surface, wings and tail dark slate-grey; the lateral tail-feathers largely tipped with white on their inner webs; all the under surface white; irides dark brown; bill and feet black.

Total length, $5\frac{3}{4}$ inches; bill, $\frac{11}{16}$; wing, 3; tail, $2\frac{3}{4}$; tarsi, $\frac{7}{8}$.

Hab. Western Australia.

The sexes are alike in plumage.

Strepera arguta. *Strep. toto corpore nigro; remigum apicibus*

fuscis; crisso, et pogoniis internis primariorum secundariorumque ad basin et tertiæ partis apicalis rectricum albis.

All the plumage black, becoming browner on the tips of the wing-feathers; base of the inner webs of the primaries and secondaries, the under tail-coverts and the apical third of the inner webs of the tail-feathers white; irides yellow; bill and feet black.

Total length, 21 inches; bill, 2; wing, $11\frac{3}{4}$; tail, 10; tarsi, $2\frac{3}{4}$.

Hab. Van Diemen's Land.

Remark.—This is the largest species of the genus I have yet seen.

STREPERA PLUMBEA. *Strep. corpore superiore plumbeo-griseo, ad frontem loresque multo saturatius; alis nigris; secundariorum marginibus griseis, apicibus, et crisso, albis.*

All the upper surface leaden-grey, becoming much darker on the forehead and lores; wings black; secondaries margined with grey and tipped with white; basal half of the inner webs of the primaries white, of the outer webs grey; the remainder of their length black, slightly tipped with white; tail black, margined with grey and largely tipped with white; all the under surface greyish-brown; under tail-coverts white; irides, bill and feet black.

Total length, 18 inches; bill, $2\frac{3}{4}$; wing, $11\frac{1}{2}$; tail, 9; tarsi, $2\frac{1}{2}$.

Hab. Western Australia.

STREPERA MELANOPTERA. *Strep. corpore superiore caudâque nigris; corpore inferiore fusco-nigro, abdomine griseo tincto; crisso rectricibusque, duabus intermediis exceptis, albis.*

All the upper surface, wings and tail black; under surface brownish-black, tinged with grey on the abdomen; under tail-coverts and tips of all but the two centre tail-feathers white; irides yellow; bill and feet black.

Total length, 19 inches; bill, 2; wing, 11; tail, 9; tarsi, $2\frac{5}{8}$.

Hab. South Australia.

Remark.—Distinguished from all other species by the total absence of any white mark on the wings.

GALLINULA TENEBROSA. *Gal. griseo-nigra; dorso scapularibusque nigris; crisso medio nigro ad latera albo.*

General plumage greyish-black, with the exception of the back and scapularies, which are deep brown, and the primaries and tail, which are nearly pure black; under tail-coverts black in the centre and pure white on the sides; frontal plate orange; base of the bill blood-red; tip greenish yellow; above the knee a garter of yellow and scarlet; joints of the legs and feet green; under surface of the legs and feet olive; the sides of the tarsi and frontal plates of the toes yellow; frontal plates of the tarsi yellow; those nearest the knee stained with scarlet; irides olive.

Total length, 15 inches; bill, $1\frac{1}{4}$; wing, 8; tail, 3; tarsi, $2\frac{1}{2}$.

Hab. South Australia.

Remark.—The above is the description of a female; the male is supposed to be larger in size, and to differ in being of a paler hue beneath, and in having the whole of the upper surface brown.

SYLOCHELIDON STRENUUS. *Syl. fronte vertice et nuchâ nitidè nigris; dorso alis caudâque pallidè cinereo-griseis; reliquis plumis albis.*

Forehead, crown and nape deep glossy black; back, wings and tail pale ashy grey, becoming lighter on the tail and deepening into dark grey on the primaries, the shafts of which are white; remainder of the plumage pure white; irides black; bill scarlet, stained with yellow on the sides and tip, and with greenish yellow near the extremity.

Total length, 20½ inches; bill, 4; wing, 16½; tail, 6½; tarsi, 2.

Hab. Southern coasts of Australia.

Remark.—The above is the description of the plumage of the breeding season; at other times the head instead of being wholly black is mottled with black and white.

SULA PERSONATA. *Sul. alba; tectricibus alarum majoribus, secundariis, tertialibus, rectricibus lateralibus, et rectricum intermediarum apicibus, intensè fuscis.*

The whole of the plumage pure white, with the exception of the greater wing-coverts, primaries, secondaries, tertiaries, the tips of the two central and the whole of the lateral tail-feathers, which are of a rich chocolate-brown; irides yellow; naked skin of the face and chin in dead specimen dull bluish black; legs greenish blue.

Total length, 29 inches; bill, 5; wing, 16½; tail, 8½; tarsi, 2½.

Hab. North and north-east coasts of Australia.

Remark.—A very robust and powerful species.

March 10, 1846.

William Yarrell, Esq., Vice-President, in the Chair.

The following extract was read from a letter dated Madeira, Feb. 7, 1846, from the Society's Corresponding Member, the Rev. R. T. Lowe:—

"I have the pleasure of sending the Society a fine example of the rare fish *Lichia Vadigo*, Cuv. and Val., being the first that has occurred here, and also considered unfrequent in the Mediterranean."

A paper was then read entitled "Descriptions of two new species of *Cypræa*," by Lovell Reeve:—

Cypræa Gaskoinii. *Cypr. testâ subabbreviato-ovatâ, solidiusculâ, lateribus incrassatis, marginatis, dentibus fortiusculis; dorso fulvo-stramineo, ocellis albidis, fusco-annulatis, parviusculis, sparsim ornato, lateribus castaneo-punctatis, basi albâ.*

Hab. ——?

This interesting species, of which I have seen two specimens, one in the British Museum and one in the collection of J. S. Gaskoin, Esq., partakes of the characters of the *Cypræa Cumingii* and *esontropia*; the back being covered with the same kind of small clear ringed eyes as the *C. Cumingii*. I dedicate it with a great deal of pleasure to the gentleman above named, to whom I am much indebted for the zeal with which he has worked out the small and less attractive species of the genus.

Cypræa pulicaria. *Cypr. testâ subcylindraceo-oblongâ, anticè subdeclivi, latere dextro marginato, leviter contracto, aperturâ angustâ, dentibus minutis; pellucido-albâ, vel luteâ, lateribus dorsoque punctis rubido-fuscis subconspicuis aspersis.*

Hab. ——?

Allied to *C. piperata*, but perfectly distinct, though it has been hitherto mingled with that species in collections; it is of a smaller and more cylindrically oblong form, and is not banded, whilst the dots are more conspicuous.

The following paper was also read:—

"Descriptions of three new species of *Cypræa*," by J. S. Gaskoin, Esq.

Cypræa pellucidula. *Cyp. testâ ovatâ, nitidâ, albicante subhyalinâ; costellis continuis ad utrumque latus aperturæ terminatis; dentibus æqualibus, minimis, numerosisque; sulco columellari profundo, lato; lineâ dorsali nullâ; extremitatibus valdè productis et obtusis; aperturâ rectâ, posticè subsinuatâ.*

Semipellucid Cowry.—Shell ovate, of a beautiful semipellucid white colour, shining; the ribs—anterior, posterior and dorsal—terminate in teeth on both sides and ends of the aperture, and traverse the columellar groove to its inner edge; a few ribs do not continue over the dorsum; the teeth, even, fine, and numerous, about thirty on the lip; columellar groove, deep and broad; base round; margins wide; no dorsal impression; extremities much produced, and obtuse; aperture straight, except a slight curve at its posterior extremity. Size $\frac{18}{100}$ths of an inch.

Hab. South Pacific.

Cab. Gaskoin, &c.

Differs from *exigua* of Gray, the *tremeza* of Duclos, in being less gibbous, ribs more numerous, finer, more even and regular, and but two or three terminate on the sides of the shell, none on the dorsum; they pass continuously over the shell from one side of the aperture to the other; shell perfectly colourless, and has no dorsal line or impression.

Cypræa Pisum. *Cyp. testâ spheroidali, pallescente; costellis prominentibus, ex aperturâ ad lineam dorsalem decurrentibus, et in lineam attenuatam terminantibus; dentibus prominentibus; sulco columellari lato; aperturâ latiusculâ posticè flexuosâ; basi rotundatâ; margine externo incrassato, supra extremitates extenso; extremitatibus crassis; lineâ dorsali profundâ, ex extremitatibus posticis ad anticam testæ partem continuâ.*

Pea Cowry.—Shell spheroidal, of a very light fawn colour; ribs large and prominent; nearly every rib extends from the aperture and terminates generally, tapering to a point, at the dorsal depression; mostly the terminations on one side pass between those of the other, especially on the anterior half of the shell; each third or fourth rib, amounting to about seven, ends on the lip at the base of the shell; all the other ribs on both sides form, by continuance, the teeth, which are strong and prominent; about twenty-three on the columellar side of the aperture, which extend across the columellar groove and serrate its inner edge; those on the outer side or lip about twenty-one in number; columellar groove broad and deep; aperture rather wide, curved, particularly at the posterior portion; base round; margin on the outer side very thick, extending over the beaks; none on the columellar side; extremities or beaks obtuse, thick, and slightly produced; dorsal depression deep, extending from between the posterior extremities to the anterior end of the shell, being more deeply impressed beside the apex.

Long. $\frac{45}{100}$ths of an inch.

Hab. East Indies.

Specimen unicum. Cab. Gaskoin.

The characters of this shell are so distinctive that it bears no relation to any yet described *Cypræa*; it is nearest in form to *Cypræa formosa* of Gaskoin.

Cypræa Pulla. *Cypr. testâ ovatâ, nitidâ, fusco-rubescente, costellis dentibusque concoloribus; costellis usque ad lineam dorsalem*

ut plurimum continuis, et ad margines aperturæ terminantibus; sulco columellari albido, margine interno dentibus serrato; aperturâ angustâ; labio externo extùs incrassato; extremitatibus paululum productis.

Reddish-brown Cowry.—Shell ovate, shining, of a dark reddish-brown colour; ribs the colour of the shell, mostly terminate at the dorsal depression; a very few on the sides of the shell, thence extending to form teeth on both sides of the aperture; on the outer side or lip about eighteen, and about sixteen on the columellar side; columellar groove whitish, the teeth traverse it and serrate its entire inner edge; aperture narrow, very slightly spiral; base round; margin thick, none on the columellar side; extremities slightly produced.

Differs from the *fusca* of Gray, in the ribs of the base, and the teeth not being white, but of the same colour as the shell; in the ribs being much finer, in having a dorsal line or impression, and in being of a deeper and redder colour.

Long. $\frac{25}{100}$ths of an inch.

Hab. ——?

Cab. Gaskoin, &c.

March 24, 1846.

William Yarrell, Esq., Vice-President, in the Chair.

The first communication was the following Note from Mr. Gulliver, on the size of the Blood-Corpuscles of Birds, with measurements by Dr. Davy of the Blood-Corpuscles of some Fishes and of a Humming Bird.

While my friend Dr. Davy was employed by our Government on a special medical service at Constantinople, and afterwards as principal medical officer at Barbadoes, he communicated to me the measurements, appended hereto, of the blood-corpuscles of some animals.

Medical officers residing in different parts of the world might render a very acceptable service to physiology, by giving an account of the blood-corpuscles not yet examined of various animals; and doubtless some new or otherwise interesting facts would thus be obtained, especially among the larger *Cetacea*, the smallest birds, the cartilaginous fishes, reptiles and amphibia.

Dr. Davy shows that some fœtal sharks, six or seven inches long, have oval corpuscles like those of the adult; and he confirms Professor Wagner's observation as to their large size in this family.

Although, in a strictly natural family of Mammalia, as the Rodents or the Ruminants, there is a relation between the size of the corpuscles and that of the animal, there is no such relation in Mammalia of different orders. But in the entire class of Birds the law for the size of the corpuscles is the same as in a single family of Mammalia; at least among birds no example has yet been found of comparatively large corpuscles in the smallest species and of more minute corpuscles in the largest species. I have elsewhere* remarked the necessity of examining the blood of the Humming Birds with reference to this view; which is now supported by Dr. Davy's observation, showing that the corpuscles of a bird of this kind are as small as those hitherto examined of any bird, as may be seen by reference to the copious tables of my measurements of the blood-corpuscles of Vertebrata, in the 'Proceedings of the Zoological Society,' October 14, 1846. The long diameter of the corpuscles of *Rallus Philippinensis* is 1-2097th of an inch, and not 1-2997th, as there printed. In my observations in this class, those great birds the Ostrich and the Javanese Cassowary were found to have the largest blood-corpuscles; while the smallest corpuscles occurred in the little insectivorous and granivorous birds. The average length of the corpuscles of the Cassowary was 1-1455th and their breadth 1-2800th of an inch.

These remarks all refer to the red corpuscles; and the measurements of them in the following notes by Dr. Davy are, like all my measurements, in vulgar fractions of an English inch.—G. G.

* Gerber's Anatomy, Appendix, p. 26. Lond. 1842.

Torpedo oculata.—Blood from heart: long diameter of the corpuscles about 1-800; short diameter 1-1000. Some further particulars have been given respecting them in a paper deposited in the archives of the Royal Society.

Spigota (*Perca marina*).—Blood from vessels of gills: long diameter of corpuscles from 1-4000 to 1-3750; short diameter 1-4000.

Pylamedes (*Thynnus Pylamedes*).—Long diameter of corpuscles about 1-2000; short diameter about 1-3000.

A small species of Mackerel, corpuscles 1-2286 by 1-4000. Taken from the heart; oil particles four times as large were mixed with the red particles.

A small fish; species of it I have not yet made out; corpuscles about 1-4000 to 1-3000, by about 1-6000.

Another species I have not yet made out; particles about 1-3000 by 1-4000.

Another small species, not made out; particles, most of them circular, about 1-4000; a few elliptical.

Sword-fish.—Particles, long diameter, from 1-2000 to 1-3200; short diameter, 1-3200 to 1-5333.

Red Mullet.—Many particles circular, about 1-4000; some elliptical, about 1-2286 by 1-3200.

John Dory.—Corpuscles 1-1777 by 1-2666; some nearly circular.

A species of large Mackerel; corpuscles about 1-2000 to 1-2666, by about 1-4000.

Small spotted Dog-fish.—Corpuscles about 1-1333 by 1-2000.

Sturgeon.—Corpuscles about 1-1600 by 1-2666.

Squalus acanthias.—Corpuscles about 1-1231 by 1-1777; nucleus elliptical.

Brown spotted Dog-fish.—Corpuscles from 1-1000 to 1-1143, by 1-1600 to 1-1455.

Tunny (*Thynnus communis*).—Corpuscles 1-1600 by 1-2666.

Eel, species I have not made out; corpuscles about 1-2000 by 1-3200; a few circular.

A species of small fish I have not yet made out; corpuscles about 1-2666 by 1-4000.

A species of Scyllium, a cartilaginous fish, probably a new species. I have sent a specimen to Chatham. Corpuscles about 1-1000 by 1-2000.

In a female of the same kind some of the blood-particles were as large as 1-666 by 1-888; nucleus about 1-2666 and globular.

Fœtus of *Squalus acanthias*; corpuscles about 1-1000 by 1-1600: fœtus about seven inches long.

Fœtus of *Squalus squatina*, about six inches long; corpuscles about 1-1000 by 1-1333.

Small fish; I have not yet made out the species; corpuscles about 1-2000 by 1-2666.

Another small fish, the kind of which is at present unknown to me; corpuscles about 1-2666; the majority of them circular.

These are the results of the few observations I made in Constantinople. Not having books to refer to, I could not at the time deter-

mine several of the fishes, nor have I yet had leisure to compare my notes with authorities on the subject, to make out the species. The size of the particles of *all* the cartilaginous fishes is very much larger than of the osseous; the particles were few in number, transparent, soft, readily changing their shape from slight pressure; *nuclei distinct.*

I have given the dimensions just as I noted them down. All the fishes were fresh. J. D.

Constantinople, Jan. 8, 1842.

I have had a Humming Bird killed and instantly brought to me; its blood-corpuscles were beautifully definite, regular and uniform. The disc very thin, perfectly flat, the nucleus slightly raised, and the two corresponding in outline. The corpuscle 1-2666th by 1-4000th of an inch; the long diameter of the nucleus very nearly 1-4000th. The blood was small in quantity, as I apprehend is the blood of birds generally, but not deficient in red corpuscles. I have found its temperature to be about 105°. Whilst its solid food is insects, I believe its drink is the sweet juice of flowers. I have not a book to refer to for the species. Tail-feathers black; head green; rump green; wings brownish, almost black. J. D.

Barbadoes, Jan. 7, 1846.

The next paper was entitled "Descriptions of thirty new species of *Helicea*, belonging to the collection of H. Cuming, Esq.," by Dr. L. Pfeiffer:—

1. Helix Swainsoni, Pfr. *Hel. testâ umbilicatâ, utrinque depressissimâ, tenui, pellucidâ, subarcuatim ruguloso-striatâ, virescentifulvâ, lineis 2 rufis ornatâ; anfractibus 5 depressis, medio convexiusculis, carinatis; carinâ rufescente, acutâ, breviter prominente, subrugulosâ; umbilico mediocri, profundo; aperturâ perobliquâ, depressè securiformi; peristomate simplice, recto, margine columellari subincrassato.*
Diam. 16, alt. 5 mill.
From Tahiti; under stones (B. W. Tucker, Esq.).

2. Helix stenostoma, Pfr. *Hel. testâ imperforatâ, globuloso-depressâ, solidâ, sublævigatâ, nitidâ, albâ, fasciâ unicâ fuscâ ad peripheriam et seriebus 2 macularum aurantiarum ornatâ, punctisque griseis obsoletè aspersâ; anfractibus 4½ vix convexiusculis, ultimo ventroso, anticè abruptè deflexo; aperturâ subhorizontali, ellipticâ; peristomate albo, labiato, marginibus approximatis, supero breviter expanso, basali arcuato, appressè reflexo.*
Diam. 13–15, alt. 8½–9 mill.
Locality unknown.

3. Bulimus holostoma, Pfr. *Bul. testâ rimato-perforatâ, cylindraceâ, apice obtuso, opaco, carneo-cinereo, obliquè et validè plicato-costato; anfractibus 7 subplanulatis, deorsum attenuatis, supernè subangulatis, ultimo ¼ longitudinis subæquante; aperturâ*

verticali, oblongâ, integrâ; peristomate simplice, acuto, marginibus subparallelis, supero breviter soluto.

Long. 9, diam. $2\frac{2}{3}$ mill.

From Cobija, Bolivia, on the hills under bushes (H. Cuming). The same species brought from the Sandwich Islands by B. W. Tucker, Esq.?

4. Bulimus Leai, Pfr. *Bul. testâ imperforatâ, ovato-conoideâ, obtusâ, solidulâ, obliquè tenuiter striatâ, nitidâ, fulvescenti-albâ; anfractibus $5\frac{1}{2}$ convexiusculis, ultimo spirâ breviore, basi subgloboso; columellâ strictiusculâ, declivi, perdilatatâ, subplanatâ, basi subtruncatâ; aperturâ obsoletè subtetragono-rotundatâ, intus albâ; peristomate breviter expanso, subincrassato.*

Long. 37, diam. 24 mill.

From the Philippine Islands (H. Cuming).

Nearly allied to *Bul. cincinniformis.*

5. Bulimus fenestratus, Pfr. *Bul. testâ perforatâ, subfusiformi-oblongâ, solidulâ, longitudinaliter profundè undulato-sulcosâ, albâ, fasciis infra 65, et strigis undulatis nigricanti-castaneis fenestratâ; suturâ crenulatâ; anfractibus $6\frac{1}{2}$ convexiusculis, ultimo spiram conicam, acutam paulò superante; columellâ subplicatâ, obliquè recedente, lilaceâ; aperturâ oblongo-semiovali, intus lilacinâ; peristomate expanso, margine columellari supernè angulatim reflexo, subappresso.*

Long. 45, diam. 18 mill.

From Mexico.

6. Bulimus Darwini, Pfr. *Bul. testâ profundè rimatâ, ovato-conicâ, solidulâ, rugis nodulatis et crispis, validè sculptis, sordidè albidis; spirâ conicâ, apice acutiusculo, corneo; anfractibus 6 convexis, 3 supremis sublævigatis, ultimo spiram subæquante; columellâ subtortâ, subverticali; aperturâ latâ, subovali, intus nitiduldâ, albâ, tuberculo calloso, profundo in ventre anfractûs penultimi coarctatâ; peristomate simplice, recto, margine dextro supernè arcuato, columellari perdilatato, patente.*

Long. 17, diam. 19 mill.

From the Gallapagos Islands; found on bushes (C. Darwin, Esq.).

7. Bulimus sculpturatus, Pfr. *Bul. testâ perforatâ, ovato-turritâ, tenuiusculâ, longitudinaliter subremotè et validè undulato-rugosâ, interstitiis rugarum spiraliter argutè striatâ, fusculâ, spirâ elongato-conicâ, apice acutiusculo, corneo; anfractibus 7 convexis, ultimo $\frac{2}{5}$ longitudinis subæquante; columellâ strictâ, basin aperturæ attingente; aperturâ ellipticâ, basi angulatâ; peristomate simplice, acuto, margine columellari fornicatim reflexo, libero.*

Long. 14, diam. $6\frac{1}{2}$ mill.

From the Gallapagos Islands; found on bushes (Darwin).

8. Bulimus Hondurasanus, Pfr. *Bul. testâ apertè perforatâ ovato-conicâ, lævigatâ, nitidâ, flavescenti-albidâ, fasciis 3 areâque umbilicali fusco-roseis ornatâ; anfractibus 6 vix convexiusculis,*

ultimo spirâ conicâ, acutâ paulò breviore; columellâ strictâ, verticali; aperturâ ovali-oblongâ, intus concolore; peristomate simplice, recto, margine columellari in laminam triangularem subfornicatam expanso.

Long. $18\frac{1}{2}$, diam. 10 mill.

From Honduras (Dyson).

9. Bulimus sarcodes, Pfr. *Bul. testâ apertè perforatâ, oblongo-conicâ, tenui, striatulâ, lineis spiralibus sub lente obsoletissimè decussatâ, carneâ; spirâ conicâ, acutiusculâ; anfractibus 6 convexiusculis, ultimo $\frac{4}{9}$ longitudinis subæquante; columellâ leviter arcuatâ; aperturâ ovali, intus nitidâ; peristomate recto, acuto, margine dextro arcuato, columellari dilatato, fornicatim patente.*

Long. $17\frac{1}{2}$, diam. 8 mill.

From Honduras (Dyson).

10. Bulimus Tuckeri, Pfr. *Bul. testâ perforatâ, cylindraceo-subulatâ, tenui, longitudinaliter distinctè striatâ, nitidulâ, cereâ; spirâ elongatâ, apice acutiusculo; anfractibus 9 convexiusculis, ultimo $\frac{1}{4}$ longitudinis vix æquante; columellâ obliquè recedente; aperturâ ovali-oblongâ; peristomate simplice, acuto, margine columellari supernè dilatato, patente.*

Long. 9, diam. $2\frac{3}{4}$ mill.

From Sir Charles Hardy's Island, Pacific Ocean (B. W. Tucker, Esq.).

11. Bulimus Gruneri, Pfr. *Bul. testâ angustè perforatâ, cylindraceo-turritâ, lævigatâ, nitidâ, albidâ unicolore vel fusco obliquè strigatâ vel macularum spadicearum seriebus nonnullis cingulatâ; spirâ elongatâ, apice acuto; suturâ albo-marginatâ; anfractibus 7–8 planis, ultimo $\frac{1}{3}$ longitudinis æquante; columellâ subtortâ; aperturâ ovali-oblongâ; peristomate simplice, recto, margine columellari basi subexpanso, supernè fornicatim reflexo.*

Long. 28, diam. 10 mill.

β. Perforatione apertâ, margine peristomatis fornicatim patente.

From Mexico.

12. Bulimus Vincentinus, Pfr. *Bul. testâ subperforatâ, fusiformi, tenui, lævigatâ, lineis concentricis leviter impressis sculptâ, nitidâ, pellucidâ, lutescenti-hyaliná, fasciis 5 subæqualibus violaceo-fuscis ornatâ; spirâ conicâ, apice acutiusculo, nigro; anfractibus 6 planiusculis, ultimo spiram subæquante, basi attenuato; columellâ paulò recedente; aperturâ obliquâ, ovali-oblongâ, intus concolore; peristomate tenui, margine dextro breviter expanso, supernè dilatato, columellari in laminam triangularem angulatim reflexo, perforationem ferè claudente.*

Long. 30, diam. $11\frac{1}{2}$ mill.

β. unicolor citrinâ vel stramineâ, paulò gracilior.

Long. 30, diam. $10\frac{1}{2}$ mill.

From the Island of St. Vincents (Rev. L. Guilding): var. β. from Venezuela; on bushes (Linden).

13. Bulimus Orbignyi, Pfr. *Bul. testâ umbilicatâ, oblongo-turritâ, tenui, regulariter et confertim plicatâ, albâ; spirâ turritâ, acutâ; anfractibus* $7\frac{1}{2}$ *convexiusculis, ultimo* $\frac{2}{5}$ *longitudinis subæquante; umbilico angusto, aperto; columellâ vix arcuatâ; aperturâ oblongâ; peristomate simplice, acuto, marginibus subparallelis supernè conniventibus, columellari subfornicato, patente.*
Long. 19, diam. 8 mill.
Locality unknown.

14. Bulimus Petiti, Pfr. *Bul. testâ perforatâ, ovato-conicâ, solidulâ, longitudinaliter rugoso-striatâ, striis concentricis, irregularibus obsoletissimè subdecussatâ, fuscâ; spirâ conicâ, apice obtuso, pallido; suturâ crenulatâ, albido-marginatâ; anfractibus* 6 *planiusculis, ultimo spiram paulò superante; columellâ leviter arcuatâ; aperturâ acuto-ovali, intus nitidulâ, lividâ; peristomate simplice, recto, margine dextro acuto, columellari dilatato, albido, liberè reflexo.*
Long. 26, diam. 16 mill.
From Peru.

15. Bulimus Sandwicensis, Pfr. *Bul. testâ perforatâ, cylindraceo-turritâ, apice acutiusculo, tenui, striatulo, corneo, strigis albis, opacis, irregularibus, variegato; anfractibus* 10 *vix convexiusculis, ultimo* $\frac{1}{3}$ *longitudinis non æquante, basi circa perforationem apertam subcompresso; aperturâ oblongo-ovali; peristomate simplice, tenui, margine dextro leviter arcuato, expansiusculo, columellari membranaceo, fornicato, patente.*
Long. 15, diam. $4\frac{1}{2}$ mill.
From the Sandwich Islands (B. W. Tucker, Esq.).

16. Pupa pacifica, Pfr. *Pup. testâ profundè rimatâ, ovato-cylindraceâ, apice obtusiusculo, solidulo, sublævigato, fusco-corneo; anfractibus* $5\frac{1}{2}$ *convexis, ultimo* $\frac{1}{3}$ *longitudinis subæquante; aperturâ semiovali, edentulâ; peristomate breviter expanso, intus albo-labiato, margine dextro supernè breviter curvato, tuberculo calloso interdum juxtaposito, columellari latiore, patente.*
Long. $4\frac{1}{3}$, diam. $2\frac{1}{3}$ mill.
From Sir Charles Hardy's Island, Pacific Ocean (B. W. Tucker, Esq.).

17. Achatina cylindracea, Pfr. *Ach. testâ subcylindracea utrinque breviter attenuatâ, lævigatâ, nitidâ, lutescenti-corneâ; suturâ lineari, albo-marginatâ; spirâ brevi, conoideâ, obtusiusculâ; anfractibus* 5 *planulatis, ultimo* $\frac{3}{4}$ *longitudinis æquante; columellâ tortâ, laminâ callosâ, albâ, acutè prominente, per longitudinem munitâ, subtruncatâ; aperturâ angustâ, acuminato-oblongâ, basi rotundatâ; peristomate simplice, margine dextro medio antrorsum dilatato.*
Long. 13, diam. $5\frac{1}{2}$ mill.
From Tortilla, Central America; in damp places.
Belongs, by the formation of the columella, to that aberrant group of *A. columna, Lattrei, aberrans, Dysoni, anomala, splendida,* &c.

18. Achatina Dysoni, Pfr. *Ach. testâ oblongo-conicâ, tenuissimâ, glabrâ, pellucidâ, nitidâ, lutescenti-corneâ; spirâ conicâ, obtusiusculâ; suturâ simplice; anfractibus 5 convexiusculis, ultimo $\frac{2}{3}$ longitudinis subæquante, deorsum subdilatato; columellâ arcuatim tortâ, subcallosâ, vix truncatâ; aperturâ angustâ, acuminato-oblongâ, basi rotundatâ; peristomate simplice, tenui, margine dextro medio antrorsum dilatato.*
Long. $9\frac{1}{2}$, diam. 4 mill.
From Honduras; found under decayed leaves by Mr. Dyson.

19. Achatina Sandwicensis, Pfr. *Ach. testâ ovato-conicâ, obliquè striatâ, subopacâ, sordidè corneâ; spirâ conicâ, obtusiusculâ; suturâ linea impressâ marginatâ; anfractibus $6\frac{1}{2}$ planulatis, ultimo $\frac{1}{3}$ longitudinis vix superante; columellâ arcuatâ, plicato-tortâ; aperturâ latâ, semiovali; peristomate simplice, margine dextro obtuso, columellari subreflexo, appresso.*
Long. 7, diam. $3\frac{1}{2}$ mill.
From the Sandwich Islands (B. W. Tucker, Esq.).

20. Achatina (Glandina) Sowerbyana, Pfr. *Ach. testâ ovato-fusiformi, tenuiusculâ, diaphanâ, longitudinaliter confertim plicatâ, striis spiralibus, inæqualiter distantibus decussato-granulatâ, fulvo-rubellâ, strigis remotis, fuscis ornatâ; spirâ conicâ, apice acutâ; suturâ albo-marginatâ, crenulatâ; anfractibus $7\frac{1}{2}$ planiusculis, ultimo $\frac{5}{9}$ longitudinis subæquante; columellâ arcuatâ, basi abruptè truncatâ; aperturâ acuminato-oblongâ; peristomate simplice, marginibus callo tenui junctis, dextro repando.*
Long. 88, diam. 38 mill.
From Totontepec, Mexico; on decayed vegetable matter.

21. Achatina (Glandina) isabellina, Pfr. *Ach. testâ fusiformi-oblongâ, tenui, nitidâ, sub lente spiraliter confertim striatâ, pellucidâ, isabellinâ; suturâ linea impressâ marginatâ; anfractibus 6 convexiusculis, ultimo spirâ conicâ, obtusâ vix breviore; columellâ obliquâ, strictiusculâ, supra basin aperturæ elliptico-oblongæ breviter truncatâ; peristomate simplice, obtuso.*
Long. 26, diam. medio 10 mill.
From Mexico; found in decayed trunks of trees.

22. Achatina (Glandina) Tortillana, Pfr. *Ach. testâ subfusiformi-ovatâ, solidulâ, striis longitudinalibus, confertis regulariter sculptâ, nitidâ, pellucidâ, pallidè corneâ, maculis et strigis opacis, lactescentibus irregulariter signatâ; suturâ submarginatâ; anfractibus $7\frac{1}{2}$ convexiusculis, ultimo spiram conicam, obtusam, vix superante; columellâ fortiter arcuatâ, supra basin aperturæ elliptico-oblongæ abruptè truncatâ; peristomate simplice, obtuso, margine dextro medio subdilatato.*
Long. 20, diam. medio 8 mill.
From Tortilla, Central America; in damp places.

23. Bulimus auratus, Pfr. *Bul. testâ subobtectè perforatâ, oblongo-turritâ, tenui, longitudinaliter subtiliter striatâ, pellucidâ,*

auratâ, lineis saturatioribus spiralibus obsoletè notatâ; spirâ turritâ, obtusâ; suturâ submarginatâ, minutè crenulatâ; anfractibus 7 vix convexiusculis, ultimo $\frac{2}{5}$ longitudinis vix æquante; columellâ strictiusculâ; aperturâ ovali-oblongâ; peristomate simplice, recto, margine columellari breviter reflexo, subappresso.
Long. 30, diam. 10 mill.
Locality unknown.

24. Bulimus Panayensis, Pfr. *Bul. testâ imperforatâ, subulatâ, tenui, lævigatâ, pellucidâ, cereo-hyalinâ; spirâ elongatâ, apice obtuso; anfractibus 8 latis, vix convexiusculis, ultimo $\frac{1}{4}$ longitudinis vix æquante; columellâ brevi, strictiusculâ; aperturâ ovali-oblongâ, basi subangulatâ; peristomate simplice, recto, margine columellari breviter reflexo, appresso.*
Long. 11, diam. $2\frac{1}{2}$ mill.
From Dingle, island of Panay (Cuming).

25. Bulimus perspectivus, Pfr. *Bul. testâ umbilicatâ, oblongo-conicâ, tenui, striatulâ, pellucidâ, nitidâ, rufo-corneâ; spirâ elongato-conicâ, acutiusculâ; anfractibus 7 convexiusculis, ultimo $\frac{2}{5}$ longitudinis æquante, basi subangulatim compresso; umbilico angusto, profundè perspectivo; aperturâ oblongâ; peristomate simplice, rufo, marginibus conniventibus, callo tenui junctis, dextro breviter expanso, columellari dilatato, patente.*
Long. 16, diam. $6\frac{1}{2}$ mill.
Locality unknown.

26. Bulimus Meridanus, Pfr. *Bul. testâ perforatâ, oblongo-subfusiformi, striatulâ, lævigatâ, lutescenti-albidâ, fasciis angustis cæruleo-fuscis, vel latis castaneis, strigatim interruptis ornatâ; spirâ turrito-conicâ, acutiusculâ; anfractibus 6 planiusculis, ultimo spiram æquante; columellâ leviter arcuatâ; aperturâ oblongo-ovali, intus concolore; peristomate simplice, margine dextro breviter expanso, columellari dilatato, fornicatim reflexo, albo, perforationem ferè occultante.*
Long. 29, diam. 11 mill.
From Merida, Andes of Bolivia.

27. Bulimus Montevidensis, Pfr. *Bul. testâ perforatâ, ovato-conicâ, subfusiformi, tenui, obliquè striatulâ, non nitente, albidâ, opacâ, lineis longitudinalibus crebris, pellucidis, pallidè corneis strigatâ; spirâ conicâ, apice acuto; anfractibus 7–8 planiusculis, ultimo spirâ paulò breviore, interdum medio obsoletè angulato; columellâ verticali, strictâ; aperturâ oblongo-ovali; peristomate simplice, recto, margine columellari membranaceo, fornicatim reflexo.*
Long. 28, diam. 12 mill.
From Montevideo, Buenos Ayres.

28. Bulimus Jussieui, Val. Mur. *Bul. testâ perforatâ, ovato-conicâ, striis rudibus incrementi spiralibusque minutis irregulariter decussato-granulatâ, corneâ, obliquè albido-strigatâ; spirâ conicâ,*

acutiusculâ; anfractibus 6 convexiusculis, ultimo spiram æquante; columellâ recedente, subarcuatâ; aperturâ ovali, intus nitidè albâ; peristomate simplice, recto, margine columellari albido, dilatato, subfornicatim reflexo.

Long. 32, diam. 15 mill.

From Cusoo.

29. Bulimus Bolivianus, Pfr. *Bul. testâ perforatâ, oblongo-turritâ, lineis impressis sub lente minutissimè decussatâ, nitidâ, albido-rubellâ, fasciis latis, badiis, subinterruptis ornatâ; spirâ turritâ, apice acuto, rubro; anfractibus 7 planis, ultimo convexiusculo, $\frac{4}{9}$ longitudinis subæquante; columellâ torto-plicatâ, roseâ; aperturâ ovali-oblongâ, intus concolore; peristomate simplice, margine dextro breviter expanso, columellari perdilatato, reflexo, excavato, perforationem rimæformem ferè tegente.*

Long. 33, diam. 13 mill.

From Merida, Andes of Bolivia.

30. Bulimus Oparanus, Pfr. *Bul. testâ subimperforatâ, subulatâ, longitudinaliter distinctè striatâ, tenui, hyalino-cereâ; spirâ subulatâ, acutiusculâ; anfractibus 9 vix convexiusculis, ultimo $\frac{2}{7}$ longitudinis subæquante; columellâ vix arcuatâ; aperturâ oblongo-ovali; peristomate simplice, recto, margine columellari fornicatim brevissimè reflexo, adnato*

Long. 11, diam. 3 mill. (Spec. max.)

From the island of Opara; found in earth at the roots of plants (H. Cuming, Esq.).

The following paper was also read, entitled "Descriptions of new species of Shells," by Dr. J. H. Jonas:—

Cucullæa granulosa, Jonas. *Cuc. testâ quadrato-rhombeâ, turgidâ, tenuiusculâ, inæquivalvi, testaceo-albâ, violaceo-rubro posticè præsertim maculatâ et flammulatâ; lateribus supernè attenuatis, angulatis, antico breviore, infra rotundato, postico longiore, subangulato-declivi, umbonibus acutis incurvis, cariná ab umbone ad angulum posticum et inferum decurrente; per longitudinem densè striatâ, liris striis transversalibus decussantibus subtiliter granulosis; ligamenti areâ mediocri, corio corneo nigro indutâ; intus albâ posticè violaceo tinctâ, margine serratâ, auriculâ internâ mediocri, cardinis dentibus lateralibus anticis tribus, posticis quatuor.*

Long. marginis ventralis, $2\frac{1}{4}$ poll.; altit. 2; crassities, $1\frac{3}{4}$ poll.

Specimina etiam majora vidi.

Hab. In Mari Chinensi.

This shell differs from the *Cucullæa concamerata*, Martini (*Cucullæa auriculifera*, Lam.), as follows: 1. It is thinner and less transversally prolonged; 2, the elevated longitudinal striæ are not flat, and not broader than the interstices, as with the other species, appearing subtilely granulated by transversely crossing and very close striæ; 3, the ligamentary area is somewhat flatter; 4, the internal auricles are smaller; and 5, there are on the anterior side three and

on the posterior four lateral teeth, whilst the other species has on each side *one* tooth less. (*Cardine utrinque subbicostato*, Lam.)

VENERUPIS TENUISTRIATA, Jonas. *Ven. testâ ovatâ, transversâ, æquivalvi, inæquilaterali, albâ, striis radiantibus tenuibus undulatis, sulcis incrementi distantibus decussatis, concinnè sculptâ; lateribus rotundatis, marginibus dorsali et ventrali parallelis leviterque arcuatis; lanulâ nullâ, ligamento longo, prominente, umbonibus parvis acutis; cardine utriusque valvæ dentibus tribus compressis; impressionibus musculorum magnis, rotundis, sinu palliari lato, profundo, semilunari.*

Long. 15, altit. 9, crassit. 6 lin.

Hab. Apud Singaporen.

Exstat in museo hon. Gruner.

The umbones are situated so near the anterior end that the superior margin of the shell almost forms the area.

FASCIOLARIA CLAVA, Jonas. *Fasc. testâ subfusiformi-clavatâ, ventricosissimâ, crassâ, ponderosâ, nodosâ, albâ, rubro variegatâ, filis fuscis transversim impresso-striatâ; anfractibus octo medio angulatis, tuberculis magnis compressis in angulo coronatis; ultimo supernè angulato et coronato, infra angulum seriebus tribus nodorum obtusorum armato; suturâ undulatâ, crispâ; caudâ spiræ subæquali, obliquè funiculatâ, rectâ, infernè subrecurvâ; aperturâ oblongo-ovatâ, intus hepaticâ, aurantio tenuissimè striatâ, labro crasso, dentato; dentibus striis externis respondentibus; columellâ cylindraceâ, hepaticâ, basi triplicatâ.*

Long. $5\frac{1}{2}$, lat. $3\frac{1}{8}$ poll.

Hab. In Oc. Indiâ.

AMPHIBOLA OBVOLUTA, Jonas. *Amph. testâ solidâ, nitidâ, supernè planâ, infernè convexâ, latè umbilicatâ; anfractibus quatuor obvolutis, suturâ profundâ divisis, transversè striatis, albis: ultimo zonis duabus latis, glaucis obsoletè balteato, obtusè supernè angulato; aperturâ ovatâ, labro posticè subexciso, columellâ rectâ, callosissimâ, callo umbilicum latum pro parte tegente; regione umbilicali et callo fuscis.*

Altit. ab apice ad aperturæ basin, 8; ad ultimi anfractûs basin, 6; diameter major $10\frac{1}{2}$, minor 8; aperturæ long. $6\frac{1}{2}$, latit. $3\frac{1}{2}$ lin.

Patria, Australia meridionalis.

Exstat in museo hon. Gruner.

Schumacher was the first who in his 'Essai d'un nouveau Système des habitations des vers testacés, à Copenhague 1817,' elevated the *Nerita nux avellana*, Chemn., to a peculiar genus, which he named *Amphibola*. Lamarck ranged it among the Ampullarias, till Quoy and Gaimard separated it, after careful examination of the animal, from this genus, and instituted it the type of the genus *Ampullacera*. It appears from this that *Amphibola* and *Ampullacera* are identical, and that the first denomination has the priority.

Our species is very like to the *Amphibola avellana*, but may however be distinguished from it by the following differences:—1, it is

thicker; 2, the whorls are lying in one plane, the spire is depressed, not elevated, as with the other species; and the last whorl, which almost entirely forms the whole shell, is very much drawn down; 3, it is not perforated, and although largely umbilicated, yet the other smaller whorls are not visible in the umbilic; and 4, it distinguishes itself by a very callous columella, which partly propagates over the spire, following the suture at a distance of five lines.

April 14, 1846.

William Yarrell, Esq., Vice-President, in the Chair.

A collection of forty-six Bird-skins from India, received from Col. Sykes, was exhibited to the Meeting. The collection was of interest from containing specimens of several species obtained further north than it is hitherto recorded that they have been observed.

The following communications were read: "Descriptions of twenty new species of *Helicea*, in the collection of H. Cuming, Esq.," by Dr. L. Pfeiffer:—

1. Helix suturalis, Pfr. *Hel. testâ latè umbilicatâ, depressâ, subdiscoideâ, tenui, sub lente minutissimè granulosâ, fusco-corneâ; spirâ planâ, medio subimmersâ; suturâ profundâ; anfractibus* 4 *convexissimis, ultimo anticè descendente; aperturâ perobliquâ, subcirculari; peristomate simplice, marginibus conniventibus, dextro recto, supernè fornicato, columellari subrecedente, arcuato, basalique breviter reflexo.*
Diam. 10, alt. 4 mill.
Found at Honduras under decayed leaves by Mr. Dyson.
Nearly allied to *H. Nystiana*.

2. Helix Candaharica, Pfr. *Hel. testâ umbilicatâ, orbiculato-convexiusculâ, obliquè striatulâ, nitidulâ, fuscescenti-albidâ, fasciis angustis, maculosè interruptis, nigricantibus et rufis ornatâ; spirâ vix elevatâ, apice nitido, corneo; anfractibus* 5 *convexiusculis, ultimo anticè non descendente; umbilico infundibuliformi, anfractuum penultimum latè monstrante, medio angustissimo; aperturâ obliquâ, lunato-ovali; peristomate acuto, intus subremotè labiato, marginibus conniventibus, columellari vix dilatato.*
Diam. 16, alt. $7\frac{1}{2}$ mill.
From Candahar, East Indies (Benson).

3. Helix aulacospira, Pfr. *Hel. testâ latè umbilicatâ, depressâ, discoideâ, tenui, irregulariter et leviter malleatâ, lineis impressis, concentricis, confertis regulariter sulcatâ, lutescenti-corneâ; spirâ planâ; anfractibus* $4\frac{1}{2}$ *depressis, celeriter accrescentibus; umbilico lato, perspectivo; aperturâ subverticali, obliquè lunato-ovali; peristomate simplice, tenui, margine columellari non reflexo.*
Diam. 12, alt. $4\frac{1}{2}$ mill.
Locality unknown.

4. Helix Gossei, Pfr. *Hel. testâ imperforatâ, orbiculato-conoideâ, tenui, irregulariter plicatulo-striatâ, non nitente, diaphanâ, fulvidâ, fasciâ unicâ peripherica, angustâ, castaneâ, alteráque superiore*

obsoletâ ornatâ; spirâ breviter conoideâ, obtusâ; anfractibus 5 *planiusculis, ultimo basi subplanulato; columellâ declivi, angustâ, planâ, introrsum acutâ; apertura obliquâ, elliptico-lunari, intus concolore; peristomate simplice, tenui, recto.*

Diam. 16, alt. 9 mill.

From the Blue Mountains (Jamaica), under stones; found by Mr. Gosse.

5. Helix Montfortiana, Pfr. *Hel. testâ imperforatâ, turbinatâ, crassâ, ponderosâ, nigricanti-rufâ, epidermide fusco-cinereâ hydrophanâ indutâ; spirâ conoideâ, apice obtuso, nudo, nitido, violaceo-purpurascente; anfractibus* $4\frac{1}{2}$ *vix convexiusculis, ultimo angulato; angulo anticè evanescente; columellâ declivi, callosâ, albâ, basi subdentatâ; apertura subtetragonâ, intus nitidè albâ; peristomate breviter reflexo, nigro-fusco limbato.*

Diam. 31, alt. 22 mill.

From the Philippine Islands.

This shell appears intermediate between *Hel. Bruguiereana*, Pfr., and *carbonaria*, Sow.

6. Achatinella Rohri, Pfr. *Ach. testâ ovato-conicâ, longitudinaliter striatulâ, striis spiralibus, confertissimis decussatâ, albido-fulvâ, fasciis angustis castaneis variè ornatâ; spirâ conicâ, acutiusculâ; anfractibus* 6 *vix convexiusculis, ultimo spiram subæquante, medio compresso; columellâ tortâ, callosâ, vix dentatâ; apertura subtetragonâ, intus nitidè lacteâ; peristomate recto, intus labiato, marginibus subparallelis, dextro supernè breviter curvato.*

Long. 24, diam. 13 mill.

From the Sandwich Islands (Capt. Rohr).

7. Achatinella tæniolata, Pfr. *Ach. testâ ovato-oblongâ, solidâ, striatulâ, nitidâ, albâ, fasciis variis fuscis, deorsum obsoletioribus ornatâ; spirâ conicâ, acutiusculâ; anfractibus* 6 *convexiusculis, ultimo* $\frac{4}{9}$ *longitudinis subæquante; columellâ albâ, supernè validè dentato-plicatâ; apertura irregulariter semiovali, intus albâ, nitidâ; peristomate extus brevissimè incrassato, intus valdè labiato, margine columellari dilatato, reflexo, appresso.*

Long. 20, diam. medio 11 mill.

From the Sandwich Islands.

8. Bulimus (Partula) amabilis, Pfr. *Bul. testâ sinistrorsâ, subperforatâ, ovato-turritâ, solidulâ, striatulâ, nitidâ, citrinâ, apice acuto rubicundo; suturâ albo-marginatâ; anfractibus* 5, *supremis planis, reliquis convexis, ultimo inflato, spirâ breviore; columellâ subsimplice, vix plicatâ; apertura oblongo-semiovali; peristomate subincrassato, albo, expanso-reflexiusculo, margine columellari lato, plano, patente.*

Long. 23, diam. $11\frac{1}{2}$ mill.

β. *Paulò minor, fasciis latis nigricanti-castaneis ornatus, peristomate fusco-livido.*

From Annaa or Chain Island.

9. Bulimus (Partula) Ganymedes, Pfr. *Bul. testâ umbilicatâ, oblongo-conicâ, tenui, striis incrementi crebris lineisque undulatis, confertissimis, impressis minutè decussatâ, scabriusculâ, sub epidermide citrinâ fugacissimâ albicante, non nitente; spirâ conicâ, acutiusculâ; anfractibus* $5\frac{1}{2}$ *convexiusculis, ultimo spiram subæquante, medio obsoletissimè angulato, fasciâ unicâ latiusculâ castaneâ ornato; columellâ strictiusculâ; aperturâ oblongâ, supernè obliquè truncatâ; peristomate simplice, tenui, undique latè expanso.*
Long. 23, diam. $10\frac{1}{2}$ mill.
From the Society Islands.

10. Bulimus (Partula) Hebe, Pfr. *Bul. testâ perforatâ, globoso-conicâ, tenui, sub lente minutissimè decussatâ, hyalinâ; spirâ brevi, conicâ, acutâ; anfractibus* $4\frac{1}{2}$ *planis, ultimo spiram superante, globoso; columellâ brevi, subplicatâ; aperturâ latâ, subsemicirculari, callo dentiformi profundo in ventre anfractûs penultimi coarctatâ; peristomate intus albo-calloso, undique breviter expanso.*
Long. 16, diam. 9 mill.
From the Society Islands (Mr. Mallet).

11. Bulimus (Partula) isabellinus, Pfr. *Bul. testâ subperforatâ, oblongo-conicâ, solidâ, striatulâ, isabellinâ; spirâ conicâ acutiusculâ; anfractibus 5 convexiusculis, supremis lineis impressis, spiralibus tenuissimè sculptis, ultimo spirâ paulò breviore, basi anticè rotundato; columellâ albâ, plicato-gibbâ; aperturâ oblongo-ovali, callo dentiformi, profundo in ventre anfractûs penultimi coarctatâ; peristomate calloso, albo, latè expanso, reflexiusculo, margine columellari dilatato, sinuato-reflexo.*
Long. 22, diam. 10 mill.
Locality unknown.

12. Bulimus (Partula) radiolatus, Pfr. *Bul. testâ subperforatâ, oblongo-attenuatâ, apice obtuso, tenui, lineis spiralibus impressis, distantiusculis sculptâ, pallidè stramineâ, strigis saturatioribus et lineis fuscis radiolatâ; anfractibus 5 convexiusculis, ultimo spiram subæquante, anticè basi tumido; columellâ brevi, breviter recedente; aperturâ obliquè ovali, intus nitidâ, flavâ; peristomate simplice, tenui, albo, expanso, margine dextro strictiusculo, columellari supernè dilatato, fornicato-patente.*
Long. 19, diam. 10 mill.
β. Testa carnea, radiis cinnamomeis.
From New Ireland.

13. Bulimus Dysoni, Pfr. *Bul. testâ angustè perforatâ, oblongo-ovatâ, solidulâ, tenuiter longitudinaliter striatâ, subdiaphanâ, fusco-corneâ; spirâ conicâ, apice acutiusculo; anfractibus* 6–$6\frac{1}{2}$ *convexis, ultimo* $\frac{3}{7}$ *longitudinis subæquante; columellâ leviter arcuatâ, basin attingente; aperturâ ellipticâ, basi subangulatâ; peristomate simplice, recto, marginibus callo tenui junctis, dextro arcuato, cum columellari, supernè dilatato, fornicatim reflexo, angulum formante.*

Long. 20, diam. $9\frac{1}{2}$ mill.
From Honduras (Mr. Dyson).

14. Bulimus candelaris, Pfr. *Bul. testâ sinistrorsâ, profundè rimatâ, cylindraceâ, apice sensim attenuato, acutiusculo, subobliquè striatulo, sordidè albo; anfractibus 9 planiusculis, ultimo minus obliquè descendente, $\frac{1}{3}$ longitudinis vix æquante, basi subrotundato; aperturâ semiovali, intus nitidâ, albâ; peristomate albo, undique expanso, marginibus callo tenui junctis, columellari dilatato, patente.*
Long. 27, diam. 8 mill.
Locality unknown.

15. Bulimus Guerini, Pfr. *Bul. testâ imperforatâ, oblongo-ovatâ, tenuiusculâ, irregulariter rugoso-striatâ, fulvo-fuscâ; spirâ conicâ, obtusâ, pallidius fulvidâ, strigis et maculis rufis ornatâ; anfractibus 5 convexiusculis, ultimo spirâ paulò longiore; columellâ lutescente, arcuatâ, supernè subtortâ; aperturâ acuto-ovali, intus nitidissimâ, plumbeâ; peristomate breviter reflexo, lutescente, basi cum columellâ angulum indistinctum formante.*
Long. 41, diam. $18\frac{1}{2}$ mill.
From New Granada.

16. Bulimus indicus, Pfr.—*Achatina gracilis*, Benson, MSS.—*Bul. testâ subperforatâ, subulatâ, tenui, diaphanâ, corneo-cereâ, subarcuatim confertissimè striatâ; spirâ subulatâ, apice acutiusculo; anfractibus 8 planiusculis, ultimo $\frac{1}{3}$ longitudinis subæquante; columellâ rectâ, verticali; aperturâ oblongâ; peristomate simplice, acuto, margine columellari usque ad basin breviter reflexo, perforationem ferè tegente.*
Long. 10, diam. $3\frac{1}{2}$ mill.
From East India.

17. Bulimus Kieneri, Pfr. *Bul. testâ breviter rimatâ, cylindraceo-turritâ, tenui, obliquè confertim costatâ, fusco-corneo et albido irregulariter marmoratâ; spirâ turritâ, apice acutiusculo nigricante; suturâ profundâ, crenatâ; anfractibus 13 convexis, ultimo $\frac{1}{4}$ longitudinis subæquante, basi obsoletè unicarinato; aperturâ lunato-circulari; peristomate simplice, undique expanso, marginibus conniventibus, dextro perarcuato, columellari dilatato, patente.*
Long. 18, diam. anfr. antepenult. 6 mill.
From Honduras (Mr. David Dyson).

18. Bulimus Martinicensis, Pfr. *Bul. testâ rimato-perforatâ, oblongo-turritâ, obliquè striatulâ, solidulâ, lutescenti-corneâ; spirâ turritâ, obtusiusculâ; anfractibus 7 convexis, ultimo $\frac{1}{3}$ longitudinis vix superante; aperturâ ovato-oblongâ; peristomate breviter expanso, intus albo-labiato, labio extus pellucente, marginibus subconvergentibus, dextro arcuato, columellari dilatato, patente.*
Long. 20, diam. 8 mill.
From the island of Martinique (Petit).

19. Bulimus Nilagiricus, Pfr. *Bul. testâ rimato-perforatâ, oblongo-turritâ, solidâ, opacâ, lineis impressis confertissimis subundulatis obsoletè sculptâ, fuscâ, albido obliquè strigatâ; spirâ regulariter turritâ, apice obtusiusculo; anfractibus 8 vix convexiusculis, ultimo $\frac{1}{3}$ longitudinis subæquante, basi subcompresso; aperturâ ovali; peristomate expanso, latè albo-labiato, margine dextro supernè subangulato, columellari usque ad basin dilatato, patente.*
Long. $28\frac{1}{2}$, diam. 8 mill.
From the Neelgherries, East Indies.

20. Bulimus zonulatus, Pfr. *Bul. testâ perforatâ, oblongo-conicâ, tenui, lævigatâ, opacâ, pallidè stramineâ, seriebus 2 macularum fuscarum pellucidarum cinctâ, basi lineis 2 castaneis ornatâ; spirâ conicâ, acutiusculâ, apice corneo; anfractibus 6 convexiusculis, ultimo spiram vix superante; columellâ strictâ; aperturâ ovali-oblongâ; peristomate acuto, tenui, margine columellari a basi dilatato, membranaceo, angulatim latè reflexo, perforationem ferè occultante.*
Long. 18, diam. 9 mill.
From Cabanatuan, province of Nueva Ecija, island of Luzon; found by Mr. H. Cuming.

"Description of nine new species of *Helicea*, collected by H. Cuming, Esq.," by Dr. L. Pfeiffer:—

1. Helix lucidella, Pfr. *Hel. testâ minutâ, perforatâ, depressâ, striatulâ, nitidissimâ, brunneâ; spirâ subplanulatâ; suturâ albo-marginatâ; anfractibus 4 planis, ultimo basi vix convexiore, medio impresso, angustissimè perforato; aperturâ obliquè lunari; peristomate simplice, obtuso, margine columellari declivi, vix incrassato.*
Diam. $3\frac{2}{3}$, alt. 2 mill.
Found on the island of Luzon.

2. Helix arctispira, Pfr. *Hel. testâ umbilicatâ, depressâ, subdiscoideâ, confertim costatâ, albidâ, epidermide tenui fuscescente indutâ; spirâ convexiusculâ; anfractibus $5\frac{1}{2}$ convexis, angustissimis; umbilico lato, perspectivo; aperturâ parvulâ, subverticali, lunato-orbiculari; peristomate simplice, acutâ.*
Diam. $2\frac{1}{2}$, alt. $1\frac{1}{4}$ mill.
From the island of Juan Fernandez.
Intermediate between *H. epidermia*, Aut., and *tessellata*, Mühlf.

3. Helix cyathellus, Pfr. *Hel. testâ umbilicatâ, conicâ, obliquè costatâ, tenuiusculâ, unicolore corneâ; spirâ pyramidatâ, acutiusculâ; anfractibus 9 angustissimis, carinâ filiformi cinctis, ultimo basi planiusculo, sublævigato; umbilico majusculo, pervio; aperturâ depressâ, angulato-lunari; peristomate simplice, margine supero brevi, recto, basali leviter arcuato, brevissimè reflexo.*
Diam. $5\frac{1}{3}$, alt. 4 mill.
From the island of Panay.

4. Helix doliolum, Pfr. *Hel. testâ perforatâ, turbinatâ, confer-*

tissimè et minutè costulato-striatâ, pellucidâ, non nitente, corneâ; spirâ turbinatâ, apice obtusiusculo; anfractibus 5 convexiusculis, ultimo basi subplanato; aperturâ depressâ, latè lunari; peristomate simplicissimo, recto.
Diam. $3\frac{1}{2}$, alt. $2\frac{1}{2}$ mill.
From Sibonga, island of Zebu.

5. Bulimus dilatatus, Pfr. *Bul. testâ imperforatâ, ovato-conicâ, obtusiusculâ, solidâ, obliquè striatâ, subtilissimè punctatâ, castaneâ, supernè fulvâ; anfractibus 6 planiusculis, ultimo ad suturam albo-unifasciato, spirâ multò breviore; columellâ subrectâ, callosâ, albâ, dilatatâ; aperturâ obliquâ, latè semiovali, intus lacteâ; peristomate subincrassato, expanso, margine basali reflexo, appresso.*
Long. 34, diam. 22 mill.
Island of Luzon.

6. Bulimus elongatulus, Pfr. *Bul. testâ imperforatâ, subulatâ, solidulâ, sub epidermide tenuissimè striatâ (interdum obsoletè decussatâ), albâ; spirâ subulatâ, acutâ; anfractibus 8 planiusculis, ultimo tertiam longitudinis partem ferè æquante; columellâ breviter recedente, callosâ, planâ; aperturâ oblongo-ovali; peristomate simplice, margine dextro antrorsum subarcuato, columellari subincrassato, appresso.*
Long. 24, diam. $5\frac{1}{2}$ mill.
Island of Luzon.

7. Bulimus Grateloupi, Pfr. *Bul. testâ imperforatâ, ovato-oblongâ, ruguloso-striatâ, tenuissimâ, nitidâ, pellucidâ, stramineo-albidâ; anfractibus 6–7 convexiusculis, ultimo spirâ paulò breviore; columellâ callosâ, retrorsum flexuosâ; aperturâ semiovali; peristomate simplice, acuto, margine dextro antrorsum arcuato.*
Long. 18, diam. 8 mill.
From the islands of Luzon and Panay.

8. Bulimus Philippinensis, Pfr. *Bul. testâ imperforatâ, ovato-turbinatâ, solidâ, nigricante, strigis obliquis epidermidis hydrophanæ griseo-fuscæ ornatâ; spirâ conicâ, obtusiusculâ, nudâ, pallidâ; anfractibus 6 convexis, diametro celeriter accrescentibus, ultimo spirâ paulò breviore; columellâ vix obliquâ, subtortâ, carneâ; aperturâ lunato-orbiculari, intus lacteâ; peristomate subincrassato, breviter reflexo, nigro-limbato, margine dextro valdè arcuato, columellari dilatato, expanso.*
β. Testa epidermide fusca, saturatius strigata ferè omninò obducta, fasciis variis nigricantibus circumdata.
Long. 63, diam. 41 mill.
From the islands of Luzon and Marinduque.

9. Helix Reeveana, Pfr. *Hel. testâ umbilicatâ, subdiscoideâ, tenuiusculâ, obliquè striatâ, albidâ, zonis 3–5 rufis ornatâ; spirâ vix convexiusculâ, obtusâ; anfractibus $4\frac{1}{2}$–5 planiusculis, ultimo anticè subitò deflexo, basi concentricè et confertim striato; umbilico me-*

diocri, pervio; apertura subhorizontali, transversè ovali; peristomate subsimplice, reflexo, marginibus junctis.

Diam. 30, alt. 12 mill.

Island of Zebu.

This shell has been often mistaken for *H. Lasallii*, Eydoux, and is in many collections under that name; but *H. Lasallii* is not this species. It is quite congruent with *H. meretria*, Sow.

April 28, 1846.

No business was transacted.

May 12, 1846.

Richard C. Griffith, Esq., in the Chair.

Mr. H. E. Strickland exhibited a species of *Corvus*, discovered by Capt. H. M. Drummond, 42nd R. H., which the latter gentleman proposes to name *Corvus collaris*. In size and form it is closely allied to the Common Jackdaw, *Corvus monedula*, but differs in the much lighter silvery grey of the cheeks, occiput and nape, which passes into a well-marked patch of pure white on each side of the neck. The black on the crown is of less extent than in *Corvus monedula*, and the lower parts are of a slaty grey.

Capt. Drummond states that in Macedonia and Thessaly this bird takes the place of *C. monedula*, which is common in the south of Greece, and does not there differ from the Jackdaw of Britain.

May 26, 1846.

No business was transacted.

June 9, 1846.

George Gulliver, Esq., in the Chair.

A fœtal Condor, extracted from an egg laid in the menagerie, was exhibited to the Meeting. The egg had been placed under a common hen, which remained sitting on it for six weeks and two days.

The length of the specimen is $5\frac{3}{4}$ inches; the extremities, particularly the legs, are imperfectly developed, but the head had acquired a specific vulturine character; a strong line of downy filaments extends along the length of each pectoral muscle; all the other parts of the body are quite bare.

	inches.
Length of the head	$1\frac{3}{4}$
Length of bones of wing	2
Length of bones of leg to the end of longest toe ..	2

Mr. Gould exhibited to the Meeting three new species of the family of *Trochilidæ*, which he thus characterized:—

Trochilus (Petasophora) coruscans. *Troch. strigâ intense cæruleâ a mento per genas productâ in aures, quæ erectæ ut cristulæ conspicantur; plumis mediam gulam squamatim tegentibus nitide viridibus, æreo et coccineo colore resplendentibus; medio abdomine cyaneo; tectricibus caudæ inferioribus sordide viridibus, ad apices stramineis; alis purpurascente fuscis.*

Crown of the head, all the upper surface, wing-coverts and flanks green; tail-feathers very broad, steel-blue, with green reflections, and crossed near the extremity with a broad band of a blackish hue, as in the allied species *Anaïs* and *serrirostris*; a band of rich pure blue commences on the chin and extends along the sides of the cheeks and on the ear-coverts, which when erected form conspicuous tufts; the scale-like feathers of the centre of the throat rich shining green, with bronze and dull crimson reflections; centre of the abdomen blue; under tail-coverts dull green, broadly tipped with buff; wings purplish brown; bill black; feet brown.

Total length, $5\frac{1}{4}$ inches; bill, $1\frac{1}{16}$; wing, 3; tail, 2.

Hab. The part of South America of which this bird is a native is unknown.

This beautiful species is rather less in size than *P. Anaïs*, from which and every other species it is distinguished by the beautiful marking of the throat, the greater extent of the blue on the abdomen, and by the greater breadth of the feathers of the tail.

In my own collection.

TROCHILUS (——?) FLABELLIFERUS. *Troch. capite, collo, et pectore, nitide saturate cyaneo; dorso, uropygio, tectricibus caudæ superioribus, et lateribus nitide viridibus; lato maculo ad nucham semilunari, abdomine, tectricibus caudæ inferioribus, et caudâ albis; caudæ plumis ad extremam pogoniam fusco marginatis; alis nigrofuscis purpureo splendentibus.*

All the head, neck and chest rich deep shining blue; back, rump, upper tail-coverts and flanks shining green; a broad crescent-shaped mark at the back of the neck, abdomen, under tail-coverts and tail pure white, the feathers of the latter bordered at the extremity with brown; wings blackish brown, with purple reflections.

Total length, 5 inches; bill, $1\frac{1}{8}$; wing, 3; tail, 2.

Hab. Mexico.

Closely allied to *T. mellivora*, but distinguished from that species by its much greater size and by the narrowness and browner colour of the bordering of the tail-feathers.

TROCHILUS (——?) STROPHIANUS. *Troch. maculo viridi in frontem splendenti; lato maculo semilunari, inter violaceam gulam et abdominem viridem, albo; rectricibus nigris.*

On the forehead, immediately above the bill, a luminous spot of green; crown of the head, all the upper surface and abdomen dull green; throat rich bluish violet, separated from the green of the abdomen by a broad lunate gorget of white; all the tail-feathers black; wings blackish brown, with purple reflections; under tail-coverts white; bill black.

Total length, $4\frac{1}{2}$ inches; bill, $\frac{3}{4}$; wing, $2\frac{1}{2}$; tail, $1\frac{3}{4}$.

Hab. Precise locality unknown.

Nearly allied to but smaller than the *Ornismyæ Clarisse* and *Parzudaki*.

June 23, 1846.

Harpur Gamble, Esq., M.D., in the Chair.

Professor Owen read a Memoir (Part II.) on the Dinornis, descriptive of parts of the skeleton transmitted from New Zealand since the reading of Part I. (Proc. Zool. Soc., November 1843.)

The bones referable to species defined in that communication were first described. Among these were the cranial portion of the skull of *Dinornis struthoides* and a corresponding portion of the skull of *Dinornis dromioides*, which in general form more resembled that part of the skull of the Dodo than of any existing bird; but they are remarkable for the great breadth of a low occipital region, which slopes from below upwards and forwards; the almost flat parietal region is continued directly forwards into the broad sloping frontal region; the temporal fossæ are remarkably wide and deep; the orbits small; the olfactory chamber expanded posteriorly, but not to so great an extent as in the Apteryx; the plane of the foramen magnum is vertical. Many other characteristics in the cranial organization of the genus *Dinornis* were described, and the specific distinction of the two mutilated crania pointed out.

The tympanic bone of the *Dinornis giganteus* was described in detail and compared with the same bone in existing birds.

Different cervical and dorsal vertebræ, referable to the species *Din. giganteus, ingens, struthoides* and *crassus*, were described. These vertebræ were remarkably entire, and with some of the best-preserved bones of the extremities, described in a subsequent part of the Memoir, had been obtained from a turbary formation on the coast of the Middle Island, near Waikawaite.

One of the most interesting of the novel acquisitions from this locality was an almost entire sternum, referred by Prof. Owen to the *Din. giganteus*. It is a subquadrate, keel-less, shield-shaped bone, broader than long, with the posterior angles and the xiphoid process prolonged, as in the Apteryx, but without the anterior emargination. The coracoid depressions very small. This bone was minutely described and compared with the keel-less sternums of the existing Struthious birds; that of the Apteryx being demonstrated to be most like the sternum of *Dinornis*.

The following bones of the extremities, imperfectly or not at all known in 1843, were next described:—

The entire femur of *Dinornis giganteus*. Entire tibiæ and tarso-metatarsi of *Din. giganteus*, indicating a robust variety of this stupendous bird to have existed in the Middle Island.

The tarso-metatarsus of *Dinornis ingens* from the North Island, distinguished by a rough depression indicative of a fourth or back-toe, and consequently a genus (*Palapteryx*) distinct from *Dinornis*.

Femora, tibiæ and tarso-metatarsi of a Dinornis of the height of the *Din. ingens*, but of more robust proportions, from the Middle Island; with a feeble indication of a surface for a back-toe.

The tibiæ and tarso-metatarsi of *Dinornis* (*Palapteryx*) *dromioides* from the North Island, confirming by their long and slender proportions the conjecture hazarded in the author's former memoir (Zool. Trans. vol. iii. pp. 252, 264). The tarso-metatarsus also shows the rough elliptical surface for the attachment of the back-toe, indicating the *Din. dromioides* to belong to the same generic or subgeneric section as *Din. ingens* from the North Island.

Femora, tibiæ and *tarso-metatarsi*, from the Middle Island, were next exhibited and described, which establish a new species, for which Prof. Owen proposed the name of *Din. casuarinus*: a small and feeble depression, five lines by three lines, indicates that this species had a back-toe in the corresponding position with that in the Apteryx, but more rudimental.

A very remarkable femur and tarso-metatarsal bone, also from the Middle Island, were exhibited, belonging to an additional tridactyle species, to which the name of *Dinornis crassus* was given. Of this species the author remarks: "With a stature nearly equal to that of the Ostrich, the femur and tarso-metatarsus present double the thickness in proportion to their length. It must have been the strongest and most robust of birds, and the best representative of the pachydermal type in the feathered class."

The third new species is comparatively a small one, being intermediate in size between the *Dinornis didiformis* and the *Din. otidiformis*; it was founded on remains exclusively from the North Island, and was called by the author *Dinornis curtus*.

The author expressed his grateful acknowledgments to the following gentlemen, to whom he was indebted for the opportunity of examining and depicting the specimens described in the present Memoir:—Capt. Sir Everard Home, Bart., R.N.; the Hon. William Martin, Chief Justice of New Zealand; the Rev. Archdeacon Williams, Corr. Memb. Z. S.; William Swainson, Esq., F.R.S., F.L.S., the distinguished naturalist; Colonel William Wakefield; J. R. Gowen, Esq., a Director of the New Zealand Company; the Rev. William Cotton, M.A.; the Rev. Richard Taylor, M.A.; the Rev. William Colenso, M.A.; Dr. Mackellar; George Bennett, Esq., F.L.S., and Percy Earl, Esq.

The paper (which was illustrated by numerous figures) concluded by some general comparisons and remarks on the geographical distribution of the different species of *Dinornis*, and with the following Table of admeasurements of the bones of the leg:—

TABLE OF ADMEASUREMENTS

Dimensions of

	Din. giganteus.	Din. ingens.		Din. crassus.
		v. robustus.	*f* 2.	
	in. lin.	in. lin.	in. lin.	in. lin.
Length	16 0	13 9	13 0	12 0
Breadth of proximal end (in the axis of the neck)	6 0	5 5	4 10	5 0
Breadth (transverse) of distal end	6 3	5 10	5 2	5 3
Circumference of middle	7 9	7 1	6 1	6 8

* Perhaps not quite enough allowed

Dimensions of

	Din. giganteus.		Din. ingens.	
	t 1.	*t* E.	*t* 2.	*t* E 1.
	in. lin.	in. lin.	in. lin.	in. lin.
Length	35 0	35 0	29 0	28 9
Breadth of proximal end	7 6	7 0	6 2	6 6
Breadth of distal end	4 0	4 8	3 7	4 0
Circumference of middle	6 6	6 6	5 3	6 3
Fibular ridge extends down	13 0	13 0	12 0	12 0

Dimensions of

	Din. giganteus.		Din. ingens.	
			m E.	*Colenso.*
	m 1.	*m* E.	*v. robustus.*	
	in. lin.	in. lin.	in. lin.	in. lin.
Length	18 6	18 0	14 6	13 9
Circumference at the middle of the shaft	5 6	6 0	5 6	4 6
Breadth (transverse) of distal end	5 1*	6 0	5 6	4 6
Breadth of middle of shaft	1 11	2 2	1 10	1 7
Thickness or antero-posterior diameter of ditto	1 6	1 6	1 5	1 3
Breadth (transverse) of proximal end	0 0	4 6	4 3†	3 6

* The margins being broken and water-worn, I had not allowed sufficient for the entire bone.
‡ Perhaps not enough allowed for

Average Dimensions of Bones of *Dinornis* in

	Din. giganteus.	Din. ingens.	Ostrich.	Din. crassus.
	in. lin.	in. lin.	in. lin.	in. lin.
Length of femur	16 0	13 6	11 0	12 0
Circumference of ditto	7 3	6 10	5 3	6 8
Length of tibia	35 0	28 10	18 6	....
Circumference of ditto	6 6	6 0	4 3	....
Length of metatarsus	18 6	14 0	16 0	8 6
Circumference of ditto	5 6	5 0	3 7	4 8

OF THE BONES OF THE LEG.

the Femora.

Din. struthoides.		Din. casuarinus.		Din. dromioides.			Din. didiformis.			Din. curtus.	Din. otidiformis.
f 12. *f Colenso.*		*f* 13.	*f* E.	*f* 6.	*f* 16.	*f Taylor.*	*f* 8.	*f* 7.	*f* 17.		*f* 10.
in. lin.	in. lin.	in. lin.	in. lin.	in. lin.	in. lin.	in. lin.	in. lin.	in. lin.	in. lin.	in. lin.	in. lin.
11 0*	12 0	9 6†	10 4	9 4‡	9 6	9 7	8 0	8 0	8 1	0 0	0 0
4 2	4 2	3 5†	3 11	3 6	3 6	3 6	2 10	3 0	3 3	0 0	0 0
4 3	4 4	3 9	4 4	3 7	3 7	3 8	3 3	3 2	3 6	0 0	0 0
5 6	5 6	5 0	4 9	4 1	4 0	3 10½	4 0	4 0	4 3	2 9	2 1

for mutilated extremities. † Ib. ‡ Ib.

the Tibiæ.

Din. crassus.	Din. struthoides.		Din. casuarinus.	Din. dromioides.	Din. didiformis.			Din. curtus.	Din. otidiformis.
					t 3.	*t* 8.	*t* 9.		*t* 11.
	in. lin.	in. lin.	in. lin.	in. lin.	in. lin.	in. lin.	in. lin.	in. lin.	in. lin.
....	....	....	19 0	21 0	15 6	15 4	15 4	11 3	8 9
....	5 6	5 4	5 6	4 8	4 5	0 0	0 0	3 3	2 0
....	....	....	2 11	2 8	2 4	0 0	0 0	2 0	1 3
....	5 0	4 8	4 9	4 0	4 0	0 0	0 0	2 9	1 11
....	10 0	10 0	8 6	9 0	6 10	0 0	0 0	4 9	3 6

the Tarso-metatarsals.

Din. crassus.	Din. struthoides.		Din. casuarinus.	Din. dromioides.	Din. didiformis.		Din. curtus.	Din. otidiformis.
	m 3.	*m* E.						
in. lin.	in. lin.	in. lin.	in. lin.	in. lin.	in. lin.	in. lin.	in. lin.	
8 6	12 0	11 6	8 0	10 5	7 0	6 10	5 0	
4 8	4 3	4 2	4 2	3 9	3 3	3 3	2 10	
4 0	4 0‡	4 5	3 10	3 4	....	3 0	2 5	
1 10	1 6	1 6	1 7	1 4	1 5	1 3	1 1	
1 2	1 1	1 1	0 10	0 10	0 9	0 9	0 7	
3 3½	....	3 5	3 0	2 10	....	2 3	1 11	

† With a ridge at the middle of inner condyle at proximal end.
water-worn margins of trochleæ.

comparison with those of existing *Struthionidæ*.

Din. struthoides.	Emeu.	Din. casuarinus.	Din. dromioides.	Din. didiformis.	Din. curtus.	Din. otidiformis.	Apteryx.
in. lin.	in. lin.	in. lin.	in. lin.	in. lin.	in. lin.	in. lin.	in. lin.
11 0	9 0	10 2	9 6	8 0	0 0	0 0	3 9
4 2	3 7	4 9	4 0	4 0	2 9	2 1	1 0
25 0	16 10	19 0	21 0	16 3	11 3	8 9	5 3
5 0	3 4	4 9	4 0	4 1	2 9	1 11	1 3
12 0	15 0	8 0	10 5	7 0	5 0	....	3 3
4 3	3 0	4 2	3 9	3 6	2 10	....	0 0

July 14, 1846.

William Yarrell, Esq., Vice-President, in the Chair.

Prof. Owen communicated, as an 'Appendix to his Memoir on the Dinornis,' some observations on the skull and on the osteology of the foot of the Dodo (*Didus ineptus*).

After a brief summary of the history of this remarkable extinct brevipennate Bird, in which the reduced highly finished figure by Savery, in his famous painting of 'Orpheus charming the Beasts,' now in the collection at the Hague, was particularly noticed; and the recent discovery of the skull of the Dodo amongst some old specimens in the Museum of Natural History at Copenhagen was mentioned, he proceeded to demonstrate the peculiarities of the Dodo's skull, by a comparison of the cast of the head of the bird in the Ashmolean Museum at Oxford with those of other recent and extinct species of Birds.

The Dodo's skull differs from that of any species of *Vulturidæ*, or any Raptorial Bird, in the greater elevation of the frontal bones above the cerebral hemispheres, and in the sudden sinking of the inter-orbital and nasal region of the forehead; in the rapid compression of the beak anterior to the orbits; in the elongation of the compressed mandibles, and in the depth and direction of the sloping symphysis of the lower jaw. The eyes of the Dodo are very small compared with those of the *Vulturidæ* or other *Raptores*. The nostrils, it is true, pierce the cere, but are more advanced in position; this however seems essentially to depend upon the excessive elongation of the basal part of the upper mandible before the commencement of the uncinated extremity; the nostrils are pierced near the commencement of this uncinated part as in the *Vulturidæ*, but are nearer the lower border of the mandible in the Dodo.

The resemblance between the skull of the Dodo and that of the Albatros is chiefly in the compression and prolongation of the curved mandibles: there are no traces in the Dodo of the hexagonal space on the upper surface of the cranium of the Albatros, so well defined there by the two supra-occipital ridges behind, the two temporal ridges at the sides, and the two converging posterior boundaries of the supra-orbital glandular fossæ in front. There is no sudden depression of the frontal region in the skull of the Albatros; the nostrils are near the upper surface of the basal third of the beak in the Albatros; and the Dodo's cranium is thrice as broad in proportion to the breadth of the mid-part of the mandible as in that of the Albatros.

More satisfactory evidence of the affinities of the Dodo was obtained from a comparison of the bones of the foot, which have recently

been very skilfully and judiciously exposed by the able Curator of the Ashmolean Museum.

The tarso-metatarsal bone most resembles in its thickness and general proportions that of the Eagles, especially the great Sea-Eagles (*Haliaëtus*); it is much stronger than the tarso-metatarsus of any of the *Vulturidæ*, or than that of the Cock, the *Crax*, or any of the *Gallinæ* or existing *Struthionidæ*; the stronger-footed species of *Dinornis* most resemble it in the general proportions of the tarso-metatarsus, but greatly differ in the particular configuration of the bone, and in the absence, or feebler indication, as in the subgenus *Palapteryx*, of the articulation for the metatarsal bone of the back-toe. The relative size of this bone is greater in the Dodo than in any other known bird. The Eagles make the nearest approach to it in this respect; as also in the shape of the hinder supplemental metatarsal, the breadth of its distal end, and its peculiar twist backwards and outwards, so as to form a bridge or pulley against which the flexor tendon of the hind-toe plays. This half-twist of the rudimental hind-metatarsus is feebly repeated in the *Gallinæ*, but the bone is much less expanded at its lower articular end, especially in the *Crax*; whilst the more typical *Gallinæ* are further distinguished from the Dodo by their spur.

The Apteryx is the sole existing Struthious bird which possesses the hind-toe; but it is very much smaller than in the Dodo, and the supporting metatarsal bone is devoid of the distal twist and expanded trochlea. The upper end of the tarso-metatarsus of the Dodo is remarkable for the great development of its calcaneal process, from which a strong ridge descends, gradually subsiding, half-way down the bone. The posterior surface of the calcaneal process is broad, triangular, vertically grooved and perforated at its base. In the Eagle the corresponding calcaneal process is a compressed, subquadrate ridge, whose base of attachment is not much longer than the obtuse end, and this is neither grooved nor perforated. In the *Cathartes Californianus* the calcaneal process is thicker than in the Eagle, shaped more like that of the Dodo, with a ridge descending upon the metatarsus, but it has a double groove behind.

In the Common Cock the calcaneal process more resembles that in the Dodo than the Vulture's does, but it is not so broad.

With regard to the first or proximal phalanx of the hind-toe, that of the *Haliaëtus* is larger and broader, especially at its base, stronger in proportion to its length, but longer in proportion to the sustaining metatarsus.

In the Vultures the proximal phalanx is not only longer in proportion to the metatarsus, but is more slender than in the Dodo. The same bone is also longer and more slender in proportion to the small supporting metatarsal bone in the Cock, the *Crax*, and all other *Gallinæ*; in fact, the Dodo is peculiar among Birds for the equality of length of the metatarsus and proximal phalanx of the hind-toe. With regard to the three trochlear extremities of the principal coalesced metatarsals, the middle one in all *Gallinæ* is longer in proportion than in the Dodo, in which the inner one is nearly as long

as the middle one, the outer one being the shortest. In the Eagle the inner division is of quite equal length with, or is longer than the middle trochlea; the proportions of the three trochleæ in the Vultures corresponding best with those in the Dodo. Another character by which the Dodo resembles the Vulture more than the Eagle is manifested by the proportions of the proximal phalanx of the second toe (innermost of the three anterior ones); this is very short, and is often anchylosed to the second phalanx in the Eagles: it is almost as long in the Vultures as in the Dodo.

Upon the whole, then, the Raptorial character prevails most in the structure of the foot, as in the general form of the beak, of the Dodo, compared with Birds generally; and the present limited amount of our anatomical knowledge of the extinct terrestrial Bird of the Mauritius would lead to support the conclusion that it is an extremely modified form of the Raptorial Order.

Devoid of the power of flight, it could have had small chance of obtaining food by preying upon the members of its own class; and if it did not exclusively subsist on dead and decaying organized matter, it most probably restricted its attacks to the class of Reptiles, and to the littoral fishes, Crustacea, &c.

The author concluded by recommending search to be made for bones of the Dodo in the superficial deposits, the alluvium of rivers, and the caves in the islands of Mauritius and Rodriguez; little doubting that an active exploration would be as richly rewarded as similar investigations have been in the islands of New Zealand, by the recovery of the remains of the great extinct species of terrestrial birds which formerly inhabited them.

Mr. Lovell Reeve then read a paper containing "Descriptions of forty new species of *Haliotis*, from the collection of H. Cuming, Esq.":—

The genus *Haliotis* affords an unusual abundance of novelty, from the circumstance of it never having been selected for the subject of an illustrated monograph; the species are, moreover, well-defined, and may be easily determined by a careful examination of the variations of sculpture and arrangement of colours.

The *Haliotides* are interesting in form as being the most evolved and depressed of spiral shells, and they have been arranged with the Chitons and Limpets as exhibiting the nearest apparent affinity with the non-spiral Gastropods. They present also a singularity of structure in great measure analogous to the orifice in the shell of *Fissurella* or to the fissure in *Emarginula*. On the left side of the shell, in a direct curve parallel to the inflexed edge, is a row of equidistant perforations, made by the animal in its progress of growth for conveying the water to the breathing organs; the mantle is slit in that direction to a certain extent, and the water passes into the respiratory cavity through a tubular filament protruding from each hole. The number of pallial filaments being alike in the same individual throughout its several stages of growth, the shell mostly presents the same number of holes at all ages, filling up the hindmost orifice as a new

one becomes formed at the margin. The *Siliquaria* presents a similar modification of structure, and it has been also considered that the slit in *Pleurotoma* is in some measure analogous.

The internal surface of the 'Ear Shells' is lined with a bright pearly nacre, which in most species is of remarkable iridescent brilliancy, glowing with all the colours of the rainbow; the attention must, however, be directed to the outer coating of the shell, for the discrimination of species, and it is with this view that the figures in the foregoing monograph are devoted mainly to external sculpture. There is certainly a striking variation of character in the nacre of different species, but the pattern of the inner surface is merely an indentation of the outer. The number of perforations varies in different species, but may be said to correspond in different individuals of the same species; where an exception occurs, it is that there is sometimes one, or at most two, less in the adult than in the young state; that is, when the animal arrives at maturity it continues to stop up one or two of the perforations in advance of any new one.

It is a curious circumstance in the geographical distribution of the *Haliotides*, that few, if any, are to be found where Chitons abound; as if they exchanged places to a certain extent in the two hemispheres. There are a few species from California, but along the western coast of South America, where Chitons are most abundant, not any are found, and only one small species, the *H. pulcherrima*, at any of the islands of the Pacific. They inhabit the coasts of China, Japan, Ceylon, Mozambique, Cape of Good Hope, Borneo, and the Philippine Islands; but the greater number of species, and the most remarkable, are from New Zealand and the continent of New Holland, displaying all the peculiarity of design which invariably characterizes the fauna of those isolated regions. With the well-known *Haliotis tuberculata* of the Channel Islands, all are familiar. It is, however, a circumstance worth noting, that although such near neighbours, and comparatively abundant, especially at the island of Jersey, it is rarely collected on the coast of England.

The *Haliotides* are found at low water, attached to the under surface of masses of stone, and they fix themselves with great force to the rocks, by suction, on the least alarm.

B.M. 1954

HALIOTIS SPLENDENS. *Hal. testâ ovatâ, convexo-depressâ, undique spiraliter liratâ, liris crebris regularibus subobtusis, nonnullis aliis latioribus; foraminibus quinis perviis, extus ærugini-viridescente, articulis albicantibus prope spiram interdum notatâ, epidermide fibroso fusco indutâ, intus cæruleo viridique, nigricante nebulatâ; pulcherrimè iridescente.*

Hab. California.

B.M. 1954

HALIOTIS JAPONICA. *Hal. testâ ovato-oblongâ, subplanulato-convexâ, liris tenuibus æqualibus spiraliter funiculatâ, concentricè rugoso-plicatâ, plicis conspicuis lamellæformibus irregularibus; foraminibus quinis senisve perviis; luteo olivaceo-fusco viridique undique pulcherrimè variegatâ.*

Hab. Japan; Dr. Siebold.

HALIOTIS COCCINEA. *Hal. testâ oblongo-ovatâ, spiraliter liratâ, liris creberrimis inæqualibus interstitiis transversim minutissimè striatis; foraminibus confertiusculis, quinis senisve perviis; extus coccineo-rufâ, lutescente-albo maculatâ et variegatâ, intus argenteo-albicante.*

Hab. Cape de Verd Islands.

B.M. 1957 HALIOTIS ZICZAC. *Hal. testâ ovatâ, planulato-convexâ, spiraliter subtilissimè sulcatâ, foraminibus parviusculis, senis perviis; olivaceo-viridi, luteo-viridescente obliquè flammeo-undatâ, apice luteo-aurantio tinctâ, intus argenteâ, iridescente.*

Hab. Calipan, island of Mindoro, Philippines (found on smooth stones); Cuming.

B.M. 1957 HALIOTIS MULTIPERFORATA. *Hal. testâ oblongo-ovatâ, subflexuosâ, anfractuum parte spirali subelevatâ; spiraliter lineari-sulcatâ, sulcis subundatis irregularibus; foraminibus parviusculis numerosis, decenis perviis; extus nigricante-fusco viridique variegatâ, intus albicante.*

Hab. ——?

B.M. 1957 HALIOTIS DISCUS. *Hal. testâ oblongo-ovatâ, elevato-convexâ, hic illic tumidâ et rugosâ, latere sinistro lato, peculiariter erecto; foraminibus amplis, subdistantibus, tubiferis, quaternis tantum perviis; castaneo-fuscâ, viridi aut rufescente radiatim tinctâ.*

Hab. Japan; Dr. Siebold.

B.M. 1957 HALIOTIS SIEBOLDII. *Hal. testâ subobliquè ovatâ, subpectinatâ, valdè convexâ, apice terminali, vix spirali; radiatim liratâ, liris obtusis, subdistantibus; foraminibus subamplis, quinis perviis; extus aurantio-rubrâ, intus albicante, iridescente.*

Hab. Japan; Dr. Siebold.

B.M. 1957 HALIOTIS SQUAMATA. *Hal. testâ oblongo-ovatâ, convexâ, spiraliter liratâ, liris creberrimis, squamatis, alternis majoribus; foraminibus octonis perviis; fuscâ et rubro-fuscâ, flammulis lutescentibus undatis ornatâ, intus vividè iridescente.*

Hab. North-west coast of Australia; Dring, H.M.S. Beagle.

B.M. 1957 HALIOTIS FUNEBRIS. *Hal. testâ ovatâ, subdepresso-convexâ, spiraliter liratâ, liris subsquamatis, hic illic majoribus, transversim peculiariter rugoso-plicatâ; foraminibus octonis aut novenis perviis; rubido-castaneâ, interdum viridi tinctâ, flammis perpaucis indistinctis circa spiram.*

Hab. New Holland.

B.M. 1957 HALIOTIS DIVERSICOLOR. *Hal. testâ ovatâ, subplanulatâ, spiraliter liratâ, liris obtusis irregularibus, transversim leviter plicatâ; foraminibus octonis vel novenis perviis; castaneo-fusco coccineo-rufo viridique radiatâ, maculis undatis lutescentibus variegatâ.*

Hab. New Holland.

B.M. 1957 HALIOTIS COCCORADIATA. *Hal. testâ suborbiculari, ovatâ, plano-*

convexâ, medio leviter depressâ, spiraliter subtiliter liratâ, liris striis minutis elevatis decussatis, foraminibus senis perviis; flavidâ, strigis latis vividè coccineis radiatim pictâ.

Hab. —— ?

HALIOTIS VIRIDIS. *Hal. testâ ovatâ, depresso-convexâ, obliquè undato-rugatâ, spiraliter liratâ, lirarum interstitiis striatis, foraminibus quinis perviis; extus albicante, viridi pulcherrimè tinctâ et marmoratâ, intus argentea.*

Hab. —— ?

BM 1957 HALIOTIS ASTRICTA. *Hal. testâ ovatâ, convexâ, spiraliter liratâ, liris laminis striisque elevatis irregularibus radiatim decussatis; foraminibus quaternis perviis; extus albidâ, olivaceo viridique marmoratâ, intus iridescente.*

Hab. —— ?

BM 1957 HALIOTIS TAYLORIANA. *Hal. testâ oblongo-ovatâ, solidiusculâ, convexâ, spirâ subterminali, spiraliter obtusè et irregulariter liratâ; foraminibus septenis ad novenis perviis; extus coccineo-fuscâ, flavido, coccineo-fusco maculato, prope spiram, nebulatâ; intus albicante.*

Hab. —— ?

Named in honour of my worthy friend Thomas Lombe Taylor, Esq., of Starston, Norfolk.

BM HALIOTIS RUBIGINOSA. *Hal. testâ ovatâ, subdepresso-convexâ, radiatim plicato-rugosâ, spiraliter liratâ, liris obtusè squamatis, foraminibus subapproximatis, senis perviis; extus rubiginoso-aurantiâ, spiraliter albi-strigatâ, intus argentea.*

Hab. —— ?

BM HALIOTIS RUGOSA. *Hal. testâ ovatâ, convexâ, medio leviter depressâ, radiatim plicato-rugosâ, spiraliter liratâ, liris obtusis, hic illic majoribus; foraminibus subamplis, quaternis perviis; extus olivaceo-fusco viridique marmoratâ.*

Hab. —— ?

BM 1957 HALIOTIS ROSACEA. *Hal. testâ ovatâ, convexo-depressâ, spiraliter crebriliratâ, liris striis exsculptis undique decussatis; foraminibus peculiariter oblongo-ovatis, quaternis perviis; extus corallo-rubro et roseo-albicante marmoratâ, rubro viridi punctato.*

Hab. —— ?

BM HALIOTIS PERTUSA. *Hal. testâ oblongo-ovatâ, spiraliter posticè subtilissimè sulcatâ, sulcis pertusis, anticè exiliter liratâ, sulcis lirisque subirregularibus et undatis; foraminibus senis perviis; extus rufo-fuscâ, strigis perpaucis lutescentibus undatis prope spiram, intus vividè iridescente.*

Hab. —— ?

HALIOTIS PLANILIRATA. *Hal. testâ ovatâ, plano-convexâ, spiraliter liratâ, liris planulatis irregularibus; foraminibus quinis perviis; olivaceo- et cæruleo-viridi.*

Hab. —— ?

HALIOTIS SCUTULUM. *Hal. testâ convexâ, spirâ depressâ, suboccultâ, spiraliter exiliter liratâ, liris planulatis, undulatis, hic illic majoribus; foraminibus senis perviis; olivaceo-fuscâ, viridi pulcherrimè articulatâ, punctatâ et maculatâ.*
Hab. —— ?

B.M. 1957 HALIOTIS ZEALANDICA. *Hal. testâ oblongo-ovatâ, subdepressâ, spiraliter irregulariter sulcatâ, liris intermediis obtusis, nunc latis, nunc angustis, senis perviis; rufo-castaneâ et albicante peculiariter marmoratâ.*
Hab. New Zealand.

HALIOTIS SPECIOSA. *Hal. testâ oblongo-ovatâ, plano-convexâ, medio depressâ, spiraliter elevato-striatâ, striis confertis; foraminibus senis perviis; coccineo-rufâ albo-nigricante marginatâ, pulcherrimè variegatâ.*
Hab. —— ?

B.M. 1957 HALIOTIS RETICULATA. *Hal. testâ oblongo-ovatâ, anticè subattenuatâ, plano-convexâ, medio depressâ, latere sinistro latiusculo, erecto, spiraliter vix striatâ; foraminibus quaternis perviis; sordidè fuscâ, maculis albidis reticulatis subtriangularibus ornatâ.*
Hab. —— ?

B.M. 1957 HALIOTIS NEBULATA. *Hal. testâ oblongo-ovatâ, convexâ, spirâ subelevatâ, spiraliter sulcatâ, sulcis parvis, undatis; foraminibus subapproximatis, septenis perviis; fusco roseoque undique nebulatâ.*
Hab. —— ?

B.M. 1957 HALIOTIS SPICULATA. *Hal. testâ ovatâ, spiraliter peculiariter liratâ, liris angustis, erectis, valdè irregularibus, radiatim undato-plicatâ; foraminibus amplis, senis perviis; olivaceo-viridi, hic illic albipunctatâ.*
Hab. —— ?

B.M. 1957 HALIOTIS SEMISTRIATA. *Hal. testâ ovatâ, spiraliter subtiliter liratâ, radiatim undato-plicatâ et plus minusve tuberculosâ; foraminibus subtubiferis, quinis perviis; fuscâ aut coccineo-rufâ, albimaculatâ.*
Hab. Ceylon; Dr. Sibbald.

B.M. 1957 HALIOTIS CLATHRATA. *Hal. testâ semicirculari-ovatâ, spiraliter crebriliratâ, interstitiis striis subtilissimè clathratis, radiatim plicatâ; foraminibus subamplis, quinis perviis; viridi et vividè rufo variegatâ.*
Hab. Baclayon, island of Bohol, Philippines; Cuming.

B.M. 1957 HALIOTIS STOMATIÆFORMIS. *Hal. testâ oblongo-ovatâ, valdè convexâ, spiraliter striatâ, radiatim subtiliter plicatâ, spirâ subterminali, elevatâ; foraminibus quinis perviis; olivaceo viridique marmoratâ.*
Hab. New Zealand.

B.M. 1957 HALIOTIS ANCILE. *Hal. testâ ovatâ, regulariter convexâ, spiraliter*

exiliter noduloso-striatâ, nodulis interdum subobscuris interruptis; foraminibus numerosis, parvis, octonis perviis; olivaceo-viridi, nodulis et circa spiram cupreo-roseis.
Hab. —— ?

B.M. 1957 HALIOTIS DRINGII. *Hal. testâ orbiculari-ovatâ, spiraliter striatâ, radiatim plicatâ et tuberculosâ; foraminibus subtubiferis, quaternis perviis; extus pallidè viridescente-luteâ, medio conspicuè coccineo tinctâ, intus argenteâ.*
Hab. North coast of Australia.

HALIOTIS CONCINNA. *Hal. testâ suboblongo-ovatâ, spiraliter striatâ, medio leviter tuberculatâ, obliquè subobscurè plicatâ; foraminibus quaternis perviis; carneo-albicante, coccineo-roseo profusè variegatâ.*
Hab. Zamboanga, island of Mindanao, Philippines; Cuming.

BM. 1957 HALIOTIS GEMMA. *Hal. testâ suborbiculari-ovatâ, plano-convexâ, latere sinistro latiusculo, spiraliter subtuberculatâ, radiatim pulcherrimè minutè plicato-squamatâ; foraminibus subtubiferis, quaternis quinisve perviis; flavescente, coccineo viridique tinctâ.*
Hab. —— ?

BM 1957 HALIOTIS LAUTA. *Hal. testâ ovatâ, anticè attenuatâ, undato-tumidâ, spiraliter liratâ, liris subtilibus, confertis, striis minutis decussatis; foraminibus subamplis, quinis perviis; rubido et flavescente-albidâ irregulariter marmoratâ.*
Hab. Swan River Settlement, New Holland; Lieut. Preston.

BM 1957 HALIOTIS PAPULATA. *Hal. testâ suborbiculari-ovatâ, spiraliter obtuso-liratâ, liris subdistantibus, conspicuè tuberculatis; foraminibus subtubiferis, quaternis perviis; corallo-rubrâ, flavescente variâ.*
Hab. North coast of Australia; Dring.

HALIOTIS JACNENSIS. *Hal. testâ oblongo-ovatâ, spiraliter peculiariter rudè liratâ, liris valdè irregularibus, subsquamosis, prope foramina sublævigatâ; foraminibus subtubiferis, distantibus; rufescente-aurantiâ, intus argenteâ.*
Hab. Jacna, island of Bohol, Philippines.

B M 1957 HALIOTIS PUSTULATA. *Hal. testâ oblongo-ovatâ, spiraliter obscurè liratâ, tuberculis parvis pustulatâ, radiatim plicatâ; foraminibus senis perviis; albidâ viridique marmoratâ.*
Hab. —— ?

B M 1957 HALIOTIS AQUATILIS. *Hal. testâ oblongo-ovatâ, plano-convexâ, medio depressâ, lævigatâ, prope marginem peculiariter plicatâ; foraminibus senis perviis; pallidè viridi, albido aut flavescente undato-variegatâ, intus albicante.*
Hab. Kurile Islands, south of Kamtschatka.

HALIOTIS JANUS. *Hal. testâ oblongo-ovatâ, spiraliter liratâ, liris subtilibus angustis, interstitiis excavatis; foraminibus senis per-*

viis; luteo-aurantiâ, fasciâ latâ albidâ, fusco grandimaculatâ, prope foramina ornatâ.

Hab. —— ?

1959 B.M. HALIOTIS CRUENTA. *Hal. testâ ovatâ, anticè subattenuatâ, spirâ elevatiusculâ, spiraliter peculiariter undato- et corrugato-striatâ; foraminibus subapproximatis, octonis perviis, sanguineo albipunctato et albido sanguineo-punctato pulcherrimè variegatâ.*

Hab. New Zealand.

13.11.1959 HALIOTIS INCISA. *Hal. testâ ovatâ, medio subdepressâ, spiraliter incisâ, subtuberculiferâ; foraminibus amplis, quaternis perviis; albidâ et purpureo-viridi marmoratâ, albido minutissimè rufo-punctatâ.*

Hab. —— ?

The next paper was also communicated by Mr. Lovell Reeve, and contained "Descriptions of fifty-four new species of *Mangelia*, from the collection of H. Cuming, Esq.":—

The *Mangeliæ* are nearest allied to those aberrant species of *Pleurotoma* in which the predominant character of that genus, the fissure in the upper extremity of the lip, becomes modified into a somewhat obscure sinus. Their general aspect is that of a more or less fusiform *Marginella*, without plaits or polished exterior; distinguished, on the other hand, by a row of faint wrinkle-like denticulations on the inner surface of the lip and columella, and a gutter-like sinus in the lip at its junction with the body-whorl.

MANGELIA SICULA. *Mang. testâ subfusiformi, spirâ acuminatâ, anfractibus rotundatis, gibbosiusculis, concentricè costatis, lævibus; aperturâ brevi, ovatâ, sinu subconspicuo; intus extusque castaneo-fuscâ, labro flavicante, fusco-lineato.* B M

Hab. Sicily.

MANGELIA VEXILLUM. *Mang. testâ oblongo-ovatâ, anfractibus supernè depressis, nodosis, costis e nodis descendentibus, superficie totâ decussatim striatâ, quasi subtilissimè decussatâ; aurantio-luteâ, fasciis albicantibus angustis undique cingulatâ.*

Hab. Ilo Ilo, isle of Panhay, Philippines (found under stones); Cuming.

MANGELIA LYRA. *Mang. testâ trigono-fusiformi, anfractibus supernè angulatis, longitudinaliter costatis, costis subobliquis, ad angulum incrassatis; castaneo-fuscâ, lineis albicantibus decussatis, labro albicante.*

Hab. Island of Ticao, Philippines (found on the sands); Cuming.

MANGELIA ANTILLARUM. *Mang. testâ subpyriformi-ovatâ, lævigatâ, longitudinaliter concentricè costatâ, costis fortibus, subobtusis, distantibus; cinereo-carneâ, costis fasciâ rubidâ tinctis, labro albicante, rubido fasciatim tincto.*

Hab. West Indies.

MANGELIA MARGINELLOIDES. *Mang. testâ pyriformi-ovatâ, spirâ brevi, acutâ; anfractibus supernè angulatis, longitudinaliter multicostatis, costis tenuibus, crebris, suturis descendentibus; lacteo-cæruleâ aut cinereo-fuscâ, lineis rubidis cingulatâ, anfractûs ultimi parte supra angulum maculâ grandi nigricante conspicuè tinctâ.*

Hab. Island of Burias, Philippines (found in sandy mud at the depth of seven fathoms); Cuming.

MANGELIA FUNICULATA. *Mang. testâ trigono-fusiformi, subelongatâ, anfractibus supernè depressis, longitudinaliter tenuicostatis, lævibus; cinereo-fuscâ, costis labroque albicantibus.*

Hab. Islands of Ticao and Masbate, Philippines (found on the sands); Cuming.

OB, 1958

MANGELIA CAVERNOSA. *Mang. testâ oblongo-ovatâ, spirâ angulato-turritâ; anfractibus supernè angulatis, intra costis cavernosis, costis fortibus, obtusis, suturis descendentibus; albâ, aurantio-fusco hic illic sparsim maculatâ.*

Hab. Island of Ticao, Philippines (found on the sands); Cuming.

MANGELIA CYLINDRICA. *Mang. testâ cylindraceo-fusiformi, apice acutâ, longitudinaliter subtiliter costatâ, transversim elevato-striatâ; pellucido-albâ, fuscescente tinctâ, aurantio-fusco infra suturas maculatâ.*

Hab. Cagayan, island of Mindanao, Philippines (found in sandy mud at the depth of twenty-five fathoms); Cuming.

MANGELIA CAPILLACEA. *Mang. testâ ovato-fusiformi; spiræ suturis profundis; anfractibus supernè depressis, transversim subtilissimè et creberrimè elevato-striatis, longitudinaliter costatis, angustis, suberectis, supernè leviter mucronatis; fuscescente, lineis subtilibus fuscescentibus zonatâ.*

Hab. Island of Burias, Philippines (found among coarse sand at the depth of seven fathoms); Cuming.

MANGELIA GRACILIS. *Mang. testâ gracili-fusiformi, transversim subtilissimè striatâ, longitudinaliter costatâ, costis angustis; albâ, castaneo-fusco indistinctè zonatâ et maculatâ.*

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

MANGELIA LAMELLATA. *Mang. testâ fusiformi-ovatâ, spiræ suturis profundis, subcavernosis, anfractibus transversim elevato-striatis, striis fortibus, subdistantibus, longitudinaliter costatis, costis angustis, erectis, lamellæformibus, supernè leviter mucronatis; albidâ, fusco pallidissimè zonatâ.*

Hab. Isle of Burias, Philippines (found among coarse sand at the depth of seven fathoms); Cuming.

MANGELIA VITTATA. *Mang. testâ oblongo-ovatâ, subconicâ, spirâ brevi, obtusâ; anfractibus longitudinaliter costatis, costarum in-*

terstitiis striis fortibus clathratis; albidâ, olivaceo-fusco latifasciatâ, costarum parte olivaceo-fuscâ albipunctatâ.

Hab. Island of Ticao, Philippines (found on the sands); Cuming.

MANGELIA ZONATA. *Mang. testâ abbreviato-fusiformi, spirâ breviusculâ, turritâ suturis profundis; anfractibus longitudinaliter costatis, costis e suturis descendentibus; lævigatâ; albâ, zonâ conspicuâ aurantio-fuscâ cingulatâ.*

Hab. Island of Ticao, Philippines (found on the sands); Cuming.

MANGELIA INTERRUPTA. *Mang. testâ oblongo-ovatâ, spirâ brevi, anfractibus supernè nodosis, costis e nodis descendentibus; albâ, lineis nigris subtilissimis transversis interruptis, creberrimè dispositis, inter costas ornatâ.*

Hab. Island of Ticao, Philippines (found on the sands); Cuming.

MANGELIA RETICULATA. *Mang. testâ fusiformi-ovatâ, spirâ breviusculâ, apice acuminatâ; anfractibus supernè perpendiculariter compressis, deinde tumidiusculis et longitudinaliter costatis, costarum interstitiis exiliter fusco-punctatis.*

Hab. Island of Ticao, Philippines (found on the reefs); Cuming.

MANGELIA PULCHELLA. *Mang. testâ fusiformi-ovatâ, subcylindraceâ, spirâ breviusculâ, apice acuminatâ; anfractibus supernè rotundatis, longitudinaliter multicostatis, costis tenuibus gracilibus, concentricè dispositis, anfractuum superficie totâ exilissimè reticulatâ; luteo-albicante, maculis quadratis parvis rufis costarum interstitiis fasciatim cingulatâ.*

Hab. Island of Ticao, Philippines (found on the sands); Cuming.

MANGELIA FUSIFORMIS. *Mang. testâ fusiformi, anfractibus supernè subangulatis, ad angulum nodosis, costis tenuibus subsuperficiariis e nodis descendentibus, transversim creberrimè striatis; luteo-albicante, punctis perpaucis aurantio-fuscis tinctâ.*

Hab. Island of Corrigidor, Philippines (found among coarse sand at the depth of ten fathoms); Cuming.

MANGELIA LYRICA. *Mang. testâ fusiformi, utrinque acuminatâ, anfractibus longitudinaliter concentricè costatis, transversim elevato-striatis; fuscescente, aurantio-fusco pallidè et indistinctè fasciatâ.*

Hab. Island of Burias, Philippines (found among coarse sand at the depth of seven fathoms); Cuming.

MANGELIA GIBBOSA. *Mang. testâ ovato-conicâ, spirâ brevissimâ; anfractibus supernè gibbosis et nodulosis, longitudinaliter costatis, lævigatis; cinereo-albicante, lineis aurantio-fuscis exilibus cingulatâ, dorso supernè nigricante tincto.*

Hab. Island of Ticao, Philippines (found on the reefs); Cuming.

MANGELIA MACULATA. *Mang. testâ subfusiformi, basi truncatâ, longitudinaliter costatâ, costis tenuibus subdistantibus, concentricè dispositis; sinu latiusculo; albâ, maculis subquadratis aurantio-fuscis inter costas.*

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

MANGELIA TURRICULA. *Mang. testâ fusiformi-turritâ, suturis profundis; anfractibus plano-depressis, longitudinaliter concentricè costatis; albicante, lineis subtilissimis aurantio-fuscis obsoletè cingulatâ.*
Hab. Island of Ticao, Philippines (found on the sands); Cuming.

MANGELIA COLUMBELLOIDES. *Mang. testâ ovatâ, spirâ brevi, acutâ; anfractibus supernè leviter rotundatis, transversim elevato-striatis, longitudinaliter tenuicostatis, labro medio tumido, intus fortiter denticulato; niveâ, costis eximiè aurantio-fusco punctatis.*
Hab. Baclayon, island of Bohol, Philippines (found on mud banks); Cuming.

MANGELIA CONOHELICOIDES. *Mang. testâ ovato-conicâ, spirâ brevissimâ, acutâ; anfractibus transversim elevato-striatis, longitudinaliter multiliratis, liris tenuibus, ante suturas evanidis; luteo-albicante, dorso maculâ grandi aurantio-fuscâ interdum tincto.*
Hab. Daleguete, isle of Zebu, Philippines (found under stones); Cuming.

MANGELIA TENEBROSA. *Mang. testâ subfusiformi, spirâ acuminato-turritâ; anfractibus supernè plano-depressis, suturis profundis, transversim striatis, longitudinaliter costatis, costis distantibus; intus extusque castaneo-fuscâ.*
Hab. Cagayan, island of Mindanao (found in sandy mud at the depth of twenty-five fathoms); Cuming.

MANGELIA NOVÆ HOLLANDIÆ. *Mang. testâ ovatâ, infernè attenuatâ, subconicâ, spirâ brevi; anfractibus supernè rotundatis, longitudinaliter obliquè costatis; livido-cinereâ, apice basique nigricantibus, labro albido, aperturæ fauce fuscâ.*
Hab. Swan River.

MANGELIA LIVIDA. *Mang. testâ subfusiformi-ovatâ, apice acuminatâ; anfractibus longitudinaliter concentricè costatis, costis tenuibus; livido-carneâ.*
Hab. Island of Ticao, Philippines (found on the reefs); Cuming.

MANGELIA ABYSSICOLA. *Mang. testâ oblongo-ovatâ, utrinque conspicuè attenuatâ, longitudinaliter costatâ, lineis elevatis cingulatâ; albidâ, fusco zonatâ.*
Hab. Island of Mindanao, Philippines (found in sandy mud at the depth of twenty-five fathoms); Cuming.

MANGELIA BICOLOR. *Mang. testâ oblongâ, concentricè costatâ, costarum interstitiis subtilissimè striatis; supra albidâ, infra plumbeâ.*
Hab. Island of Ticao, Philippines; Cuming.

MANGELIA FUNEBRIS. *Mang. testâ oblongâ, concentricè costatâ,*

costarum interstitiis lævibus; albidâ fasciatâ plumbeâ latâ cingulatâ.
Hab. Island of Ticao (found under stones at low water); Cuming.

Mangelia Stromboides. *Mang. testâ fusiformi-ovatâ, spirâ subturritâ; anfractibus supernè angulatis, longitudinaliter costatis, costis ad angulum nodosis, interstitiis subtilissimè striatis; albidâ.*
Hab. Island of Bohol, Philippines.

Mangelia pallida. *Mang. testâ ovatâ, concentricè costatâ, costis subobtusis; albâ.*
Hab. Island of Ticao, Philippines; Cuming.

Mangelia pessulata. *Mang. testâ cylindraceo-oblongâ, spirâ breviusculâ, longitudinaliter eximiè subobliquè costatâ, costarum interstitiis subtilissimè striatis; niveâ.*
Hab. Philippine Islands; Cuming.

Mangelia rigida. *Mang. testâ ovatâ, longitudinaliter fortiter tuberculato-costatâ, transversim subtilissimè striatâ; fuscescente.*
Hab. Ægean Sea; Forbes.

Mangelia elegans. *Mang. testâ oblongâ, spirâ breviusculâ, acuminatâ, anfractibus supernè angulatis, longitudinaliter costatis, costis angustis, ad angulum mucronatis, costarum interstitiis pulcherrimè elevato-striatis; lutescente-albâ, exilissimè fusco-zonatâ.*
Hab. Island of Mindoro, Philippines; Cuming.

Mangelia lineata. *Mang. testâ ovatâ, spirâ acuminatâ; concentricè obtuso-costatâ, lævigatâ; carneo-fuscescente, lineis saturatioribus undique cingulatâ.*
Hab. ——?

Mangelia planilabrum. *Mang. testâ fusiformi, utrinque acuminatâ, lævissimâ, anfractibus supernè depressis, longitudinaliter costatis; labro planulato, supra subangulato; cinereo-purpurascente, albizonato.*
Hab. Island of Ticao, Philippines; Cuming.

Mangelia Hornbeckii. *Mang. testâ ovatâ, spirâ breviusculâ, acutâ, suturis profundis, subcavernosis, longitudinaliter costatâ, costis prominentibus, transversim subtilissimè striatâ, albâ.*
Hab. Island of St. Thomas, West Indies; Dr. Hornbeck.

Mangelia castanea. *Mang. testâ oblongâ, spirâ acuminatâ, concentricè tenuicostatâ, costarum interstitiis striatis; castaneo-fuscâ.*
Hab. Island of Burias, Philippines; Cuming.

Mangelia pusilla. *Mang. testâ fusiformi-ovatâ, lævigatâ, longitudinaliter costatâ, costis solidiusculis obtusis; albidâ, castaneo copiosè tinctâ et lineatâ.*
Hab. ——?

MANGELIA MARMOROSA. *Mang. testâ ovatâ, solidiusculâ, spirâ breviusculâ; longitudinaliter costatâ, costis obesis, striis elevatis, decussatis; sinu amplo; albâ, aurantio-fusco perparce maculatâ.*
Hab. —— ?

MANGELIA CASTA. *Mang. testâ ovato-turritâ, longitudinaliter costatâ, costis tenuibus subdistantibus, lævigatâ; aperturâ brevi, basi truncatâ; carneo-fuscâ, obscurè fasciatâ, costis albicantibus.*
Hab. —— ?

MANGELIA OBELISCUS. *Mang. testâ subulatâ, hexagonâ, basi truncatâ, striis pulcherrimis elevatis undique creberrimè cingulatâ, longitudinaliter costatâ, costis distantibus, sequentibus; aperturâ minutâ, ovatâ; sordidè albâ, aperturæ fauce lutescente.*
Hab. Islands of Corrigidor, Philippines (found among coarse sand at the depth of ten fathoms); Cuming.

MANGELIA BALTEATA. *Mang. testâ elongatâ, subfusiformi, longitudinaliter costatâ costis angustis, distantibus; albâ, zonâ fuscâ conspicuâ cingulatâ.*
Hab. —— ?

MANGELIA ASTRICTA. *Mang. testâ subfusiformi-ovatâ, spirâ breviusculâ, suturis profundis; longitudinaliter costatâ, costis crebriusculis; albidâ, zonâ fuscâ angustâ cingulatâ.*
Hab. —— ?

MANGELIA BADIA. *Mang. testâ fusiformi-ovatâ, concentricè plicato-costatâ, transversim fortiter striatâ; castaneo-fuscâ.*
Hab. —— ?

MANGELIA PELLUCIDA. *Mang. testâ ovatâ, utrinque attenuatâ, lævigatâ, pellucidâ, nitidâ, longitudinaliter crebricostatâ; albidâ, basi fuscâ.*
Hab. —— ?

MANGELIA ANGULATA. *Mang. testâ fusiformi-ovatâ, anfractibus medio peculiariter angulatis, suturis profundis, longitudinaliter costatis, costis angulos super mucronatis; albidâ, fuscescente lineatâ.*
Hab. Bay of Manila (found in sandy mud at the depth of four fathoms); Cuming.

MANGELIA PURA. *Mang. testâ oblongo-ovatâ, spirâ subturritâ, suturis profundis; anfractibus concentricè costatis; albidâ, maculis perpaucis aurantio-fuscis.*
Hab. —— ?

MANGELIA SOLIDA. *Mang. testâ cylindraceo-ovatâ, utrinque attenuatâ, solidâ, undique creberrimè granoso-clathratâ; aperturâ longiusculâ; purpurascente.*
Hab. Island of Burias, Philippines (among sand at the depth of seven fathoms); Cuming.

MANGELIA DERELICTA. *Mang. testâ ovatâ, longitudinaliter fortiter concentricè costatâ, transversim subobsoletè striatâ; fuscescente.*
Hab. —— ?

MANGELIA ZEBUENSIS. *Mang. testâ ovato-oblongâ, spirâ acuminatâ, basi subattenuatâ, concentricè fortiter costatâ, transversim creberrimè striatâ; fuscescente.*

Hab. Island of Zebu, Philippines (found in sandy mud at the depth of four fathoms); Cuming.

MANGELIA CINCTA. *Mang. testâ subfusiformi-ovatâ, spirâ turritâ, suturis subprofundis; anfractibus supernè angulatis, longitudinaliter costatis, costis distantibus; albidâ, anfractibus fasciâ latâ fuscescente supernè cinctis.*

Hab. Island of Bohol, Philippines (found under stones at low water); Cuming.

MANGELIA DIGITALIS. *Mang. testâ fusiformi-ovatâ, solidâ, undique creberrimè granoso-clathratâ; albicante, zonis duabus purpureis angustis cingulatâ.*

Hab. —— ?

MANGELIA NANA. *Mang. testâ, ovatâ, spirâ brevi, turritâ, apice acutâ; anfractibus supernè angulatis, longitudinaliter obliquè costatis, interstitiis cavis, subtiliter striatis.*

Hab. Island of Mindanao, Philippines (found in sandy mud at the depth of twenty-five fathoms); Cuming.

July 28, 1846.

No business was transacted.

August 11, 1846.

William Yarrell, Esq., Vice-President, in the Chair.

A letter was read, addressed to the Secretary by Sir Robert Heron, Bart., M.P., and containing the following observations in reference to the Curassows in his menagerie:—"It appears to me that the different species of the *Crax* are not well-defined. I had a male black and a female brown, which bred for three years, always producing two, which were always a black male and a brown female. I have now a pair black, with yellow bills, and from their eggs I have a brown young one: there can be no doubt of the parentage, as I have only one other *Crax*, which is also black, with a black bill."

A letter from the Society's Corresponding Member, Lieut. Fayrer, R.N., dated Bermuda, July 11, 1846, was also read. It accompanied some specimens of the "Bische de Mer" or Trepang, which Lieut. Fayrer states is to be found on the reefs round those islands in vast quantities, and probably of various kinds.

The next paper read contained descriptions of six new species of birds, by John Gould, Esq.:—

TROGON ASSIMILIS. Mas. *Trog. vertice, corpore superiore, et pectore aureo-viridibus; loro, auribus, guldque nigris; rectricibus intermediis duabus aureo-fuscis, viridè tinctis; pogoniis lateralium duarum his proximarum utrinque externis virido-fuscis aureo splendentibus, internis autem, apicibusque, nigris; nigris quoque rectricibus externis, modo marginibus pogoniarum fasciis albis tenuibus transversim ornatis; alis nigris, tectricibus et secondariis lineis lætè griseis transversè flexuosis delicatissimè pictis.*

Male.—Crown of the head, all the upper surface and chest rich golden green; lores, ear-coverts and throat black; two middle tail-feathers golden greenish brown, tipped with black; the two next on each side have the inner web and tip black, and the outer web golden greenish brown; outer feathers black, crossed for a short space on either side the web by very fine irregular bars, and largely tipped with white; wings black, the coverts and secondaries finely penciled with irregular zigzag markings of light grey; primaries margined externally with light grey; abdomen and under surface fine scarlet, separated from the green of the chest by a narrow crescent of white; bill orange-yellow; feet yellowish brown.

Female.—Head, chest and upper surface brown; two middle tail-feathers dull chestnut-brown, tipped with black; the two next on

each side black on their inner webs and at the tip, and dull chestnut-brown on their outer webs; the remaining feathers black on their inner webs at the base, largely tipped with white, the intermediate portion crossed by alternate irregular bars of black and white; wings as in the male, but with the coverts and secondaries freckled with yellowish brown instead of grey; ear-coverts black; under surface scarlet, separated from the brown of the chest by a crescent of white; bill and feet yellowish brown.

Total length, 10 inches; bill, 1; wing, 5; tail, 6; tarsi, $\frac{5}{8}$.

Hab. Peru.

Remark.—Nearly allied to *Trogon personata*, but differing from that species in the tail being nearly black, in the transverse markings being very slight and in the extremities more largely tipped with white; the freckled markings of the wing are also much more minute.

Cinclosoma cinnamomeus. *Cinc. toto superiore corpore, scapularibus, rectricibus duabus intermediis, pectore ad latera, et lateribus cinnamomeis; alarum tectricibus nigris, plumis singulis ad apices albis; lineâ superciliari indistinctè albâ; gulâ loroque nitidè nigris; magnâ ovatâ maculâ infra oculum, et corpore inferiore albis; pectore magnâ maculâ nitidè nigrâ, formâ tanquam sagittæ, signatâ.*

The whole of the upper surface, scapularies, two central tail-feathers, sides of the breast and flanks cinnamon-brown; wing-coverts jet-black, each feather largely tipped with white; above the eye a faint stripe of white; lores and throat glossy black, with a large oval patch of white seated within the black, beneath the eye; under surface white, with a large arrow-shaped patch of glossy black on the breast; feathers on the sides of the abdomen with a broad stripe of black down the centre; lateral tail-feathers jet-black, largely tipped with pure white; under tail-coverts black for four-fifths of their length on the outer web, their inner webs and tips white; eyes brown; tarsi olive; toes black.

Total length, $7\frac{1}{2}$ inches; bill, $\frac{7}{8}$; wing, $3\frac{3}{4}$; tail, $3\frac{1}{4}$; tarsi, $1\frac{1}{8}$.

Hab. South Australia. Shot by Capt. Sturt at the Depôt, lat. 29° 40′, June 9, 1845.

This fine new species, discovered by the enterprising traveller Sturt, is of peculiar interest, as being one of the few inhabitants of the sterile and inhospitable interior of Australia, and as forming the third species of the genus known to belong to that portion of the globe; it is considerably smaller than either of its congeners, and also differs from them in the beautiful cinnamon colouring of the upper surface. It now forms part of the national collection at the British Museum.

Ramphastos Inca. Fœm. *Ramph. nigra; rostro nigro, in lateribus sanguineo obnubilato; culmine mandibulæ superioris ad apicem, et latâ fasciâ basali flavis, hac posticè lineâ nigrâ, anticè lineâ coccineâ cinctâ; gulâ et pectore albis flavitinctis, hoc torque sanguineo infra succincto; tectricibus caudæ inferioribus aurantiacis.*

Bill black, clouded on the sides with blood-red, with the culmen

and point of the lower mandible yellow, and with a broad basal belt of the same colour, bounded posteriorly with a narrow line of black, and anteriorly with a narrow line of scarlet; the yellow clouded with olive on the lower mandible; naked skin round the eye purple, passing into yellow on its outer margin; irides brown; legs and feet bluish lead-colour; general plumage black; throat and chest white, tinged with yellow, and bounded below by a band of blood-red; upper tail-coverts rich orange; under tail-coverts blood-red.

Total length, 20 inches; bill, $5\frac{1}{2}$; wing, $9\frac{1}{4}$; tail, 7; tarsi, $2\frac{1}{4}$.

Hab. Bolivia: in the elevated and dense forests at Chimorée, in the country of the Yuracaras Indians. Brought to this country by Mr. Bridges, and now in the collection of the Earl of Derby.

Remark.—Nearly allied to *Ramphastos erythrorhynchus.*

The above is the description of a female.

Pteroglossus cucullatus. *Pter. vertice et occipite aterrimis; latâ maculâ semilunari ad nucham griseo-cæruleâ; dorso, humeris, apicibusque tectricum alarum majorum aureo-oleagineis, uropygio autem et tectricibus caudæ superioribus virido-flavis infectis; tectricibus alarum superioribus, pogoniis externis primariarum, et secondariis saturatè viridibus; pogoniis internis nigris; genis guláque ferrugineis, harum colore cum inferioris corporis cæruleo-griseo gradatim confuso; tectricibus caudæ inferioribus nitidè coccineis; rostro flavo-viridi obnubilato, nisi tertiâ parte apicali, et maculâ oblongâ utrinque ad basin inferioris mandibulæ, nigris.*

Crown of the head and occiput deep shining black; at the back of the neck a broad crescentic mark of blue-grey; back, shoulder, and tips of the greater wing-coverts golden olive, passing into greenish yellow on the rump and upper tail-coverts; greater wing-coverts, outer webs of the primaries and the secondaries dark green; inner webs black; sides of the face and throat sooty black, gradually blending with the dark bluish grey of the under surface; under tail-coverts shining crimson; thighs light chestnut; bill yellow, clouded with green for two-thirds of its length from the base, and black for the remainder of its length; the under mandible with an oblong irregularly-shaped patch of black on each side near the base; feet greenish lead-colour.

Total length, 18 inches; bill, 4; wing, 7; tail, $7\frac{1}{2}$; tarsi, 2.

Hab. The forests of Cocapata, department of Cochabamba, Bolivia.

Remark.—Three specimens of this highly interesting new species were brought home by Mr. Bridges; two of them are now in the possession of the Earl of Derby, and the third in the collection at the British Museum. The sexes are precisely similar in colour and markings, but the female may be readily distinguished by her somewhat smaller size and by the much smaller size of the bill.

The whole of the plumage is very dense or thick.

Odontophorus Balliviani. *Odont. capite cristáque ferrugineo-rufis; infra et pone oculum latâ aterrimâ maculâ, supra et subter*

lineâ rubro-cervinâ marginatâ; corpore inferiore castaneo-fusco, nigro minutissimè maculato; plumis singulis maculâ albâ ornatis.

Head and crest rich rusty red; beneath and behind the eye a broad patch of deep black, bounded above and below by a stripe of reddish buff; upper surface olive, minutely freckled with black; the feathers of the centre of the back and scapularies with a fine line of buffy white down the apical half of the stem, and with a small double spot of black on their inner, and a large patch of black on their outer webs, bounded above and below with rusty red; primaries and secondaries brown, crossed with irregular bands of rusty red, freckled with black; under surface dark chestnut-brown or coffee-colour, minutely freckled with black, each feather with an irregularly-shaped patch of white, bordered with black near the centre, giving the whole of the under surface a singularly rich and sparkling appearance; bill black; feet lead-colour.

Total length, 12 inches; bill, 1; wing, $6\frac{1}{4}$; tail, $2\frac{3}{4}$; tarsi, 2; middle toe and nail, $2\frac{1}{4}$.

Hab. The forests of Cocapata, department of Cochabamba, Bolivia.

Remark.—I have named this new bird *Balliviani*, in honour of General Ballivian, President of the Republic of Bolivia. It is one of the finest species of that section of the group to which the term *Odontophorus* is now restricted, is nearly allied to the bird I have named *Odontophorus guttatus*, and may be readily recognised by its larger size and by the still more conspicuous marking of the under surface.

We are indebted to the researches of Mr. Bridges for our knowledge of this beautiful bird.

Callipepla venusta. *Call. fronte mento guláque holoserico-nigris, fasciâ albâ ab oculi posteriore angulo latâ circumdatâ; nigrâ cristâ rectâ et erectâ; occipite ferrugineo-rufo; pectore cæruleo-griseo; abdomine superiore cervino, medio nigro, inferiore tectricibusque caudæ inferioribus arenaceis; plumis ad latera castaneis, mediis sed pogoniis stramineo-albis.*

Forehead, chin and throat deep velvety black, encircled from the posterior angle of the eye with a broad line of white; across the head and passing down behind the eye another line of white, bounded posteriorly with black; crest straight, erect, and of a deep black; occiput rusty red; feathers of the sides and back of the neck lanceolate in form and of a blue-grey, encircled all round with brown; back, wings, rump and upper tail-coverts olive-grey; tertiaries edged with buff narrowly on their outer webs and broadly on their inner ones; tail grey; chest blue-grey; upper part of the abdomen buff; centre of the abdomen black; flank-feathers rich chestnut, with a line of buffy white down the centre; lower part of the abdomen and under tail-coverts sandy buff, with a broad stripe of greyish brown down the centre of each of the latter; bill black; feet brown.

Total length, $8\frac{3}{4}$ inches; bill, $\frac{11}{16}$; wing, $4\frac{1}{2}$; tail, 4; tarsi, $1\frac{3}{8}$; middle toe and nail, $1\frac{3}{8}$.

Hab. Supposed to be California.

Remark.—I am indebted to the kindness of M. Louis Coulon, Director of the Museum at Neufchâtel, for the loan of this species, for the purpose of figuring in my monograph: it is the only specimen I have seen, and in all probability is the only one that has been sent to Europe; it is a bird whose rarity is only equalled by its beauty: it is very nearly allied to *Callipepla Californica*, but is distinguished from that bird by the straight form of the crest, the rich colouring of the flank-feathers, by the absence of the scale-like markings of the abdomen, and the greater length of the tail.

August 25, 1846.

R. C. Griffith, Esq., in the Chair.

The following communication was read:—"On the Relation of the *Edentata* to the Reptiles, especially of the Armadillos to the Tortoises." By Edward Fry.

The dissections of two specimens of Tortoise, of which I have been unable to recognise the species with certainty, induced me to believe that those animals are allied to the Armadillos. Continuing this investigation, and extending it to the Edentata in general, I arrived at the conclusion that they are allied to the Reptiles. As some points of affinity have occurred to me which I have not seen noticed as such, I believe that a short sketch of the subject may not be devoid of interest; and as Professor Owen has intimated his belief that the Edentata are allied to Birds rather than to any other class, I shall conclude my paper with a consideration of the arguments adduced by him hereon.

Such subjects as the one I shall attempt to investigate are of so high an interest to the zoologist, that any one contributing in the least degree to elucidate them may hope for indulgence.

I regret not being able to ascertain the names of the species of Tortoise which came under my notice, but trust that this omission will not materially deduct from the interest of the subject.

Sect. I. *Of the Relation of the Genera* Dasypus *and* Testudo.

1. In the Tortoise the œsophagus is large and muscular, admitting bodies of great size in proportion to the mouth. From the structure of the mouth it is incapable of masticating the food, whence arises the necessity of a large and muscular œsophagus. Professor Owen has remarked a similar structure, and adduced the same final cause in the Armadillo, *Dasypus peba*. In his paper in the Proceedings of the Zoological Society, i. 144, he says: "The muscular parietes of the pharynx and œsophagus are very thick, for from the nature of the teeth, small, conical and wide apart, the food can undergo but little comminution in the mouth, and hence the necessity of additional power for propelling imperfectly divided substances into the stomach."

2. In concordance with the structure of the mouth, the stomach of the Tortoise is strong and muscular: in the larger of the two individuals I dissected so remarkably so, as would forcibly have reminded a casual observer of the gizzard of birds. The stomach of the Armadillos, though of a globular form, is similar in structure; so much so, that Prof. Owen speaks of it as "a structure analogous

to the gizzard of birds," *Ibid.* As in the *Dasypodæ* (Zool. Proc. i. 142 & 154), so in the larger specimen of the Tortoise, the coats of the stomach, generally thick, are especially so at the pylorus.

3. In the smaller species of Tortoise I observed that the colon is prolonged beyond the insertion of the ileum, so as to form a short cæcum, as described by Martin in his account of the *Testudo græca* (Zool. Proc. i. 63 & 74). In my larger species there was no cæcum; such is also the case with the *Testudo indica* (Zool. Proc. i. 47). In the *Testudo tabulata* "there is no trace of appendix cæci" (Holberton in Zool. Journal, iv. 325). On the other hand, Prof. Owen has ascertained the presence of a cæcum in another species of Tortoise, *Emys concentrica*, Leconte (Zool. Proc. i. 74). From these accumulated observations, it becomes evident that the presence of a cæcum is a varying character in the Tortoises. A similar variableness in this structure has been remarked by Prof. Owen in the genus *Dasypus* (Zool. Proc. i. 156).

4. A great tendency to anchylose parts usually distinct, and to ossify others generally cartilaginous, is observable in the Tortoise in the ribs, in the dorsal vertebræ, in the scapulæ and clavicles, in the component parts of the pelvis, in the sternal cartilages, and in the parts forming the plastron. In the Armadillos it may be remarked in the cervical vertebræ, in the sternal portions of the ribs, and in the manubrium and clavicular processes (Owen in Zool. Proc. ii. 134). In the Sloths also it is especially evident in the anchylosis of the bones of the hand.

5. Hence results a similarity of locomotion in the Tortoises and Armadillos; so that the following extract from Prof. Owen, referring to the motion of the latter animals, will apply almost equally well to that of the former: "Every one who has seen the living Armadillo running about the open plot of ground in the Society's Gardens must have been struck with the machine-like manner in which the body is carried along. The short legs are almost concealed, and their motions are not accompanied by any corresponding inflections of the spine, the two extremities of the trunk not being alternately raised and depressed as in the quadrupeds which move by bounds" (Zool. Proc. ii. 135).

6. The anterior articular processes of the vertebræ of the Armadillo, especially of the hinder dorsal and the lumbar regions, assist as "strutts or braces" in the support of its heavy shell; whilst in the Tortoise a similar object is effected by the small osseous supports which proceed from its anchylosed spine.

7. Both in the Armadillo and Tortoise the ossa ilia appear to serve as additional supports to the shell.

Sect. II. *Of the Relation of the* Edentatous Mammalia *to the* Reptiles.

1. In the Two-toed Anteater the ribs are so broad as to overlap each other like tiles (Cuvier, Lectures on Comparative Anatomy, translated by Ross, 1802, vol. i. p. 209). This is, I believe, the nearest resemblance amongst other Vertebrata to the bony case of the Tor-

toises. In the Armadillo the first pair of ribs are broader than they are long (Owen, Zool. Proc. ii. p. 135).

2. In the large number of the ribs of the Unau, we have what Prof. Owen has termed a lacertine character (on Mylodon, p. 166).

3. Like the Tortoises, &c. amongst Reptiles, the Anteaters and Pangolins are deprived of teeth; whilst those Edentata which are furnished with them approximate to the dentition of some of the Reptilia in the uniform character of the series; and in the subgenus *Priodontes* of Fred. Cuvier in the extremely large number, namely eighty-eight or ninety-six in all.

4. The Edentata, like the Reptiles, are remarkable for the propensity to develope coats of mail of various kinds; sometimes continuous; in other instances, of detached and separate scales; sometimes, to continue the simile, like plate-armour; sometimes like scale-armour. The Armadillos, the Chlamyphorus, the Pangolins, and some of the extinct Megatheroids, exhibit this amongst the Edentates; whilst almost all the Reptiles partake in measure of this character.

5. The Anteater and Manis are destitute of the power of emitting sounds (Blumenbach's Anatomy, translation by Lawrence, 1807, p. 278). This incapacity approximates them to the Reptiles, and particularly distinguishes them from Birds and most of the Mammalia. In this character however most of the Marsupiata partake.

6. Waterton, in his 'Wanderings,' furnishes us with a highly graphic description of the habits of the *Myrmecophaga jubata*. From the extracts I shall make, the similarity of this animal to the Reptiles will be manifest in three important points, viz. the slowness of its movements, the tenacity with which it retains any object which it has seized, the length of time which it can pass uninjured without food; and probably a fourth—the tenacity of life and muscular power. The Tortoises exhibit these phænomena of muscular irritability perhaps as well as any genus amongst the Reptiles.

"He (*Myrmecophaga jubata*) cannot travel fast, for man is superior to him in speed. . . . .Whenever he seizes an animal with these formidable weapons (his claws), he hugs it close to his body and keeps it there till it dies through pressure or through want of food. Nor does the Antbear in the meantime suffer much from want of aliment, for it is a well-known fact that he can go longer without food than any other animal, excepting perhaps the Land Tortoise. . . . . .The Indians have a great dread of coming in contact with this animal, and after disabling him in the chase, never think of approaching him till he is quite dead." (Waterton's Wanderings in South America, 171.)

That muscular irritability exists to a similar extent in the Sloths will be proved by the following extract:—

"Cor motum suum valdissime retinebat postquam exemptum erat a corpore, per semihorium; exempto corde, ceterisque visceribus, multo post se movebat et pedes lente contrahebat sicut dormituriens solet." (Pison. Hist. Bras. p. 322, quoted by Buffon; translation by Smellie, 1791, vol. vii. p. 161.)

7. In the Sloths and Weasel-headed Armadillo the absence of the os tincæ, and the consequent formation of a single tube by the uterus and vagina, approximate these organs very nearly to the oviduct of the Reptilia (see Owen, Zool. Proc. ii. 131, and on the Generation of Marsupial Animals in Phil. Trans. 1834, p. 365).

In the genera *Bradypus*, *Dasypus*, *Manis* and *Myrmecophaga*, "the utero-sexual canal," to use the words of the last-quoted memoir, "is formed, as in the Tortoises, by a continuation of the urethra or urinary bladder, into which the genital tube opens by a small orifice."

8. There is yet another highly important character, one indeed which has probably a relation to the preceding, which displays the intimate relationship of the Edentata and Reptiles, namely the extreme simplicity of the brain. In the Armadillos, Manises and Anteaters, the cerebral hemispheres are devoid of convolutions, whilst in the Sloth they present a few anfractuosities (Owen, Phil. Trans. 1834, p. 361).

9. Professor Owen says, in his elaborate memoir on the *Mylodon robustus*, that the presence of a persistent formative organ of the teeth of the Megatheroids indicates a property in which they resembled the Reptiles, viz. longevity (p. 166). And again, the intimate structure of the soft dentine of the teeth of the Iguanodon resembles that of the extinct Megatherium and of the recent Sloths (Owen's Odontography, p. 251). Is it not an idea which forcibly impresses on us the unity of the great plan of nature, that had a comparative anatomist existed in the days of the Megatherium and Iguanodon, he might have discovered from an examination of their teeth two common characters, and might thence perhaps have inferred those very relations which in the present paper I have been seeking to enforce with regard to their congeners of another age—almost another world?

10. It is well known that the blood-corpuscles of the Reptiles are remarkably large; the Sloths are the largest yet known amongst the Mammalia, with the single exception of the Elephant. Perhaps however this may be a character of little importance in elucidating the natural affinities of groups, as we find the corpuscles of the Armadillo rather smaller than Man's, and those of the Monotremata of about the same size as the human (Gulliver on Blood-corpuscles, Zool. Soc., October 14, 1845).

Sect. III. *Of the Arguments adduced by Professor Owen for believing the* Edentata *to be allied to* Birds.

I propose first to enumerate these arguments, and then to consider them more particularly. They are to be found in Professor Owen's interesting papers on the anatomy of the Six-banded and Weasel-headed Armadillos in the Proceedings of the Zoological Society of London, so often referred to and quoted in this paper, and are as follows:—1. The presence of two cæca in the *Dasypus 6-cinctus* and *Myrmecophaga didactyla*. 2. "The gizzard-like structure exhibited in the tendinous external appearance and thickened muscular coat of

the stomach of the *Dasypodæ*," and a still nearer approach in the stomach of the Manis. 3. The presence of a similar structure in the Myrmecophagæ, accompanied by the habit of swallowing small pebbles for the purpose of destroying the vitality of the insects which form their food. 4. The similarity of the mucous glands about the os hyoides of the Anteaters to those follicles in the Woodpeckers, which represent amongst Birds the conglomerate salivary glands of the Mammalians; and the lubrication of the extensile tongue. 5. The abnormal number of cervical vertebræ in the Three-toed Sloth. 6. Prof. Owen concludes this line of argument in the following words: "The transition is indeed nearly completed by the Monotremata, for of the two genera contained in this order, Echidna presents us with the quills, and Ornithorhynchus with the beak of a bird; and it is far from being proved that the mode of generation is not the same." 7. The form of the pubis of the Armadillo indicates "that only a small portion of what usually constitutes the symphysis is here joined to its fellow, viz. the anterior angle;" and in Chlamyphorus and *Myrmecophaga didactyla* the ossa pubis remain entirely separate, as is the case in Birds. The pelvis likewise resembles theirs "in the great breadth of the posterior part of the sacrum, the angles of which are anchylosed to the spines of the ischia, and convert the great ischiatic notches into complete foramina."

1. The occurrence of double cæca is a remarkable point of affinity to Birds; but we have previously shown that the presence of cæca is a variable character in the Tortoises, as in both Dasypus and Myrmecophaga, so that the characters furnished us by this organ seem to approximate them equally to Birds and Reptiles.

2. We have shown the structure of the stomach in the Tortoises to be gizzard-like. This is also the case in *Crocodilus acutus* (Owen in Zool. Proc. 1830, p. 139). Hence the stomach of the Edentata presents us with an equal analogy to Reptiles and Birds.

3. The habit of the Myrmecophaga of swallowing small pebbles to increase the trituration of the gizzard is certainly analogous to that of the Gallinaceous Birds. But the same has been remarked in the Egyptian Crocodile by Professor Geoffroy St. Hilaire, and in the sharp-nosed species by Prof. Owen (*ubi supra*). As the gizzard-like structure and pebbles of the Myrmecophaga are adapted to the digestion of animal food, as in the Reptilia, and not of vegetable, as in the Gallinaceous Birds, I consider the resemblance of the Edentata in these respects to be greater to the former than the latter animals.

4. The salivary glands of the Chameleon, if not formed on exactly the same type as those of the Anteaters, are at least similar in the office they perform.

5. The abnormal number of cervical vertebræ in the Ai approximates the Edentata equally to Reptiles and Birds.

6. The Monotremata, which Professor Owen in the passage I have quoted seems to look upon as the terminal link between the Edentata and Birds, are certainly more nearly allied to Reptiles than to Birds, and have indeed been considered so by himself, as will be manifest

from the following extract from a letter of that gentleman quoted in Kirby's Bridgewater Treatise, vol. ii. p. 432 :—"Dissections of most of the genera of Marsupians have tended to confirm in my mind the propriety of establishing them as a distinct and parallel group, beginning with the Monotremes, which I believe to lead from Reptiles, not Birds." Again, in his paper 'On the Young of the *Ornithorhynchus paradoxus*,' Zool. Trans. vol. i. p. 221, he very distinctly states the weight of evidence to be in favour of the relation of the Monotremates to the Reptiles rather than Birds; so that in all probability he has altered his views on this subject since 1830.

The evidence produced above is conclusive for my purpose, and precludes the necessity of discussing the analogies of the Monotremata. But as Prof. Owen has alluded to the beak of the Ornithorhynchus as that "of a bird," it may not be irrelevant to show in how many important particulars the two structures differ. "This structure," says Sir Everard Home, speaking of the organ in question, "differs materially from the bill of a Duck, and indeed from the bill of all birds, since in them the cavities of the nostrils do not extend beyond the root of the bill; and in their lower portions, which correspond to the under jaw of quadrupeds, the edges are hard, to answer the purpose of teeth, and the middle space is hollow, to receive the tongue" (Home on Head of Ornithorhynchus, Phil. Trans. 1800). When to this diversity of structure we add the difference of use, we shall see that however strong may be the resemblance at first sight, it is perhaps more imaginary than real. From the description above-quoted, we learn that the beak of the Ornithorhynchus is incapable, from the general flexibility of its structure, of taking firm hold of any object; but that the marginal lips being brought together, the prey is sucked into the mouth.

Perhaps too the similarity of the spines of the Echidna to the quills of a bird is not very close.

7. The pelvis of some Edentata certainly resembles that of Birds in a remarkable degree.

I have thus endeavoured to show that many of the structures in the Edentata, adduced by Prof. Owen as offering relations to Birds, are equally so to Reptiles; whilst those that lead us to the former class are not of equal number or importance to those that conduct us to the latter.

I am fully aware that the scope and conduct of my investigations have been defective; but so far as they extend they appear to me to prove simply this, viz. that the Edentata are allied to the Reptiles, and that more nearly than to Birds.

It would have been absurd to expect any other result from this investigation than such as the present: a group is never related to one other group only: "The true affinities of organic structures branch out irregularly in all directions."

I cannot conclude without observing, that it is highly remarkable and interesting that affinities should be found to prevail amongst

creatures often remotely situated one from the other in the Animal Kingdom; that these relations often appear subtle and irrespective of functional similarity; and that whilst their final cause will probably ever remain unknown to man, we cannot consider them without deeply appreciating the order, the unity and dependence which prevail throughout all parts of nature. EDW. FRY.

September 22, 1846.

William Yarrell, Esq., Vice-President, in the Chair.

John Gould, Esq., laid before the meeting the following letter, detailing the circumstances of the death of Mr. John Gilbert, who formerly had been many years in the employment of the Society. He fell in the service of zoological science during an expedition into the interior of Australia.

"Sydney, May 12, 1846.

"Dear Sir,—As I was one of the party that journeyed from Sydney to Port Essington, and not knowing whether you had been made acquainted with the full particulars of poor Gilbert's death by Dr. Leichhardt, or any other of the party, thinking the details of his melancholy fate would be read with interest, I shall offer no apology for addressing this to you.

"As Mr. Gilbert's log, which has been sent home to you, fully narrates all particulars up to the eventful 28th of June, I shall offer no remarks of my own. At the most northerly point we reached on the east side of the Gulf of Carpentaria, in lat. 15° 57′, and about fifty miles from the coast, we encamped for the night at a small shallow lagoon surrounded by low tea-trees, the country around beautifully open. Having partaken of our usual meal of dried meat about 3 P.M., Gilbert, taking his gun, sallied forth in search of something new—he procured a Climacteris and a Finch, which he skinned before dinner; our scanty meal was soon despatched; poor Gilbert was busily employed plaiting the cabbage-tree, intending to make a new hat, which, alas! he never lived to finish. The shades of evening closed around, and after chatting for a short time we retired to our separate tents—Gilbert and Murphy to theirs, Mr. Calvert and myself to ours, and Phillips to his; the Doctor and our two black fellows slept round the fire, entirely unconscious of the evil designs of the natives; having always found those we had passed so friendly and well-disposed, we felt in as great security as you do in the midst of London, lying on our blankets, conversing on different topics. Not one, I think, could have closed his eyelids, when I was surprised by a noise, as if some persons were throwing sticks at our tent; thinking it must be some trick played on us by our companions, I sat up to look out; another volley of spears was thrown; a terrific yell, that will ring in my ears for ever, was raised, and pierced with spears, which I found it impossible to extricate, I sunk helpless on the ground; the whole body rushed upon us with their waddies, and how it is it that our brains did not bespatter the ground is to me miraculous. These rascals had crept on us under cover of the tea-trees: the tent in which Calvert and I were being first in their road, the whole body attacked us; poor Gilbert, hearing the noise,

was rushing from his tent with his gun, when a spear thrown at him pierced his breast, and, penetrating to his lungs, caused internal hæmorrhage; the only words he spoke were these, 'Charlie, take my gun; they have killed me,' when pulling the spear out with his own hands, he immediately dropped upon the ground lifeless. Little Murphy, who was by his side at the time he was speared, fired at the black fellow who speared him; Brown fired at the mob beating Calvert and myself, and they immediately retreated howling and lamenting. Mr. Calvert was pierced with five spears, myself with six, and our recovery is to be attributed to the abstemious way in which we lived. After having the spears pulled out, you may imagine our feelings when we heard Charlie exclaim, 'Gilbert is dead!'—we could not, would not, believe it. Alas! the morning brought no better tidings—poor Gilbert was consigned to his last and narrow home; the prayers of the church of England were read over him, and a large fire made upon his grave for the purpose of misleading the blacks, who, we thought, would probably return and search the camp on our departure. It is impossible to describe the gloom and sorrow this fatal accident cast upon our party. As a companion, none was more cheerful or more agreeable; as a man, none more indefatigable or more persevering; but it is useless for me to eulogize one so well known to you—one whom you will have cause to regret, and who will ever be remembered by,

"Sir,

"Yours most truly,

"John Roper."

The skull of a Seal was exhibited to the meeting, presented by the Society's Corresponding Member, Richard Hill, Esq., who refers to it in a letter, dated Spanish Town, Jamaica, July 8, 1846, as "a skull of an undescribed Seal found on the islands and shoals called by the seamen the Pedros, but known as the Vibora Bank on the old Spanish charts, situated about a degree to the south of Jamaica."

Mr. Hill's letter proceeds: "The most detailed account I can give of this Seal, in addition to the facts presented by an inspection of the cranium, which will be found to have much of the contour and character of that of the *Calocephalus* of Frederick Cuvier, will comprise little more than the statement that it has no external auricles: the foramina are so small that all trace of an ear to a casual observer is imperceptible. The colour of the animal is intensely and uniformly black; the hair is stiff and close, and very short; the nails of the hinder claws are rudimentary; the eyes are large, black and full, and the iris crimson.

"The measurements of the specimen from which the cranium sent was obtained, are the following:—

	ft.	in.
Total length along the back from the snout to the tip of the tail	4	2
Length of the tail	0	3
From the snout to the insertion of the fore-paw	1	6
From the insertion of the fore-paw to that of the hind-paw	2	10

	ft.	in.
Circumference of the body near the fore-paws	3	2
Breadth of the back at the fore-paws	1	0
From one fore-paw to the other, extended out	2	6
Length of the fore-paw	0	10
Length of the hind-paw	0	11
Circumference at the hind-paws	1	6
Breadth of the head across the ears, horizontally measured	0	7
Length of the head	0	9
Breadth of the nose	0	4½

"Other seals have been taken nearly, if not quite, double this size."

A paper was then read, "On a new Genus of the Family *Lophidæ* (les Pectorales Pediculées, Cuv.) discovered in Madeira." By the Rev. R. T. Lowe, M.A., Corr. Memb.

The addition, Mr. Lowe observes, of an unequivocal new genus to a family so circumscribed and so singular as *Lophidæ* is well-worthy of remark. The present genus has, besides, further claims on the attention of the ichthyologist in the peculiar combination of distinctive features of its own with characters exhibited by other groups in the same family; and this independent of the interest attaching to the fish in which they are exemplified, from singularity of form and aspect, brilliancy of colouring, locality, and extreme rarity, no other instance of its capture at Madeira having occurred during the last twenty years.

It is nearest allied amongst the groups of *Lophidæ*, in general habit and aspect, with *Cheironectes*, Cuv., although in technical characters it may seem to approach even nearer to *Halieutæa*, Val.

The individual described was taken with an ordinary bait and line at the Picos, a rocky shoal about a league from shore off Camera de Lobos, a village five or six miles westward of Funchal.

Chaunax, nov. gen.

Char. Gen. Corpus subcubico-oblongum, sufflatabile, nudum, cute præsertim ad ilia ventremque flaccidissimâ laxâ; anticè obesum, posticè abruptè attenuatum subcompressum. Caput osseum magnum subtetrahedrum, supernè nuchâque latum planatum, utrinque S. ad genas declive; oculis lateralibus spatio interoculari convexo; ore rictuque amplissimis transversis plagio-plateis S. depressis. Dentes intermaxillares vomerinique palatinique parvi scobinati. Nares simplices (nec pedicellatæ nec tubulosæ). Spiracula (foramina branchialia) postica S. ad ilia pone pinnarum pectoralium axillas.

Pinna dorsalis unica; pectoralibus (pedicellatis) carnosis ventralibus jugularibus spathulatis carnosis; analis postica; caudalis simplex truncata.

Cirri, præter unicum in fossulâ internasali, nulli.

Chaunax pictus, Lowe.

D. 11; A. 5; P. 11; V. 4; C. $\frac{1+\text{IV.}}{2+\text{II.}}$

Species adhuc unica.

Hab. In mari Maderensi.

Shape thick and deep, subcubic, about half as deep as broad, with a puffy flaccid appearance, and evidently capable of vast inflation; bulky forwards, with the head, nape and body of equal depth and thickness, contracting suddenly on the flanks or behind the pectoral fins into a short thickish tail. Back of head and nape as far as the dorsal fin broad and thick, flattened and uneven or irregularly protuberant; thence to the end of the dorsal fin the body is nearly cylindric, becoming compressed towards the root of the caudal fin.

Head broad and deep; eyes lateral; sides of the head steep, but not flat; mouth very large and wide, but not so wide as the head, horseshoe or crescent-shaped. Teeth in a distinct brush-like band on the edges of both jaws. Tongue very large, thick, hard and smooth. The nostrils are two inconspicuous, minute, round, simple pores on each side, one a little before the other near the edge of the muzzle. Eyes of moderate side, roundish oval, rather prominent, but not pedicelled.

In the middle of the front of the muzzle is a short, pedicelled, soft, flaccid tentacle or caruncle scarcely more than a semidiameter of the eye in height or length; the whole body destitute of any other tentacle, ray, filament or spine whatever; the top of the head is however irregularly knobbed, or uneven, with bony prominences and depressions.

The breathing-holes or branchial orifices are placed far backwards, considerably behind the hinder axils of the pectoral fins, in the middle of the flanks, which are peculiarly flaccid and flabby. They are oval ear-shaped, and about the size or diameter of the eyes.

The dorsal fin is single, placed nearly in the middle of the whole length, its height one-fourth of the length of its base.

The anal fin is placed far behind, opposite the end of the dorsal.

The pectoral fins are placed low down about the middle of the length of the body, beneath the origin of the dorsal fin.

The ventral fins are close together, very forward, quite under the throat.

Caudal fin simple, truncate, with a straight edge.

All the fins, except the dorsal and caudal, are thick and fleshy, with the rays strong but indiscernible to the eye, except towards the outer edges of the pectoral fins.

The whole head and body, with the maxillaries and the rays of the dorsal and caudal fins, are finely hispid or shagreened, and rough and scabrous to the touch, the under surface more finely shagreened than the upper.

The whole skin is singularly loose and flaccid. The head and body are, as it were, mapped out into compartments by remarkable chain-like rows of pits or oblong, shining, smooth depressions in the skin. One set or row of these begins upon the muzzle, and passing above each eye, turns downwards behind it and runs on a level with its lower edge straight along the sides as far as the breathing-holes, thence downwards along the tail to the caudal fin.

Under the lower jaw is a horse-shoe-shaped space enclosed by similar smooth pits, the two ends of which, connected by a transverse chain of pits, turn off backwards towards the corners of the mouth, and continuing low down on the sides of the belly, end underneath the axil of the pectoral fins.

A third wavy line runs along the inner or hinder edges of the maxillaries, and turning obliquely backwards some distance underneath the eye, descends till it meets and is terminated by a fourth obliquely vertical row which crosses the nape like a head-stall, and is terminated low down on the sides of the throat by the second longitudinal line. On the nape the edges of these pits are raised or echinulate, and more disconnected than elsewhere.

Colour of the whole fish above bright orange, beautifully rosy at the flanks and sides, and with the fins and lips vermilion; on the belly it is nearly white or pale, suffused with flesh-colour or rosy, and with the ventral or anal fins deeper vermilion.

The tentacle dull, its stalk orange.

MEASUREMENTS.	inches.
Whole length	16
From tip of upper jaw to origin of dorsal fin	6
Length of base of dorsal fin	4
Length from end of base of ditto to root of caudal fin	2
Length of caudal fin	$3\frac{1}{4}$
Length of head	5
Breadth, greatest at fore axil of pectoral fins, from	8 to 10
Depth, greatest half-way, the tip of upper jaw and origin of dorsal fin	4
Depth at root of caudal fin	1
Length from tip of lower jaw to root of ventral fins	4
Length of ventral fins	$2\frac{1}{4}$
Length from each breathing-hole to root of caudal fin	5
Diameter of eyes	$0\frac{3}{4}$

Mr. Gould then exhibited to the meeting two new Australian birds, which he characterized as follows:—

MELIPHAGA LONGIROSTRIS. *Vertice et genis nigris; plumis minutis ad basin mandibulæ superioris, mystacibus ad basin inferioris mandibulæ, strigâ superciliari, plumarum cristulâ post aures, plumisque in jugulo setosis, albis.*

Top of the head and cheeks black, with minute white feathers on the forehead round the base of the upper mandible; a superciliary stripe, a moustache at the base of the lower mandible, and a small tuft of feathers immediately behind the ear-coverts white; feathers on the throat white and bristle-like; upper surface brownish black, becoming browner on the rump; wings brownish black, the outer edges of the quills margined at the base with beautiful wax-yellow, and faintly margined with white towards the extremities; tail brownish black, margined externally at the base with wax-yel-

low, and with a large oval spot of white on the inner web, at the tip of all but the two centre feathers; surface white broadly striped with black, the black predominating on the breast and the white on the abdomen; irides white; bill and feet black.

Hab. Western Australia.

Total length, 7 inches; bill, 1; wing, $3\frac{1}{4}$; tail, $3\frac{1}{2}$; tarsi, $\frac{3}{4}$.

Remark.—Nearly allied to the *M. Novæ-Hollandiæ*, but differing from that species in the stouter and more lengthened form of the bill, and in having the white patch on the face much less defined.

Limosa Melanuroides. *Capite, et corpore superiore griseo-fuscis; primariis secondariisque ad basin et tectricibus alæ majoribus ad apicem albis, colore, expansâ pennâ, tanquam fasciâ apparente; tectricibus caudæ superioribus albis; caudâ atrâ, nisi rectricibus lateralibus duabus ad basin albis.*

Head and all the upper surface greyish brown, with a small streak of black down the centre of the feathers; wings dark brown; shafts white; base of the primaries and secondaries and tips of the greater coverts white, forming a band when the wing is expanded; upper tail-coverts white, forming a conspicuous mark; tail black, with the exception of the two lateral feathers on each side, which are white at the base and black at the tip; neck, breast and flanks greyish brown; abdomen and under tail-coverts white; irides brown; bill greenish grey, becoming paler on the sides of the upper mandible; legs and feet greenish grey.

Total length, 13 inches; bill, $3\frac{3}{8}$; wing, $7\frac{5}{8}$; tail, $3\frac{1}{4}$; tarsi, $2\frac{5}{8}$.

Hab. Port Essington.

Remark.—Nearly allied to, but differing from, the *Limosa melanura* of Europe in its much smaller size.

October 13, 1846.

William Yarrell, Esq., Vice-President, in the Chair.

The following papers were read to the Society:—

"On twenty new species of TROCHILIDÆ or Humming Birds." By J. Gould, F.R.S.

Having lately turned my attention to the *Trochilidæ*, I find that, much as this beautiful group has attracted the notice of previous writers, several species remain undescribed.

At a former meeting of the Society I characterized three, and on the present occasion I propose to describe seventeen others, making twenty in all. The species described are contained in my own collection.

1. TROCHILUS (TOPAZA) PYRA. *Troch. abdomine, lateribus, dorso, humerisque, igneis rubro-fulgentibus; capite, auribus, nuchâ, et fasciâ inferiorem collum ornante, intensè atris; gulâ luminosè viridi, mediâ aurantiacâ; rectricibus intermediis duabus viridibus, purpurascentibus, reliquis autem intensè purpureis; rectricibus duabus intermediis proximis valdè elongatis et ad bases decussatis.*

Abdomen, sides, back, and shoulders, luminous fiery-red; head, ear-coverts, back of the neck, and a band crossing the lower part of the neck, deep velvety black; throat luminous pale green, passing into rich orange in the centre; two centre tail-feathers purplish green, the remainder deep purple, the feather on each side the centre ones much-elongated and crossing each other near the base; upper tail-coverts luminous light green with red reflexions; under tail-coverts luminous green; primaries purplish brown; bill black; feet blackish brown.

Total length from the tip of the bill to the end of the centre tail-feather, 6 inches; to the end of the elongated feathers, $8\frac{3}{4}$; bill, $1\frac{1}{8}$; wing, $3\frac{1}{2}$; tail, $2\frac{3}{8}$, of the elongated feathers, $4\frac{5}{8}$.

Hab. Rio Negro, Brazil.

Remark.—I consider this to be without exception the most gorgeous species of the Trochilidæ yet discovered. It is somewhat larger than, but of precisely the same form as, *T. pella*, which fine species it far exceeds in the brilliancy of its colouring, and from which it is at once distinguished by the fiery lustre of its body and the purplish colouring of its tail-feathers.

2. TROCHILUS (LESBIA) SMARAGDINUS. *Troch. vertice fulgente viridi; gulâ nitente cæruleâ; caudâ perlongâ, furcatâ, fulgentissimâ metallicè viridi; pogoniis rectricum externarum utrisque ad basin et internis reliquarum pogoniis nigris.*

Crown of the head luminous green; throat shining steel-blue; body green, the under surface with a golden tinge; tail very long and forked, metallic green and very luminous; basal portion of both webs of the outer feathers and the inner webs of the remainder black; wings brown; bill black.

Total length, $7\frac{1}{2}$ inches; bill, $\frac{3}{4}$; wing, $2\frac{3}{4}$; tail, 5.

Hab. Bolivia.

Remark.—This beautiful species is nearly allied to the *Ornismya Kingii*, Less.

3. Trochilus (lesbia) gracilis. *Troch. gulâ nitente metallicè viridi; caudâ perlongâ valdè furcatâ; rectricibus externis æneo-fuscis, æneo colore ad splendentem maculam cujusque in apice plumæ fulgentiore, pogoniorum externorum dimidio basali cervino; reliquis rectricibus aureo-viridibus ad basin fuscis.*

Throat beautiful shining metallic green; the remainder of the body golden-green; wings brown; tail very long, much-forked; the outer feathers bronzy brown, the bronze gradually increasing in intensity and becoming a brilliant spot at the tip; basal half of the outer webs buffy white; remaining feathers brown at the base and shining golden green for the remainder of their length; bill black.

Total length, $6\frac{1}{2}$ inches; bill, $\frac{1}{2}$; wing, $2\frac{1}{8}$; tail, $4\frac{1}{2}$.

Hab. Peru.

Remark.—This species is very closely allied to the *Trochilus Gouldii*, Lodd., *vide* Proc. of Comm. of Sci. and Corr. of Zool. Soc., part 2, p. 7, which is synonymous with the *Ornismya Sylphiæ*, Less., but from which it differs in several characters, which upon an examination of many specimens, are found to be constant; the bill is shorter, the green of the body ochreous, and the lower part of the abdomen more buffy, or not so green as in the *Gouldii*: the most remarkable difference, however, is in the outer tail-feathers, which are much narrower and not so green. By some ornithologists this might be considered as a mere local variation; but as I have seen many of each kind, and find that the differences are constant, I feel assured that the two birds are specifically distinct.

4. Trochilus (ocreatus) rufocaligatus. *Troch. gulâ et collo superiore fulgentibus metallicè viridibus; tarsis densis plumis ferrugineis ocreatis; caudâ fuscâ, rectricibus externis prolongatis angustis latæ tamen spathulæ formâ terminatis.*

Throat and fore-part of the neck luminous metallic green; plumage of the body bronzy green; wings brown; tarsi clothed with a thick ruff of rusty-red feathers; tail brown, the outer feathers prolonged and narrow, and ending in a broad spatulate tip; bill black.

Total length, $4\frac{1}{2}$ inches; bill, $\frac{3}{4}$; wing, $1\frac{3}{4}$; tail, $2\frac{1}{2}$.

Hab. Bolivia.

Remark.—Nearly allied to the *Ornismya Underwoodii*, Less.

5. Trochilus (ocreatus) ligonicaudus. *Troch. facie, collo superiore et pectore viridibus, plumis pectoris majoribus, fulgentiori-*

bus, griseo nonnunquam fimbriatis; medio abdomine aureo-fusco; uropygio fasciâ albo-cervinâ transversim ornato; caudâ purpurascente fuscâ, fasciâ latâ per mediam stramineâ; rectricibus lateralibus primo diminuentibus, latis autem tanquam spathulis terminantibus.

Face and forepart of the neck green, which colour is continued on the chest, where the feathers become larger, longer, more luminous, and some of them edged with grey; centre of the abdomen golden brown; lower part of the abdomen and under tail-coverts buffy brown; wings purplish black; back and upper tail-coverts green, the rump crossed by a band of buffy white; tail purplish brown, with a broad stripe of buff down the centre; the lateral feathers tapering and terminating in a large spatulate tip; bill black.

Total length, $4\frac{1}{2}$ inches; bill, $\frac{5}{8}$; wing, $1\frac{7}{8}$; tail, $2\frac{1}{4}$.

Hab. Brazil.

Remark.—Nearly allied to *Trochilus platurus.*

6. Trochilus (——?) cupricauda. *Troch. gulâ luminosè cæruleo-viridi; vertice, collo, dorso, omnique corpore superiore fulgentibus saturatè purpureo-fuscis; caudâ infrà fulgentissimâ æneâ, suprà, æneâ vario lumine nunc viridi, nunc purpureâ, splendente.*

Throat lustrous blueish green; crown of the head, neck, back and all the upper surface dark lustrous purplish brown; wings the same, but lighter; under surface of the tail rich fiery copper colour and very luminous; upper surface in one light rich purplish copper colour, and in another greenish; bill black.

Total length, 5 inches; bill, 1; wing, 3; tail, $2\frac{1}{4}$.

Hab. Bolivia.

Remark.—This species is much larger, but belongs to the same section as the *Trochilus smaragdinicollis* of D'Orbigny and the *T. Allardi* of Bourcier.

7. Trochilus (——?) æneocauda. *Troch. gulâ viridi metallicè fulgente; corpore viridi fusco suprà commixto; alis fuscis purpurascentibus; caudâ infrà fulgente æneo-viridi, suprà metallicè fuscâ, nonnunquam intensè cyaneâ resplendente.*

Throat luminous metallic green, under surface mingled green and brown; upper surface green, wings purplish brown; under surface of the tail luminous brassy green; upper surface of the tail metallic brown, changing in some lights to deep indigo blue; bill black.

Total length, $4\frac{3}{4}$ inches; bill, 1; wing, $2\frac{1}{2}$; tail, 2.

Hab. Bolivia.

Remark.—Belongs to the same section as the last.

8. Trochilus (——?) violifer. *Troch. vertice, nuchâ, mento, loris, pectoreque viridibus; mediâ gulâ maculâ semilunari luminosè violaceâ notatâ; dorso et uropygio aureo-viridibus abdomine inferiore, tectricibus caudæ superioribus inferioribusque, et caudâ rufis.*

Crown of the head, back of the neck, chin, ear-coverts, and breast green; on the centre of the throat a well-defined lunate mark of

luminous violet; back and rump golden green; lower part of the abdomen, the upper and under tail-coverts light rufous; tail light rufous, the tips of the feathers washed with greenish reflexions; wings purplish brown; the external edge of the first primary rufous; bill black.

Total length, $5\frac{7}{8}$ inches; bill, $1\frac{5}{8}$; wing, 3; tail, $2\frac{1}{4}$.

Hab. Bolivia.

Remark.—This fine species is of the same form as the *Ornismya Bonapartei.*

9. Trochilus (lampornis) cyanopectus. *Troch. guld viridi metallicè resplendente; medio pectore fulgente metallicè cyaneo; capite, dorso, humeris, lateribus, et abdomine inferiore æneo-viridibus; caudâ æneo-fuscâ nonnunquam pogoniis internis albâ maculâ ad apicem ornatis.*

Throat lustrous metallic green; centre of the breast deep lustrous metallic blue; head, back, shoulders, flanks, and lower part of the abdomen bronzy green; wings purplish brown; tail in some specimens entirely bronzy brown, in others bronzy brown with a spot of white on the inner web at the tip; bill black, curved stout and large for the size of the body.

Total length, $4\frac{3}{4}$ inches; bill, $1\frac{3}{8}$; wing, $2\frac{3}{4}$; tail, $1\frac{3}{4}$.

Hab. Venezuela.

Remark.—This bird is about the size of *Trochilus mango,* but is not intimately allied to any known species.

10. Trochilus (lampornis) aurescens. *Troch. guld fulgente aureâ; pectore latâ fasciâ rufâ, fronte vittâ lucidâ cæruleo-viridi cinctâ; omni superiore corpore, rectricibus intermediis duabus, tectricibus alarum superioribus inferioribusque, et abdomine æneo-viridibus; alis fuscis purpurascentibus; rectricibus lateralibus castaneis fuscis, infrà et suprà ad apices æneis; tectricibus caudæ inferioribus saturatè cervinis.*

Throat rich luminous gold colour; across the chest a broad band of deep rufous; on the forehead a narrow stripe of shining blueish green; all the upper surface, two central tail feathers, upper and under wing-coverts, and abdomen bronzy green; wings purplish brown; lateral tail feathers chestnut-brown, tipped both above and beneath with a bronzy lustre; under tail-coverts deep fawn-colour; bill black.

Total length, 4 inches; bill, 1; wing, $2\frac{1}{4}$; tail, $1\frac{1}{2}$.

Hab. Rio Negro, Brazil.

11. Trochilus (lampornis ?) fulviventris. *Troch. capite, omni corpore superiore, caudâque nitente viridibus; rectricibus externis ad apices albis; alis fuscis; guld, pectore et abdomine cervinis; tectricibus caudæ inferioribus albis.*

Head, all the upper surface and tail glossy green; the outer feathers of the latter largely tipped with white; wings brown; throat, breast and abdomen deep buff; under tail-coverts white; upper mandible and point of the lower black; the remainder of the under mandible buff.

Total length, 4 inches; bill, 1; wing, $2\frac{3}{8}$; tail, $1\frac{1}{2}$.
Hab. Venezuela.

12. Trochilus (——?) nigrofasciata. *Troch. gulâ resplendente viridi; abdomine humerisque extremis nitidè cæruleis, ab viridi gulâ fasciâ semilunari intensè atrâ divisis; caudâ furcatâ cæruleâ.*

Throat lustrous green; abdomen and edge of shoulders shining-blue, separated from the green of the throat by a lunate band of black; back and wing-coverts brownish green; head and back of the neck bronze; wings brown; tail, which is considerably forked, dull steel-blue; bill black.

Total length, $4\frac{1}{4}$ inches; bill, $\frac{7}{8}$; wing, $2\frac{3}{8}$; tail, $1\frac{7}{8}$.
Hab. Rio Negro, Brazil.
Remark.—Nearly allied to *Trochilus furcatus.*

13. Trochilus (——?) ruficeps. *Troch. vertice ferrugineo; gulâ fulgente æneo-viridi; corpore viridi, infrà fusco-tincto; caudâ magnâ, furcatâ, æneâ.*

Crown deep rusty red; throat lustrous bronze green; upper surface green; under surface brownish green; tail large and forked, and of a pure bronze; wings purplish brown; bill black.

Total length, $3\frac{3}{4}$ inches; bill, $\frac{3}{4}$; wings, $2\frac{5}{8}$; tail, 2.
Hab. Bolivia.
Remark.—This is much smaller, but nearly allied to *T. heteropogon.*

14. Trochilus (——?) inornata. *Troch. corpore superiore æneo-viridi, inferiore ad latera brunneo, æneo splendente; gulæ plumis ad apices cæruleis; alis caudâque æneis.*

All the upper surface bronzy-green; under surface brown, with bronzy reflexions on the flanks; feathers of the throat tipped with cærulean blue; wings and tail bronzy, all the latter tipped with buff; bill black.

Total length, $3\frac{5}{8}$ inches; bill, $\frac{5}{8}$; wings, $2\frac{1}{8}$; tail, $1\frac{1}{2}$.
Hab. Bolivia.
Remark.—This species is closely allied to the species called *Le Sabine* by the French, *Trochilus* ——?
Hab. Bolivia.

15. Trochilus (lophornis) regulus. *Troch. plumis in vertice castaneo-fuscis valdè elongatis, acuminatis, ad apices viridibus; gulâ pectoreque luminosè viridibus, plumis ad colli latera elongatis, minus autem quam in* Trochilo magnifico; *fasciâ in uropygio albâ; caudâ castaneo-fuscâ, plumis singulis æneo-viridibus fimbriatis.*

Feathers of the crown chestnut-brown, very much lengthened, carried to a point, and tipped with green; throat and breast luminous green; the feathers on the side of the neck elongated, but not to so great an extent as in *Trochilus magnificus*; back and abdomen green, with bronze reflexions; rump crossed by a band of white; tail chestnut-brown, each feather margined externally with bronzy green; wings purplish brown; bill light brown, darker at the tip.

Total length, $3\frac{3}{4}$ inches; bill, $\frac{5}{8}$; wing, $1\frac{3}{4}$; tail, $1\frac{1}{4}$.
Hab. Interior of Brazil.

Remark.—This beautiful species is nearly allied to the *T. ornata* and *T. magnifica*, but differs from them in the lesser development of the feathers of the sides of the neck and in the greater size of the crest, which is more largely developed than in any other species known.

16. Trochilus (——?) hypoleucus. *Troch. corpore superiore viridi; guld et corpore inferiore albis; rectricibus intermediis duabus viridibus, reliquis fuscis viridi splendentibus, ad apices albis.*

All the upper surface green; throat and all the under surface white; wings brown; two centre tail-feathers green; the remainder brown, glossed with green and largely tipped with white; bill black; base of the lower mandible paler.

Total length, $3\frac{5}{8}$ inches; bill, $1\frac{1}{8}$; wing, $2\frac{1}{4}$; tail, $1\frac{3}{8}$.

Hab. Bolivia.

Remark.—Nearly allied to *T. leucogaster*, Tschudi, and not far removed from *T. albirostris*, Auct.

17. Trochilus (——?) hispidus. *Troch. omni corpore superiore æneo-fusco; auribus saturatè fuscis infrà et suprà lineâ cervinâ marginatis; corpore inferiore griseo-fusco; jugulo latis strigis albis plumisque longioribus ornato; caudâ viridi-fuscâ, rectricibus lateralibus vix albo ad apices pictis, centralibus attenuatis, valdè elongatis.*

All the upper surface bronzy brown; ear-coverts dark brown, bordered above and below with a line of buff; under surface brownish grey, with broad stripes of white down the throat, where the feathers are much elongated; tail greenish brown, the lateral feathers slightly tipped with white; the central feathers much elongated and attenuated towards the apex, the attenuated portion white; wings brown; upper tail-coverts very broad, much-prolonged and hair-like; bill black, basal half of the under mandible straw-colour.

Total length, $6\frac{1}{2}$ inches; bill, $1\frac{1}{2}$; wing, $2\frac{3}{8}$; tail, 3.

Hab. Peru?

Remark.—This bird belongs to the same section as the *T. Bourcieri*, *T. Guy*, *T. Eurynome*, &c. of Less., and equals in size the largest of them.

The species described by me at the meeting of June 9, 1846, (*ante*, pp. 44, 45) were

18. Trochilus (petasophora) coruscans, a beautiful species allied to the *Anais*, but whose locality is unknown to me.

19. Trochilus (——?) flabellifera, which is nearly allied to, but a much larger species than *T. mellivora*, said to inhabit Mexico; and

20. Trochilus (——?) strophianus, a fine new species of the same form as the *Clarisse* and the *Parzudaki*.

"Descriptions of thirteen new species of *Brachiopoda*." By G. B. Sowerby, F.L.S.

TEREBRATULA NIGRICANS. *Ter. testâ anticè rotundatâ, posticè acuminatâ, tenuiusculâ, nigricante; valvis inæqualibus, radiatim costatis, costis rotundatis; lineâ marginali rectiusculâ; valvâ dorsali subtrigonâ, depressiusculâ, rotundatâ, lateribus posticis declivibus; foramine magno, haud integro, quadrato; areâ cardinali magnâ, planiusculâ, lateribus rotundatis; deltidiis angustis ad latera foraminis coalescentibus; valvâ ventrali depressâ, transversim ovatâ; dentibus cardinalibus ut in* T. psittaceâ; *margine valvarum crenulato.*

A single specimen of this very interesting species was found in the collection of the late G. Humphrey, without locality. This and the *T. psittacea* are the only species that are not punctated.

TEREBRATULA JAPONICA. *Ter. testâ oblongâ, anticè rotundatâ, tenui, albicante; valvis subæqualiter convexis, longitudinaliter radiatim striatis, striis numerosis, subirregularibus, subbifurcatis, ad latera prope cardinem confertiusculis; lateribus prope cardinem subplanulatis; lineâ marginali rectiusculâ, ad latera posticè declivi; valvâ dorsali posticè subproductâ, truncatâ; foramine mediocri, haud integro, perobliquo; areâ cardinali inconspicuâ, deltidiis obsoletis; interno parvo, $\frac{1}{3}$ longitudinis valvæ, ramulos duos angustos, demum amentum latum flexuosum sistente; marginibus valvarum minutissimè denticulato.*

Shell oblong, rounded in front, thin, whitish; valves nearly equally convex, longitudinally radiately striated, striæ numerous, rather irregularly dichotomous and very close-set on the sides near the hinge; the sides near the hinge rather flattened; marginal line nearly straight, inclining to the sides near the hinge; dorsal valve somewhat produced posteriorly and truncated, with a moderate-sized, very oblique and incomplete perforation; cardinal area indistinct, with obsolete deltidia; internal appendages small, one-third the length of the valve, with two narrow little branches, and then a broad flexuous loop; margin of the valves very minutely denticulated.

In Mr. Cuming's collection, from Japan. Easily distinguished from *T. cancellata* of Koch by its foramen not being entire.

TEREBRATULA CRENULATA. *Ter. testâ suborbiculari, posticè subacuminutâ, subtruncatâ, crassiusculâ, albicante; valvis inæqualibus, radiatim costatis, costis paucis, majusculis, rotundatis; lineâ marginali flexuosâ, anticè subsinuatâ; foramine magno, subintegro; areâ cardinali magnâ, subplanulatâ, margine undulato; deltidiis magnis, discretis; valvæ ventralis margine postico ad utrumque latus declivi; ossiculo interno e spinâ validâ obtusâ anticè porrectâ, ramulis duobus lateralibus retroversis; margine valvarum crenato.*

Shell suborbicular, rather attenuated and subtruncate behind, rather thick and whitish; valves unequal, with few rather large, rounded, radiating ribs; marginal line flexuous, slightly sinuated in

front; perforation large, nearly entire; cardinal area large, flattish, with an undulated margin; deltidia large, separate; posterior margin of the ventral valve inclined on either side; internal appendage consisting of a single strong spine standing forward, and with two lateral reflected branches; margin of the valves crenated.

From Santa Cruz, in Mr. Cuming's collection.

Terebratula rosea, Humphrey. *Ter. testâ oblongo-ovali, subdepressâ, anticè subattenuatâ, crassâ, roseâ, albicante radiatim pictâ; valvis subæqualibus, lævibus; lineâ marginali subflexuosâ, anticè reflexâ; valvâ dorsali majori, posticè subproductâ, truncatâ; foramine minimo, integro; areâ cardinali latiusculâ, deltidiis coalescentibus, sulco mediano discretis; valvâ ventrali ovali, anticè paululùm rotundato-attenuatâ; lineâ marginali ex umbone ad utrumque latus declivi; ossiculo costâ elevatâ, porrectâ, simplici constante; margine valvarum integro.*

Shell of an oblong-oval form, rather depressed, slightly attenuated behind, thick, rose-red, painted with paler radiating marks; valves nearly equal, smooth; marginal line somewhat flexuous, reflected in front; dorsal valve the larger, rather produced posteriorly and truncated; perforation very small, entire; cardinal area rather wide, with united deltidia marked by a mesial groove; ventral valve oval, anteriorly slightly attenuated and rounded, its marginal line slanting downwards from the apex on each side; internal appendage consisting of a single elevated rib standing out; margin of the valves entire.

From Brazil, according to the late G. Humphrey. In Mr. Cuming's and other collections.

Terebratula rubicunda. (*T. sanguinea*, Quoy, Astr.) *Ter. testâ suborbiculari, posticè subacuminatâ, gibbâ, glabrâ, rubrâ, valvis inæqualibus, subirregularibus; lineâ marginali ad latera subflexuosâ, anticè sinuatâ; valvâ dorsali posticè productâ, truncatâ; foramine magno, obliquo, subintegro; areâ cardinali rotundatâ; deltidiis magnis, distinctis; carinâ dorsali latâ, prominente, utrinque rotundato-angulatâ, obtusâ; valvâ ventrali subpentagonali, posticè angustiori, medianè latâ, rotundato-subangulatâ; anticè subtruncatâ, sulco mediano lato, conspicuo; ossiculo interno magno, ferè ut in* T. dorsatam *efformato; margine valvarum integro.*

Shell nearly orbicular, rather acuminated posteriorly, gibbous, smooth, of a red colour; valves unequal, rather irregular; marginal line slightly flexuous on the sides, sinuated in front; dorsal valve produced behind, truncated, with a large, oblique, nearly entire perforation; cardinal area rounded, deltidia large, separate; mesial ridge broad, prominent, angularly rounded, and obtuse on both sides; ventral valve somewhat pentagonal, narrow posteriorly, broad in the middle, with rounded angles, and slightly truncated in front; mesial groove broad and distinct; internal appendage as in *T. dorsata*; margin of the valves entire.

From the Moluccas; in Mr. Cuming's collection and in the British Museum.

Terebratula sanguinea (*sanguinea*, Chemn.; *T. erythroleuca* of Quoy). *Ter. testâ suborbiculari, anticè subemarginatâ, gibbosiusculâ, tenui, sanguineâ, radiis maculisque radiantibus albidis ornatâ; lineâ marginali rectâ, anticè subsinuatâ; valvâ dorsali posticè subacuminatâ, truncatâ, foramine mediocri, integro, areâ cardinali latiusculâ, marginibus subacutis, deltidiis majusculis, coalescentibus; valvâ ventrali depressiusculâ, transversim obovatâ, anticè subsinuatâ, ossiculo interno primum format radios duos, deindè annulum centralem et amenta duo lateralia, demùm amentum superum integrum.*

Shell suborbicular, slightly notched in front, rather gibbous, thin, of a bright light red colour, with white rays and radiating spots; marginal line straight, slightly sinuated in front; dorsal valve rather acuminated behind and truncated; perforation middle-sized, complete; cardinal area rather broad, with sharpish edges; deltidia rather large and united; ventral valve somewhat depressed, transversely obovate, slightly sinuated in front; the internal appendage at first forms two rays, then a central ring and two lateral loops, and at length a reflected dorsal loop united to the central ring; margin of the valves entire.

From the island of Zebu, attached to coral under stones; H. Cuming.

Terebratula inconspicua. *Ter. testâ rotundato-subtrigonali, posticè acuminato-rotundatâ, anticè subsinuatâ, obscurè rufâ; valvis inæqualibus, glabris; lineâ marginali flexuosâ; valvâ dorsali rotundato-subtrigonâ, maximâ incompletâ; areâ cardinali latâ, ad utrumque latus declivi; deltidiis mediocribus, latè discretis; valvâ ventrali transversim oblongâ, subplanulatâ, sulco mediano, lato, subinconspicuo; margine valvarum integro.*

Shell rounded, subtrigonal, acuminated and rounded behind, slightly sinuated before, dull red; valves unequal, smooth; marginal line flexuous; perforation large, incomplete; cardinal area broad, inclining on each side; deltidia of moderate size, widely separated; ventral valve transversely oblong, somewhat flattened, with a broad, rather indistinct mesial groove; margin of the valves entire.

From the late G. Humphrey's collection: locality unknown.

Terebratula pulchella. *Ter. testâ subovatâ, posticè acuminato-rotundatâ, lævi, albidâ, lineis nonnullis radiantibus rufis; valvis inæqualibus; lineâ marginali subflexuosâ; valvâ dorsali subplanulatâ, posticè acuminatâ, anticè rotundatâ, foramine magno, incompleto; areâ marginali inconspicuâ, lateribus rotundatis; deltidiis parvis, discretis; valvâ ventrali subcirculari, planulatâ; ossiculo interno e gnomone porrecto, anticè posito, constante; margine valvarum integro.*

Shell subovate, acuminated and rounded behind, smooth, whitish with a few radiating red lines; valves unequal, marginal line somewhat flexuous; dorsal valve rather flattened, acuminated posteriorly, rounded in front; perforation large, incomplete; cardinal area indistinct, its sides rounded; deltidia small, separate; ventral valve

somewhat circular, flattened; internal appendage consisting of a single prominent gnomon near the front; margin of the valves entire.

Found by Mr. Cuming attached to corals at Calapan, isle of Mindoro; also from the island of Cocos, Lieut. Swainson; in the late G. Humphrey's collection.

Terebratula cognata, Chemn. *Ter. testâ subtrapezoidali, anticè rotundatâ, pallescente, nonnunquam rubente; valvis inæqualibus, radiatim obsoletè striatis, versus marginem obliteratis; lineâ marginali lateraliter anticèque flexuosâ; valvâ dorsali convexâ, lirâ medianâ inconspicuâ; apice subacuminato reflexo; foramine magno, haud integro; areâ cardinali angustâ, deltidiis parvis, trigonalibus; valvâ ventrali planulatâ, margine postico rectiusculo; sulco mediano subperspicuo; ossiculo interno ramulos duos centrales, divergentes, ad apices expansos sistente; margine interno valvarum denticulato.*

Shell nearly trapezoidal, rounded in front, of a pale colour, sometimes reddish; valves unequal, obsoletely radiately striated, the striæ entirely obliterated near the margin; marginal line flexuous in front and on the sides; dorsal valve convex, with an inconspicuous central ridge, its apex somewhat acuminated, reflected, with a large incomplete perforation; cardinal area narrow, with small triangular deltidia; ventral valve flattened, its posterior margin nearly straight, with a scarcely evident central furrow; internal appendages consisting of two little central diverging branches, expanded at their apices; margin of the valves denticulated within.

There are two varieties in colour, from South Africa, according to the late G. Humphrey.

Terebratula transversa. *Ter. testâ transversim subovatâ, tenui, rudi, glabrâ, pallescente; lineâ marginali subflexuosâ, anticè subsinuatâ; foramine maximo, incompleto; areâ cardinali magnâ, planatâ; deltidiis parvis, longè discretis; carinâ dorsali inconspicuâ, rotundatâ; valvâ ventrali transversim oblongâ, anticè rotundatâ, posticè in angulo obtusissimo desinente; sulco mediano subinconspicuo, rotundato; margine valvarum integro.*

Shell transversely subovate, thin, rugose, smooth, of a pale colour; marginal line somewhat flexuous, slightly sinuated in front; dorsal valve of a somewhat tetragonal ovate form, very obtusely angular behind and reflected; perforation very large, incomplete; cardinal area large and flattened; deltidia small, very distant; mesial ridge rounded, indistinct; ventral valve transversely oblong, rounded in front, and finishing in a very obtuse angle behind; mesial groove rounded; indistinct margin of the valves entire.

In Mr. Norris's collection and in that of Mr. Janelle.

Terebratula rubella, Sow. *Ter. testâ subovatâ, posticè subacuminatâ, subgibbâ, anticè subsinuatâ, rubrâ; valvis inæqualibus, glabris; lineâ marginali rectiusculâ, anticè subsinuatâ; valvâ dorsali posticè subacuminatâ, reflexâ, carinâ medianâ nullâ, sulco mediano obsoletissimo, foramine parvo; areâ cardinali angustâ, ad*

latera rotundatâ, deltidiis majusculis, coalescentibus; valvâ ventrali ovatâ, sulco mediano latiusculo, emarginationem anticam efformante; ossiculo interno ut in T. australi; *margine valvarum lævissimo.*

Shell nearly oval, rather acuminated posteriorly, a little gibbous and slightly sinuated anteriorly; valves unequal, smooth; marginal line nearly straight, a little sinuated in front; dorsal valve rather acuminated posteriorly, reflected, without any mesial ridge, but with a very obsolete mesial furrow; perforation small; cardinal area narrow, rounded at the sides, with rather large united deltidia; ventral valve ovate, with a broad mesial groove forming a sinus in front; internal appendage as in *T. australis.*

From Japan. In Mr. Norris's and Mr. Cuming's collections.

Terebratula Labradorensis. *Ter. testâ suborbiculari, posticè acuminatâ, obtusâ, crassiusculâ, albidâ; valvis valdè inæqualibus, radiatim obsoletè costatis; linea marginali subflexuosâ; valvâ dorsali anticè rotundatâ, posticè acuminatâ, obtusâ; foramine magno, integro; areâ cardinali magnâ, subplanulatâ; deltidiis majusculis, coalescentibus; carinâ dorsali inconspicuâ; valvâ ventrali suborbiculari, posticè subacuminatâ; margine valvarum crenulato.*

Shell suborbicular, acuminated behind, obtuse, thickish, whitish; valves very unequal, obsoletely radiately ribbed; marginal line somewhat flexuous; dorsal valve rounded in front, acuminated and obtuse behind; perforation large, entire; cardinal area large, somewhat flattened; deltidia rather large, united; mesial ridge indistinct; ventral valve nearly orbicular, slightly acuminated behind; margin of the valves crenulated.

In the British Museum. From Labrador; C. Goodsir.

Terebratula Algoensis. *Ter. testâ suborbiculari, posticè subacuminatâ, anticè sublobatâ, albidâ; valvis radiatim striatis; carinâ dorsali conspicuâ, rotundatâ; foramine magno, incompleto; margine valvæ dorsali minutissimè crenulato.*

Shell suborbicular, slightly acuminated behind, rather lobed in front, whitish; valves radiately striated; mesial ridge distinct, roundish; perforation large, incomplete; margin of the dorsal valve very minutely crenulated.

A single valve of this specimen is in the British Museum, labelled "Algoa Bay, Bowerbank."

"Descriptions of new species of *Marginella.*" By G. B. Sowerby, F.L.S.

Marginella fusca. *Marg. testâ elongatâ, subovali, posticè subangulatâ, anticè latè marginatâ, in medio paululùm contractâ, fuscâ, vel pallidè purpureâ, fusco-trifasciatâ; spirâ breviusculâ, apice obtuso; aperturâ angustâ, columellâ rectiusculâ, plicis quatuor, quarum duæ anticæ albæ, prominentibus, spiraliter elongatis; labio externo albo, intus in medio incurvo, extus fusco, latè reflexo.*

Differing from *M. nitida* in the colouring and the shortness of the spire, and in the outer lip being more broadly reflected.

In Mr. Cuming's collection. From the West Indies.

MARGINELLA CRASSILABRUM. *Marg. testâ subovali, in medio subangulatâ, pallidè griseo-fulvâ; spirâ brevi; anfractibus distinctis, ultimo dilatato, ad spiram elevato; columellâ plicis quatuor, quarum duæ anticæ prominentes, spiraliter elongatis; labio externo, crasso, latè incurvo, angulato, extus varicoso, ad apicem tumidè elevato.*

This species is remarkable for the broad angular disc formed by the outer lip, which is much thickened at the back and raised so as nearly to cover the spire.

In Mr. Jackson's and Mr. Cuming's collections. From the West Indies.

MARGINELLA TÆNIATA. *Marg. testâ ovali, cylindricâ, pallidè fulvâ, fasciis fuscis tribus cinctâ; spirâ brevi; aperturâ elongatâ, posticè subangustatâ; columellâ plicis quatuor, quarum duæ anticæ majores; labio externo lævi, latè reflexo.*

Differing from *M. avena* in having a shorter spire and the outer lip more broadly reflected.

In Mr. Cuming's collection. Locality unknown.

MARGINELLA ALBO-CINCTA. *Marg. testâ subconicâ, subangulatâ, lævi; spirâ productâ; anfractibus angulatis, ultimo fasciâ albâ prope angulum, et altero ad terminum anticum cincto inter fascias fusco maculato et punctis nigris picto; columellâ quadriplicatâ.*

Provisionally described from a young specimen in Mr. Cuming's collection. When full-grown it would probably resemble *M. nubeculata* in form.

MARGINELLA PSEUDO-FABA. (*M. Faba*, Lam. Anim. s. vert., vii.) *Marg. testâ angulatâ, anticè attenuatâ, subrecurvâ, pallidè fulvâ, griseo-nebulatâ, punctorum irregularium seriebus* 10 *sparsim cinctâ; spirâ prominulâ; anfractibus angulatis, ad angulum validè crenulatis, crassis, paululùm arcuatis, posticè angulatis, anticè emarginatis, attenuatis.*

Much more angular than the true *M. Faba*, and has the anterior part of the body-whorl tapering and bent upwards.

In Mr. Cuming's collection. From the river Gambia, West Africa.

MARGINELLA FAUNA. *Marg. testâ ovali, subcylindricâ, pallidissimè carneâ, spirâ brevi; columellâ obliquè quadriplicatâ; labio prope medium incurvo, extus subincrassato.*

Slightly resembling *M. pallida*, but more oval; the lower part of the aperture less open, and the outer lip thicker.

In Mr. Cuming's collection. From the isle of Curasso.

MARGINELLA MULTILINEATA. *Marg. testâ ovali, stramineâ, lineis rubris numerosis cinctâ; spirâ penè celatâ, apice fasciâ rubrâ circulari cincto; aperturâ anticè et posticè emarginatâ; columellâ albâ,*

in medio tumidâ, anticè callosâ, plicis quatuor ad quinque inæqualibus; labio externo albo, intus crenulato, in medio subangulato, extus tenuiter reflexo.

On the whole resembling *tessellatus*, but it is much shorter, with the outer lip less varicose on the outside, and coloured by numerous red lines instead of the square patches.

In Mr. Cuming's collection. From Belieze, bay of Honduras; Mr. Dyson.

MARGINELLA VARIA. *Marg. testâ elongatâ, lævi, anticè expansâ, albâ, vel fuscâ, vel fusco vel rubro trifasciatâ, vel purpureo longitudinaliter et spiraliter interruptim fasciatâ; spirâ plus minusve productâ; aperturâ posticè angustâ, anticè subexpansâ; columellâ quadriplicatâ; labio externo in medio incurvo, extus leviter varicoso.*

Differing from *M. lactea* of Kiener in being wider at the anterior termination, and in the outer lip not being so much elevated.

From the West Indies. Varieties are from Belieze, bay of Honduras.

MARGINELLA SIMILIS. *Marg. testâ ovali, stramineâ, griseo-nebulatâ, lineis creberrimis interruptim cinctâ; spirâ penè celatâ; aperturâ angustâ, anticè et posticè emarginatâ; columellâ spirâ tumidâ, anticè varicosâ, irregulariter septemplicatâ; labio externo posticè spiram paululùm superante, intus crenulato, extus nigro maculato vix marginato.*

The spire is less concealed, and the margin of reflected lip less distinct than in *M. interrupta*. The colouring is more mottled.

In Mr. Cuming's collection. From the Brazils.

October 27, 1846.

Richard C. Griffith. Esq., in the Chair.

No business was transacted.

November 11, 1846.

George Gulliver, Esq., F.R.S., in the Chair.

A paper was read entitled "Notes on certain species of birds from Malacca," by H. E. Strickland, F.G.S.

Having lately examined a collection of Malacca birds belonging to the Yorkshire Philosophical Society, comparing them with specimens in my own cabinet, and with the descriptions given by MM. Temminck, Blyth, Eyton and other authors, I have thrown together such remarks as appeared necessary for the elucidation of their characters and synonymy. For some of the identifications of species I am indebted to Mr. Blyth's letters to myself*.

Athene scutulata (Raff.), (*Strix hirsuta*, Témm., *Ninox nipalensis*, Hodgs.)—This is the *Athene malaccensis* of Mr. Eyton, Ann. Nat. Hist., v. xvi. p. 228.

Caprimulgus macrurus, Hors.—Differs from the *C. albonotatus*, Tickell, of India, in its smaller size, being only about 11 inches in total length, wing $7\frac{1}{2}$, tail $5\frac{1}{2}$, and in its darker colour. It appears to be the same as the *C. macrurus* from North Australia figured by Mr. Gould, except in wanting the second white patch seen on the breast in his figure.

Cypselus affinis, Gray.—Rather larger and of a deeper black than Indian specimens, but I do not venture to separate them. Wing $5\frac{1}{4}$ inches, tail $2\frac{1}{8}$.

Ceyx tridactyla, (Pall.)—Much confusion has existed in the synonyms of this and the next species. The present one is distinguished by the whole back and wing-covers being black, each feather terminated with deep blue. It is well-figured by Mr. Jerdon in plate 25 of his 'Illustrations of Indian Ornithology.' It is found in South India and the Malay Peninsula. The following synonyms refer to it:—*Ceyx luzoniensis*, Steph.; *Alcedo purpurea*, Gm.; *A. erithaca*, β. Lath.; *Ceyx microsoma*, Burton; Sonn. Voy. Nouv. Guin., pl. 32; Buff. Pl. Enl., 778. f. 2.; Penn. Gen. Birds, pl. 5.

Ceyx rufidorsa, Strickland. *C. capite, dorso, tectricibus caudáque totis læte rufis, splendore lilacino variantibus; corpore subtus aurantio-flavo, mento albo, loris et maculâ aurium obscure cæruleo-nigrâ.*

This species, which also occurs at Malacca, is very closely allied to the last, but differs in having the beak larger in all its dimensions,

* Since this paper was written I have seen some rectifications of synonyms by Dr. Hartlaub, Rev. Zool. 1846, p. 1, which nearly agree with those here arrived at.

and in having the whole back and wing-covers, as well as the crown, rump and tail, rufous, with a brilliant lilac tint. The dark blue spot on the front and ears is much less marked than in *C. tridactyla.* Lower parts orange-yellow; chin white. This bird was supposed by Pallas, in his 'Spicilegia Zoologica,' part 6, p. 13, to be the female of *C. tridactyla.* It is figured by Messrs. Jardine and Selby in the 'Illustrations of Zoology,' ser. 1. pl. 55. f. 2. as *C. tridactyla.* Mr. Jerdon, in his 'Illustrations of Indian Zoology,' refers this bird to *Alcedo madagascariensis,* Lin.; but as that bird is distinctly described by the accurate Brisson as having four toes, it must be a true *Alcedo,* and I have therefore given a new specific name to the present bird.

Prionochilus thoracicus, (Tem.), Pl. Col. 600. f. 1.—Temminck's specimens were from Borneo, an island which has but few species in common with the peninsula of Malacca. This is closely allied to *P. percussus,* which I adopted as the type of my genus *Prionochilus.* This genus is very near to *Dicæum,* and has the stoutest and shortest beak of all the *Nectariniidæ.* Many systematists would place it near *Pipra* or *Pardalotus,* but the finely serrated mandibles point out its true affinities.

Dicæum chrysorrhœum, Tem. Pl. Col. 478.—Judging from the similarity of plumage in the young of *Prionochilus percussus,* I suspect that this bird is either the female or young of some other species of *Dicæum.*

Phyllornis moluccensis (Gray), Zool. Misc.—This is the *P. malabaricus* of Tem. Pl. Col. 512. f. 2. and of Blyth, Journ. As. Soc. Beng. 1843, p. 957, but is not the true *malabaricus* of Sonnerat and Scopoli, which has been rediscovered in South India by Mr. Jerdon, and is a larger bird, with the head green and the forehead orange. The last is the *P. cæsmarhynchus* of Tickell. In *P. moluccensis* the whole top and sides of the head are a clear yellow, surrounding the black of the chin and throat, and passing into golden yellow on the hind neck. A small spot on each side of the maxilla indigo-blue. Rest of body green; lesser wing-covers azure, primaries and lateral rectrices externally greenish blue. *P. aurifrons* of Nepal differs from both the above in the chin being blue, &c.

Parus flavocristatus, Lafr. (*Melanochlora sumatrana,* Less.; *Crataionyx ater,* and *flavus,* Eyton; *Parus sultaneus,* Hodgs.)—One of the Malacca specimens is fully as large and as long-crested as Mr. Hodgson's Nepal ones. This is a perfectly typical *Parus,* and is the largest species which I know except the so-called *Oreoica cristata* of Australia, which I also consider a true *Parus.*

Pitta cyanura, Gm. (*M. affinis,* Horsf.)—An immature specimen; exhibits plain blue feathers in various parts of the abdomen, which appear to be supplanting the barred black and rufous feathers commonly seen in this species.

Turdus modestus, Eyton.—One of the specimens before me, probably a fully adult, has the whole throat cinereous brown, and only the tip of the chin white.

Criniger gularis (Horsf.), (*Ixos phæocephalus*, Hartl.; *Trichophorus caniceps*, Lafr.; *Pycnonotus rufocaudatus*, Eyton).—This is a true *Criniger*, though the beak is rather wider than in the type species.

Pycnonotus cyaniventris, Blyth, Journ. As. Soc. Beng. (*Malacopteron aureum*, Eyton).—The smallest species of *Pycnonotus* with which I am acquainted. Mr. Blyth makes it the type of his genus *Ixidia*.

Pycnonotus melanocephalus (Gm.), (*Ixos atriceps*, Tem. Pl. Col. 147.)—This seems to be the *Ixos metallicus* of Mr. Eyton, in which case the length, eight inches, assigned by him (Ann. Nat. Hist. v. xvi. p. 228), is probably a misprint, as the specimens before me hardly exceed six inches.

Pycnonotus crocorrhous, Strickl., Ann. Nat. Hist. v. xiii. p. 412.—A specimen before me has the vent pale scarlet, and is evidently the *Hæmatornis chrysorrhoides*, Lafr., Rev. Zool. 1845, p. 367, but is otherwise identical with that formerly described, in which the vent is ochreous-yellow. These differences may be sexual. It differs from *Pycnonotus hæmorrhous* of Southern India in having the ear-covers and lower parts nearly white, and in other respects.

Myiagra pyrrhoptera (Tem.), Pl. Col. 596. f. 2. (*Muscipeta plumosa*, Blyth; *Philentoma castanea*, Eyton.)—This bird is intermediate between *Myiagra* and *Muscipeta*, but the development of the uropygial feathers alluded to by Mr. Eyton is hardly sufficient to form a generic distinction. It is probable that the long downy feathers of the lower back and rump, which admit of being expanded laterally, like an umbrella, over the wings, and which we meet with in many distinct groups of tropical Insessores, as the *Formicariinæ* of America, the *Laniariinæ* of Africa, and the *Pycnonotinæ* and *Timaliinæ* of Asia, may be a provision of nature against the violent and long-continued rains of the torrid zone. The species of Flycatcher before us, and the one which follows, may, from their mode of life or geographical distribution, be more exposed to rain than the other species of *Myiagra*, and may be provided with extra clothing accordingly.

Myiagra pectoralis, Lord Arthur Hay in Madras Journ., March 1846.—This is another species, in which the dorsal and hypochondrial feathers are lengthened and thickened, even to a greater degree than in the last. The whole plumage is uniform plumbeous blue, except the lores and chin, which are blackish; the flanks, which are streaked with whitish; and the inner webs of the remiges and rectrices, which are black. Beak and legs black, the former strong, the rictal bristles reaching two-thirds of its length. The first three remiges graduated, the fourth and fifth equal. Total length, $7\frac{1}{2}$ inches; beak to front, 7 lin.; to gape, 11 lin.; height, $2\frac{1}{2}$ lin.; breadth, $4\frac{1}{2}$ lin.; wing, 3 in. 10 lin.; medial rectrices, $3\frac{1}{2}$ in.; external ditto, 3 in. 5 lin.; tarsus, 7 lin. A younger specimen is marked with rufous on the wing-covers, abdomen and lower tail-covers. According to Lord A. Hay, the above-described is the female, the male having the breast claret-coolured, a state of plumage which I have not seen.

PERICROCOTUS MODESTUS, Strickland. *P. corpore supra cinereo subtus albo, remigibus atris, primariis 5 ad 9 et secundariis omnibus fasciâ subbasali albâ; rectricibus atris, albo large terminatis.*

Above uniform cinereous; front whitish; lores black; remiges blackish, the medial portion of their inner webs white; the fifth to ninth primaries and all the secondaries with a sub-basal white bar on the outer webs; rectrices blackish, largely tipped with white; chin and lower parts white. Length, 8 inches; beak to front, 5½ lines; to gape, 9 lines; breadth, 3 lines; wing, 3¾ inches; medial rectrices, 3½ inches; external ditto, 1½ inch; tarsus, 8 lines; middle toe and claw, 8 lines; hind ditto, 5 lines.

This is a typical species, but is at once distinguished from all the other known species of *Pericrocotus* by the absence of red or yellow in the plumage.

Dicrurus malabaricus, Scop. (*D. rangoonensis*, Gould; *D. retifer*, Tem.)—Racquet-tailed *Dicrurus*, with a very short erect frontal crest.

Dicrurus balicassius (*D. affinis*, Blyth).—This seems to be the true *balicassius* of Linnæus, judging from Brisson's description, though I have never seen a specimen from the Philippine Islands to compare with the Malacca bird.

Lanius lucionensis, Lin.—Having now examined many specimens from the Philippines, Malacca and British India, I find so many variations in the rufous tint of the upper parts, the amount of white on the forehead, and the size of the beak, that I am compelled (contrary to my former opinion, Ann. Nat. Hist., v. xiv. p. 44) to regard them as forming one widely-spread and variable species. The Malacca specimens exhibit a considerable amount of variation in the size of the beak, and the Philippine ones are generally less rufous than those from India. If this view of specific identity be correct, *Lanius cristatus*, Lin.; *L. superciliosus*, Lath.; *L. phœnicurus*, Pallas; *L. magnirostris*, Bélanger; *L. melanotis*, Valenciennes; *L. ferrugiceps*, Hodgson; and *L. strigatus*, Eyton, will all stand as synonyms of *Lanius lucionensis*, Lin.

Eupetes macrocercus, Tem.—This form appears to belong to the subfamily *Timaliinæ*, a group chiefly confined to the Malasian archipelago and the peninsula of Malacca, and which seems to me to include the following genera: *Timalia* proper, *Brachypteryx*, *Malacopteron*, *Macronus*, and one or two others. They are distinguished by great density of plumage, especially on the rump, a more or less shrike-like beak, well-developed legs, and a coloration in which rufous and brown predominate. Little is known of their habits, but they probably form a subfamily of the *Laniidæ*, and may be placed next to *Formicariinæ*, in which most of the South American *Thamnophili* and Antcatchers should be included.

MALACOPTERON OLIVACEUM, Strickland. *M. supra olivaceo-brunneum, remigibus fuscis, extus rufo-brunneo, intus albido margi-*

natis; rectricibus rufo-brunneis, rufo marginatis; loris superciliisque cinerascentibus, mento et gulâ sordide albidis, pectore lateribusque pallide olivaceis, abdomine pallide fulvo, crisso pallide rufo.

Upper parts olive-brown; remiges fuscous, edged externally with reddish brown and internally with whitish; tail reddish brown, margined externally with rufous. Lores and streak over eye greyish, chin and throat dirty white; breast and sides pale olive-brown; belly pale fulvous; vent and lower tail-covers light rufous; upper mandible fuscous, lower yellowish; feet and claws yellowish brown. Total length, 6 inches; beak to front, 10 lines; to gape, 1 inch; height, 3 lines; breadth, 3½ lines; wing, 2 inches 10 lines; medial rectrices, 2¼ inches; external ditto, 2 inches; tarsus, 1 inch; middle toe and claw, 11 lines; hind ditto, 9 lines.

Malacopteron macrodactylum, Strickland in Ann. Nat. Hist., v. xiii. p. 417.—Since described as *Brachypteryx albogularis* by Dr. Hartlaub, Rev. Zool. 1844, p. 401. It is however a true *Malacopteron*, which genus differs from the type of *Brachypteryx* by its shorter legs and by the beak, in which the shrike-like form is developed to the greatest extent of all the *Timaliinæ*. *Brachypteryx sepiaria* of Horsf. is a *Malacopteron**.

Timalia pectoralis, Blyth (= *Malacopteron squamatum*, Eyton).

Timalia nigricollis, Tem. Pl. Col. 594. f. 2. (*Brachypteryx nigrogularis*, Eyton; *Timalia erythronotus*, Blyth).—This is a typical *Timalia*.

Timalia erythroptera, Blyth, Journ. As. Soc. Beng. (*Timalia pyrrhophæa*, Hartl.; *Brachypteryx acutirostris*, Eyton).—A true *Timalia*.

Amadina acuticauda, Hodgs. in Asiatic Researches, v. xix.—A well-marked species intermediate between *A. striata*, Lin., and *A. punctularia*, Lin.

Agapornis? malaccensis, Lath. sp.—In the descriptions hitherto given of this bird no mention is made of the deep brownish red feathers on the radial margin of the wing. Mr. Blyth makes of this bird his genus *Psittinus*.

Tiga Rafflesi, Vig.—The only description which I can find of this curious bird is in the classified list given by Mr. Vigors of the animals of Java and Sumatra, published in the Appendix to the edition of the 'Life of Sir Stamford Raffles.' As few persons think of looking into a biographical work for a treatise on zoology, this paper is less known than it deserves to be, and I therefore extract the diagnosis given by Mr. Vigors of the species before us:—

Picus rafflesi, Vig., l. c. p. 669. P. supra flavescenti-brunneus, subtus brunneus; capite coccineo; gulâ pallide ferrugineâ; strigis, unâ ab oculis, secundâ a rictu extendentibus maculisque ad latera abdominis albis; strigis duabus ad latera genarum, alterâ parvâ superciliari; remigibus rectricibusque nigris.

* Mr. Blyth makes my *M. macrodactylum* the type of his genus *Turdinus*, but I cannot approve of genera founded on such very slight distinctions.

The specimen before me is a female, and has the crown and elongated crest-feathers wholly deep black; the upper parts are yellowish olive and the lower olive-brown; all the remiges have three round white spots on the inner webs of each; the lower wing-covers are pale yellowish, margined with brown. In all other respects the bird agrees with the description above-quoted. Its total length is $10\frac{1}{2}$ inches; beak to front, $1\frac{1}{4}$ inch; to gape, $1\frac{1}{2}$ inch; wing, $5\frac{1}{2}$ inches; medial rectrices, $4\frac{3}{4}$ inches; external ditto, $2\frac{1}{2}$ inches; tarsus, $10\frac{1}{2}$ lines; middle toe and claw, 13 lines; reversed ditto, 10 lines; hind-toe entirely wanting.

The beak is of moderate length, the culmen nearly straight, the gonys ascending, the apex compressed, a slight but distinct ridge running parallel to the culmen, and the nostrils are covered with incumbent feathers. As the *Tiga tridactyla* resembles in its style of plumage the orange-backed woodpeckers, *Brachypternus* and *Chrysocolaptes*, so the more uniform coloration of this species calls to mind the green woodpeckers which form the typical *Gecini*. But the beak is stronger and more adapted for chopping wood than in the latter group, and resembles more the structure of that organ in the red-winged and yellow-crested *Gecini*, such as *G. nipalensis* (Gray), *G. mentalis* (Tem.), &c.

Tiga tridactyla.—Identical with specimens sent by Mr. Jerdon from Madras, except in being smaller. The wing measures only 5 inches, while in the Madras ones it is $5\frac{3}{4}$ inches. Mr. Blyth has already noticed this distinction, but I cannot consider it as a specific one.

Hemicercus rubiginosus, Swains. Birds W. Af. v. 2. p. 150. (*Picus rubiginosus*, Eyton.)

Hemicercus concretus (Tem.), Pl. Col. 90. (*Dendrocopus sordidus*, Eyton.)

Cuculus Sonnerati, Lath.—This species, which occurs also in Southern India, appears never to assume a typically adult plumage, being invariably barred with brown and rufous above, and brown and white below.

Centropus rectunguis, Strickland. *C. corpore nitide cæruleo-nigro, alis rufis, primariis fusco terminatis, ungue hallucis subbrevi, recto.*

Body and tail glossy black, with a deep blue tint on the head, neck and breast; wings wholly rufous, the primaries slightly tipped with fuscous; hind-claw short and straight. Total length, 14–15 inches; beak to front, $1\frac{1}{4}$ inch; to gape, $1\frac{1}{2}$ inch; height $\frac{1}{2}$ inch; width, $\frac{1}{2}$ inch; wing, 6 inches; medial rectrices, $7\frac{1}{2}$ inches; external ditto, $6\frac{1}{4}$ inches; tarsus, $1\frac{3}{4}$ inch; claw of hind-toe, $\frac{1}{2}$ inch. Nearly allied in size, form of beak and coloration to *C. philippensis*, Buff. Pl. Enl. 824. (*C. bubutus*, Horsf.) of India, Java and the Philippines; but differs in the shorter wings and tail, and in the hind-claw being almost perfectly straight, and only half an inch long; while in *C. philippensis* (sent by Mr. Jerdon from Madras) this claw is three-

quarters of an inch long and considerably curved; the wing measures $7\frac{1}{2}$ inches and the tail 10 inches.

Treron Capellei (Tem.), Pl. Col. 143.—The largest of the genus, and erroneously named *militaris*, in many museums. I inadvertently described this as new, under the name of *magnirostris* in the Ann. Nat. Hist., v. xiv. p. 116.

Treron fulvicollis (Wagl.), (*T. tenuirostre*, Eyton.)

Rollulus niger.—The female of this bird has been described by Mr. Vigors under the name of *Cryptonyx ferrugineus*, and by Mr. Eyton as *Perdix æruginosus* (Proc. Zool. Soc. part 7. p. 106). It departs from the type of *Rollulus* in possessing a rudimentary hind claw.

Turnix pugnax, Tem. Pl. Col. 60. f. 2.—This seems to be the *Hemipodius atrogularis* of Mr. Eyton, Proc. Zool. Soc. part 7, p. 107.

Rallus striatus, Lin. (*Rallus gularis*, Horsf., Blyth, &c.)—I have specimens of this species from the Philippine Islands, Malacca and Madras, which present no specific difference, and which exactly agree with Brisson's description of his *Rallus philippensis striatus*, on which *R. striatus*, Lin., is founded.

November 24, 1846.

William Yarrell, Esq., Vice-President, in the Chair.

Mr. Gould exhibited to the Meeting, named and described three Australian Birds collected by the late Mr. Gilbert, viz:—

PETROICA SUPERCILIOSA. *Pet. strigâ superciliari, guld, abdomine, et humeris infrà, albis; loris, auribus, et alarum tectricibus, atris; primariis et secondariis, ad basin albis, ad mediam intensè atris; alis, caudâque fuligineis; rectricibus, intermediis duabus exceptis, ad apices albis.*

Superciliary stripe, throat, abdomen, under surface of the shoulder, and the base of the primaries and secondaries white; lores, ear-coverts, wing-coverts, and the primaries and secondaries for some distance beyond the white, deep black; all the upper surface, wings, and tail, sooty-brown; all but the two central tail-feathers largely tipped with white; bill and feet black; irides reddish brown.

Total length 5 inches; bill, $\frac{3}{4}$; wing, 3; tail, $2\frac{1}{2}$; tarsi, $\frac{7}{8}$.

Hab. The neighbourhood of the Burdekin Lakes, in the interior of Australia.

POËPHILA LEUCOTIS. *Poë. vittâ in fronte, loris, guláque, et maculâ magnâ quoque in latere, intense holosericis nigris; auribus, lineâ attenuatâ nigrum in guld colorem infrà marginante, et spatio maculam in latera circumdante, albis; vertice, omni superiore corpore, alisque, saturatè cinnamomeis; pectore, et abdomine, pallidè vinosis; tectricibus caudæ superioribus inferioribusque albis.*

Band crossing the forehead, lores, throat, and a large patch on each flank, deep velvety black; ear-coverts, narrow line beneath the black of the throat, and a space surrounding the black patch on the flanks, white; crown of the head deep reddish chestnut; all the upper surface and wings dark cinnamon-brown; chest and abdomen pale vinous brown; upper and under tail-coverts white, the former margined externally with deep black; tail black; irides dark brown; feet red; bill yellowish horn-colour.

Total length, $4\frac{3}{8}$ inches; bill, $\frac{3}{8}$; wing, $2\frac{1}{4}$; tail, $2\frac{1}{4}$; tarsi, $\frac{5}{8}$.

The female is somewhat smaller and not quite so brightly coloured.

Hab. The neighbourhood of the river Lynd, in the interior of Australia.

Remark.—Nearly allied to *P. personata.*

CLIMACTERIS MELANOTUS. *Cli. strigâ superciliari, guláque, albo-cervinis; lineâ ante oculum, alterâ post oculum, omni superiore corpore, alis, caudâque, saturatè fusco-nigris; primariis, secondariis, tertiariisque ad basin, et humeris infrà stramineis; corpore*

inferiore vinoso; singulâ abdominis plumâ lineis duabus spatium album marginantibus nigris longitudinaliter prope caulem ornatâ.

Superciliary line and throat buffy-white; line before and behind the eye, all the upper surface, wings, and tail, dark brownish black; the base of the primaries, secondaries, and tertiaries, and the under surface of the shoulder buff; under surface pale vinous brown; the feathers of the abdomen with two stripes of black running parallel to and near the stem, the space between dull white; at the base of the throat several irregular spots of black; under tail-coverts buffy-white, crossed by broad bars of black; irides brown.

Total length, $5\frac{1}{2}$ inches; bill, $\frac{3}{4}$; wing, $3\frac{1}{2}$; tail, $2\frac{1}{2}$; tarsi, $\frac{7}{8}$.

The female differs in having the markings of the abdomen larger and more conspicuous, and in having the spots at the base of the throat chestnut instead of black.

Hab. The neighbourhood of the river Lynd, in the interior of Australia.

Remark.—Nearly allied to *C. melanura* and *C. scandens*.

December 8, 1846.

George Gulliver, Esq., F.R.S., in the Chair.

A paper was read containing descriptions of 38 new species of Land-shells, in the collection of Hugh Cuming, Esq., by Dr. L. Pfeiffer:—

1. Parmacella Cumingi, Pfr. *Parm. testâ depresso-semiovatâ, tenuissimâ, striatâ, lineis spiralibus subtiliter decussatâ, diaphanâ, pallidè virenti-corneâ vel (in adultis) succineâ; spirâ vix prominulâ, subpapillatâ; anfractibus 2; columellâ arcuatâ, acutâ.*
Long. 6, lat. 6, alt. $2\frac{3}{4}$ mill.
From the island of Juan Fernandez (H. Cuming).

2. Succinea pallida, Pfr. *Succ. testâ ovato-conicâ, solidiusculâ, longitudinaliter ruguloso-striatâ, diaphanâ, pallidè stramineâ; spirâ acutâ; anfractibus 4 convexis; columellâ leviter arcuatâ, filari, supra basin aperturæ ovalis subtruncatâ; peristomate margine subincrassato.*
Long. 13, lat. 7, alt. $6\frac{1}{2}$ mill.; apert. $8\frac{1}{2}$ mill. longa.
From Tahiti (H. Cuming).

3. Succinea semiglobosa, Pfr. *Succ. testâ ovato-semiglobosâ, tenui, lævigatâ, nitidissimâ, lutescenti-corneâ; spirâ vix prominulâ, obtusâ; anfractibus 2, ultimo ventroso; columellâ strictiusculâ, obliquè recedente; aperturâ rotundato-ovali.*
Long. 8, lat. $6\frac{1}{2}$, alt. 4 mill.; apert. $7\frac{1}{2}$ mill. longa.
From the island of Massafuera, Chile (H. Cuming).

4. Succinea Tahitensis, Pfr. *Succ. testâ ovatâ, striatulâ, tenui, vix nitidâ, pellucidâ, pallidè succineâ; spirâ brevi, obtusiusculâ; anfractibus $2\frac{1}{2}$ convexis, ultimo ovato; columellâ leviter arcuatâ, medio obsoletè (interdum distinctè) angulatâ; aperturâ regulariter ovali; peristomate expansiusculo.*
Long. 12, lat. 7, alt. $4\frac{1}{2}$ mill; apert. $8\frac{2}{3}$ mill. longa.
From Tahiti (H. Cuming).

5. Helix Lindoni, Pfr. *Hel. testâ imperforatâ, semiglobosâ, tenui, irregulariter striatulâ, supernè opacâ, albidâ, punctis castaneis conspersâ et lineâ nigricanti-castaneâ ad suturam ornatâ; anfractibus $4\frac{1}{2}$ convexiusculis, ultimo basi planulato, pellucido, corneo-virente, anticè breviter deflexo; columellâ intrante, declivi, subarcuatâ, dilatatâ, introrsum acutâ; aperturâ lunato-ellipticâ; peristomate simplice, recto.*
Diam. 16, alt. $9\frac{1}{2}$ mill.
From the island of Cuba (Lindon).

6. Helix pemphigodes, Pfr. *Hel. testâ imperforatâ, subglobosâ, tenui, membranaceâ, obliquè plicatulâ, diaphanâ, lutescenti-corneâ; spirâ brevi, papillatâ; anfractibus 4 vix convexis, ultimo permagno, carinato, juxta suturam inflato, basi convexo, anticè vix descendente; columellâ simplice, acutâ, subverticali; aperturâ amplâ, ferè circulari; peristomate simplice, acuto, marginibus conniventibus.*
Diam. 18, alt. 12 mill.
From the island of Cuba (Lindon).

7. Helix gradata, Pfr. *Hel. testâ imperforatâ, globoso-turbinatâ, striatulâ, tenui, hyalinâ; spirâ turbinatâ, ad apicem acutâ; anfractibus 6 convexiusculis, gradatis, ultimo medio acutè carinato, basi convexo, sub lente minutissimè concentricè striato; aperturâ subtetragono-lunari; peristomate simplice, acuto, margine columellari verticaliter descendente.*
Diam. 5, alt. 5 mill.
From the island of Leyte (H. Cuming).
Nearly allied to *H. tongana*, Quoy.

8. Helix Barclayana, Pfr. *Hel. testâ umbilicatâ, depresso-turbinatâ, confertim obliquè costatâ, albâ, epidermide fusco-olivaceâ indutâ; spirâ conoideâ, apice obtuso; suturâ profundâ; anfractibus $5\frac{1}{2}$ convexis, ultimo medio carinato (interdum obsoletè bicarinato), basi convexiusculo; umbilico mediocri, ferè cylindrico; aperturâ subverticali, quadrangulari; peristomate simplice, acuto, margine columellari verticaliter descendente, cum basali angulum formante.*
Diam. 18, alt. 12 mill.
From the island of France (Sir D. Barclay).

9. Helix arcuata, Pfr. *Hel. testâ umbilicatâ, orbiculato-convexâ, tenui, pellucidâ, pallidè corneâ, confertim et regulariter arcuato-plicatâ; spirâ latè conoideâ, apice obtusiusculo; anfractibus 6 vix convexiusculis, cariná acutâ, serratâ marginatis, ultimo circa umbilicum magnum, ferè cylindricum subcompresso; aperturâ angulato-lunari, latâ; peristomate simplice, acuto, margine columellari brevi, verticali.*
Diam. $5\frac{1}{2}$, alt. $2\frac{3}{4}$ mill.
From the province of Cagayan, island of Luzon (H. Cuming).

10. Helix Mighelsiana, Pfr. *Hel. testâ umbilicatâ, globosâ, solidâ, validè et confertim plicatâ, spiraliter obsoletè striatâ, rufâ vel lutescenti-fuscâ; spirâ conoideo-semiglobosâ; anfractibus 5 convexiusculis, ultimo ventroso, anticè vix descendente, circa umbilicum angustum compresso; aperturâ subverticali, rotundato-lunari; peristomate recto, intus albo-labiato, margine columellari dilatato-patente.*
Diam. 19, alt. 15 mill.
From Surigao, island of Mindanao (H. Cuming).

11. Helix Rissoana, Pfr. *Hel. testâ perforatâ, globosâ, tenui,*

striatâ, diaphanâ, vix nitidâ, rufâ; spirâ conoideâ, obtusiusculâ; anfractibus 6 convexiusculis, ultimo subangulato, medio pallidè cinguluto, anticè breviter descendente, basi ventroso; aperturâ magnâ, semicirculari; peristomate intus rubello-labiato, breviter expanso, margine columellari in laminam brevem, perforationem semioccultantem reflexo.

Diam. 18, alt. 13 mill.

From Greece (Lieut. Spratt, R.N.).

12. Helix dictyodes, Pfr. *Hel. testâ angustè umbilicatâ, depressâ, sublenticulari, obliquè plicato-striatâ, tenuiusculâ, diaphanâ, pallidè corneâ, fusco subtiliter reticulatâ et maculis castaneis juxta suturam et carinam ornatâ; spirâ latè conoideâ; anfractibus 7 vix convexiusculis, ultimo acutè carinato; aperturâ subverticali, depressâ, lunari, intus margaritaceâ; peristomate simplice, margine columellari breviter dilatato-patente, basali sinuoso, reflexiusculo.*

Diam. 27, alt. 12 mill.

From New Guinea (Ince).

13. Helix lignaria, Pfr. *Hel. testâ imperforatâ, subglobosodepressâ, solidâ, lævigatâ, castaneâ, fasciis variis epidermidis hydrophanæ, fusco-cinereæ obductâ; spirâ vix elevatâ, obtusâ; anfractibus $4\frac{1}{2}$ vix convexiusculis, celeriter accrescentibus, ultimo ad peripheriam subangulato; columellâ strictiusculâ, perobliquâ, latâ, planatâ, fuscâ; aperturâ rotundato-lunari, intus albidâ; peristomate subincrassato, brevissimè reflexo, fusco-marginato.*

Diam. 45, alt. 27 mill.

From Surigao, island of Mindanao (H. Cuming).

14. Helix crassilabris, Pfr. *Hel. testâ imperforatâ, depressâ, crassâ, ponderosâ, irregulariter striatâ et undique granulatâ, albidâ, lineis spiralibus, undulatis, fuscis, fasciâque unicâ ad peripheriam ornatâ; spirâ vix elevatâ, distinctè granulatâ, apice nudo, albo; anfractibus $4\frac{1}{2}$ planiusculis, sensim accrescentibus, ultimo minutissimè granulato, medio subcarinato, anticè vix descendente; aperturâ obliquâ, semiellipticâ, intus albâ; peristomate undique incrassato-reflexo, margine dextro subsinuoso, columellari intus obsoletè plicato.*

Diam. 42, alt. 22 mill.

From the island of Cuba (Lindon).

15. Helix Spengleriana, Pfr. *Hel. testâ imperforatâ, depressâ, solidâ, striatâ, nitidâ, pallidè castaneâ; spirâ parum elevatâ, obtusâ; anfractibus $5\frac{1}{2}$, supremis planis, minutissimè granulatis, 2 ultimis convexis, ultimo medio obtusè carinato, basi convexiusculo; aperturâ perobliquâ, lunari, intus fusculâ; peristomate latè expanso, breviter reflexo, marginibus callo nitido junctis, basuli sinuoso, reflexo, subappresso, columellari perdilatato, adnato, umbilicum prorsus tegente.*

Diam. 49, alt. 26 mill.

From the island of Jamaica (Gosse).

16. Helix codonodes, Pfr. *Hel. testâ umbilicatâ, globoso-conoideâ, solidâ, obliquè striatulâ, lineis spiralibus confertis subtilissimè sculptâ, nitidâ, albâ, castaneo-bifasciatâ; spirâ campanulatâ, apice obtusiusculo; anfractibus* $5\frac{1}{2}$ *vix convexis, ultimo anticè deflexo, basi juxta aperturam gibboso-subconstricto; aperturâ obliquâ, ferè circulari; peristomate incrassato, reflexo, marginibus approximatis, callo nitido junctis, columellari dilatato, patente, sinuoso.*

Diam. 20, alt. 17 mill.

From the Philippine Islands (H. Cuming).

The described specimen shows a tooth-like protuberance on the inner side of the columella, which seems not to belong to the essential characters of this species.

17. Bulimus castus, Pfr. *Bul. testâ subperforatâ, ovato-conicâ, tenuiusculâ, minutim et obsoletè decussatulâ, hyalino-albidâ, basi et prope aperturam erubescens; spirâ conicâ, acutiusculâ; anfractibus* $5\frac{1}{2}$ *convexiusculis, ultimo spiram paulò superante; columellâ strictiusculâ, filiformi; aperturâ oblongâ; peristomate simplice, roseo, marginibus subparallelis, callo tenui junctis, dextro breviter expanso, columellari brevissimè reflexo, perforationem ferè claudente.*

Long. 19, diam. 9 mill.

From Central America? (Lattre).

18. Bulimus erubescens, Pfr. *Bul. testâ subperforatâ, oblongo-turritâ, læviusculâ, lineis spiralibus sub lente insculptâ, carneo-luteâ, apice rubicundâ; spirâ turritâ, apice acuto; anfractibus 6 planiusculis, ultimo spirâ paulò breviore; columellâ supernè subtortâ, basi paulò recedente; aperturâ oblongâ, intus nitide albâ; peristomate simplice, margine dextro expansiusculo, columellari fornicatim breviter reflexo, subappresso.*

Long. 24, diam. 10 mill.

Locality unknown.

19. Bulimus rimatus, Pfr. *Bul. testâ profundè rimatâ, oblongo-turritâ, tenuiusculâ, subarcuatim striatulâ, pallidè corneâ; spirâ turritâ, obtusiusculâ; anfractibus 7 ferè planis, ultimo* $\frac{3}{8}$ *longitudinis æquante, basi rotundato; columellâ intus uniplicatâ; aperturâ oblongo-ovali; peristomate simplice, marginibus approximatis, callo junctis, dextro vix expanso, columellari dilatato, patente.*

Long. 33, diam. 11 mill.

Locality unknown.

20. Bulimus Studeri, Pfr. *Bul. testâ perforatâ, oblongo-conicâ, tenuiusculâ, striatulâ, lineis spiralibus confertis sub lente decussatâ, nitidâ, albâ, cingulis angustis, roseis 3–4 ornatâ; spirâ conicâ, acutâ; anfractibus 6 vix convexiusculis, ultimo* $\frac{4}{9}$ *longitudinis subæquante; columellâ arcuatâ; aperturâ ovali-ellipticâ, intus concolore; peristomate simplice, marginibus subconniventibus, dextro breviter expanso, columellari fornicatim reflexo, roseo.*

Long. 25, diam. 10 mill.

From Central America? (H. Cuming.)

21. Bulimus Moricandi, Pfr. *Bul. testâ perforatâ, ovato-conicâ, tenui, lineis spiralibus subconfertis insculptâ, subdiaphand, citrinâ; spirâ conicâ, acutiusculâ; suturâ pallidè submarginatâ; anfractibus 6 vix convexis, ultimo spiram æquante; columellâ strictâ; aperturâ suboblongâ, truncato-ovali, intus concolore; peristomate simplice, breviter expanso, margine columellari supernè breviter patenti-reflexo.*
Long. 24, diam. 12 mill.
From Mount Coban, Central America (Lattre).

22. Bulimus Ehrenbergi, Pfr. *Bul. testâ profundè rimatâ, oblongâ, solidâ, obliquè striatulâ, albidâ; spirâ oblongâ, apice attenuato, obtusiusculo; anfractibus $7\frac{1}{2}$ vix convexiusculis, ultimo $\frac{2}{5}$ longitudinis paulò superante; aperturâ angulato-ovali; peristomate incrassato, breviter reflexo, marginibus callo crasso, prope insertionem labri tuberculifero junctis, columellari dilatato, crasso, patente.*
Long. 24, diam. 10 mill.
From Cerigotto, Greece (Lieut. Spratt, R.N.).

23. Bulimus Rossmassleri, Pfr. *Bul. testâ profundè rimatâ, oblongâ, solidulâ, confertim rugoso-plicatâ, supernè fusco-corneâ, basi sordidè albidâ; spirâ oblongo-conicâ, apice obtuso; anfractibus 8 vix convexiusculis, ultimo basi rotundato, $\frac{1}{3}$ longitudinis æquante; columellâ brevi, strictiusculâ; aperturâ truncato-ovali, intus albâ; peristomate albo-labiato, breviter expanso, marginibus callo tenui, juxta insertionem labri dentifero junctis, columellari dilatato, patente.*
Long. 19, diam. 7 mill.
Locality unknown.

24. Bulimus Draparnaudi, Pfr. *Bul. testâ subobtectè perforatâ, oblongo-subfusiformi, striatulâ, opacâ, nitidâ, albâ, cærulescenti-nebulosâ, strigis nigro-castaneis et brunneis, interdum maculosè interruptis, ornatâ; spirâ turrito-conicâ, ad apicem acutâ; anfractibus 7 convexiusculis, ultimo $\frac{3}{8}$ longitudinis subæquante; columellâ rectâ; aperturâ oblongâ; peristomate simplice, acuto, margine columellari dilatato, membranaceo, angulatim reflexo, appresso.*
Long. 28, diam. 11 mill.
β. Minor, interstitiis strigarum castaneo-litturatis.
From Chilon, Bolivia (Bridges).

25. Bulimus Ziegleri, Pfr. *Bul. testâ subperforatâ, ovato-conicâ, tenui, confertim striatulâ, lineis spiralibus sub lente obsoletè decussatâ, albidâ; spirâ conicâ, acutiusculâ; anfractibus 6 vix convexiusculis, ultimo medio subangulato, spirâ paulò breviore; columellâ paulò recedente; aperturâ ovali; peristomate simplice, margine columellari breviter reflexo, subappresso.*
Long. 21, diam. 10 mill.
β. T. pellucidâ, lutescente, fasciis castaneis, supremis maculosè interruptis, cinctâ.
Locality unknown.

26. Bulimus Sayi, Pfr. *Bul. testâ subperforatâ, ovato-oblongâ, solidiusculâ, confertim rugoso-plicatâ, nitidâ, albâ, strigis pellucidis, fuscis ornatâ; spirâ conicâ, obtusiusculâ; anfractibus 6 vix convexis, ultimo spiram subæquante, basi attenuato, circa perforationem obsoletam fusco-areolato; columellâ leviter arcuatâ; aperturâ elliptico-oblongâ, intus fusco-carneâ; peristomate simplice, margine columellari breviter reflexo, subappresso.*
Long. 20, diam. 9 mill.
Locality unknown.

27. Bulimus coniformis, Pfr. *Bul. testâ subperforatâ, ovato-conicâ, tenui, irregulariter striatâ, fuscescenti-albidâ, strigis obliquis, fuscis signatâ; spirâ conicâ, acutiusculâ; anfractibus 5 planiusculis, ultimo spiram paulò superante, medio angulato, basi subcompresso; columellâ leviter arcuatâ; aperturâ ovali, utrinque angustatâ; peristomate simplice, recto, margine columellari supernè dilatato, breviter reflexo.*
Long. 12, diam. 6½ mill.
From Merida, Andes of Bolivia (T. Bridges).

28. Bulimus Sowerbyi, Pfr. *Bul. testâ perforatâ, ovato-conicâ, tenui, sublævigatâ, albidâ, strigis obliquis, castaneis, maculas albas pyramidales et rhomboidales formantibus ornatâ; spirâ conicâ, acutâ; anfractibus 6½ vix convexiusculis, ultimo spiram æquante, medio pallide, juxta basin attenuatam castaneo-unifasciato; columellâ paulò recedente; aperturâ oblongo-ovali; peristomate simplice, recto, margine columellari angulatim latè reflexo, plano.*
Long. 22, diam. 10 mill.
From the Columbian Andes (Lindon).

29. Bulimus porphyrius, Pfr. *Bul. testâ perforatâ, oblongo-attenuatâ, solidiusculâ, confertim et ruditer corrugatâ, castaneâ, strigis albis irregulariter marmoratâ; spirâ conicâ, ad apicem obtusâ; suturâ submarginatâ, irregulariter crenatâ; anfractibus 7 planiusculis, summis subtiliter granulatis, ultimo spirâ paulò breviore; columellâ subrectâ; aperturâ angustâ, oblongâ; peristomate simplice, acuto, margine columellari dilatato, reflexo, carneo-livido, perforationem ferè occultante.*
Long. 51, diam. 20 mill.
From Bolivia (T. Bridges).

30. Bulimus Voithianus, Pfr. *Bul. testâ perforatâ, subfusiformi-oblongâ, solidulâ, rugis longitudinalibus et lineis concentricis impressis ruditer granulatâ, sordidè albâ; spirâ conicâ, ad apicem acutiusculâ; anfractibus 6–7 vix convexiusculis, ultimo spirâ paulò breviore; columellâ subverticali, nigro-castaneâ; aperturâ angustâ, oblongâ, intus castaneâ; peristomate simplice, recto, marginibus callo fusco junctis, columellari dilatato, fornicatim reflexo, perforationem profundam non tegente.*
Long. 19, diam. 7½ mill.
From Chile (T. Bridges).

31. Bulimus castrensis, Pfr. *Bul. testâ angustè umbilicatâ, oblongo-conicâ, lævissimè striatulâ, opacâ, albidâ, strigis spadiceis denticulatis et maculis albis pyramidalibus ornatâ; spirâ conicâ, acutiusculâ; anfractibus 7 vix convexiusculis, ultimo ventrosiore, infra medium lineis nonnullis spadiceis cincto, $\frac{2}{5}$ longitudinis subæquante; columellâ strictiusculâ; aperturâ oblongâ; peristomate simplice, recto, margine dextro supernè arcuato, columellari dilatato, patente.*
Long. 19, diam. 9 mill.
Locality unknown.

32. Bulimus andicola, Pfr. *Bul. testâ perforatâ, turrito-conicâ, solidâ, lineis concentricis, confertis sub lente sculptâ, opacâ, nitidâ, albâ, strigis fuscis, linearibus irregulariter ornatâ; spirâ elongatâ, acutiusculâ; anfractibus 7 convexiusculis, ultimo $\frac{3}{7}$ longitudinis subæquante, basi rotundato; columellâ deorsum aliquantulum recedente; aperturâ ovali-oblongâ; peristomate simplice, acuto, margine columellari supernè fornicatim reflexo, perforationem angustam formante.*
Long. 24, diam. 11 mill.
From the Columbian Andes (Lindon).

33. Pupa elegantula, Pfr. *Pup. testâ breviter rimatâ, subcylindraceâ, apice obtuso, lævigato, nitido, hyalino; anfractibus 7 planiusculis, ultimo præcedente paulò angustiore, extus medio sulcato, intus lamellis 2 validis, suturæ parallelis, plicâque profundâ columellæ parallelâ munito; aperturâ subsemicirculari, lamellâ parietis aperturalis intrante juxta insertionem labri coarctatâ; peristomate expansiusculo, margine dextro flexuoso, medio subincrassato.*
Long. $6\frac{2}{3}$, diam. 3 mill.
Locality unknown.

34. Achatina Lamarckiana, Pfr. *Ach. testâ ovato-conicâ, solidâ, ponderosâ, ruditer plicatâ, in fundo albido strigis fulminatis nigricantibus et castaneis, maculisque rufis variegatâ; spirâ conicâ, pallidâ, apice obtusiusculo; anfractibus 8 convexiusculis, supremis lineis spiralibus obsoletè decussatis, ultimo ventroso, spiram superante; columellâ arcuatâ, purpureo-callosâ, supra basin aperturæ obliquè et leviter truncatâ; aperturâ ovali, intus margaritaceâ, cærulescente, saturatius marmoratâ; peristomate fusco-limbato, marginibus callo purpureo junctis.*
Long. 103, diam. 52 mill.
From the interior of the island of Madagascar.

35. Achatina Rangiana, Pfr. *Ach. testâ elongatâ, turritâ, solidâ, ponderosâ, lævissimè arcuatim substriatâ, lineis spiralibus distantibus notatâ, stramineâ, apice albo, obtusiusculo; suturâ lævissimâ; anfractibus 11 planulatis, ultimo $\frac{1}{4}$ longitudinis paulò superante, basi rotundato; columellâ rectâ, callosâ, ad basin aperturæ breviter et obliquè truncatâ; aperturâ subsemiovali, intus margaritaceâ; peristomate simplice, acuto.*

Long. 39, diam. 11 mill.
From Mexico (Lindon).

36. Achatina bulimoides, Pfr. *Ach. testâ ovato-conicâ, tenui, striatâ, epidermide corneo-luteâ, pellucidâ indutâ; spirâ conicâ, acutâ; anfractibus* $5\frac{1}{2}$ *vix convexis, ultimo ventrosiore, spiram æquante; columellâ supernè tortâ, filari, supra basin aperturæ obsoletissimè truncatâ, callo tenui ventrem anfractûs penultimi vestiente munitâ; aperturâ latè semiovali; peristomate simplice, tenui.*
Long. 11, diam. 6 mill.
From the island of Juan Fernandez (H. Cuming).

37. Achatina (Glandina) Lindoni, Pfr. *Ach. testâ oblongâ, utrinque attenuatâ, solidulâ, lævigatâ, nitidâ, pallidè fulvâ, lineis incrementi arcuatis, vix prominentibus, saturatioribus notatâ; spirâ conicâ, acutiusculâ; suturâ submarginatâ; anfractibus* 8 *planiusculis,* 2 *ultimis obliquè descendentibus, ultimo spiram æquante, supra columellam intus gibboso; columellâ brevi, ad basin aperturæ obliquè truncatâ; aperturâ angustissimâ, basi subcanaliculatâ; peristomate simplice, marginibus callo junctis, dextro antrorsum arcuato-dilatato.*
Long. 21, diam. 6 mill.
From the island of Cuba (Lindon).

38. Cylindrella Sowerbyana, Pfr. *Cyl. testâ truncatâ, cylindraceo-subulatâ, solidiusculâ, obliquè subarcuatim costulato-striatâ, opacâ, cinnamomeo et albo radiatâ; anfractibus (spec. trunc.)* 16 *angustis, convexiusculis, ultimo basi subcarinato (carinâ parum prominente, ferè rectangulâ), anticè vix protracto, subtilius striato; aperturâ subcirculari; peristomate undique libero, tenui, breviter expanso, margine supero sursum dilatato.*
Long. 35, diam. 8 mill.
From the island of Cuba (Lindon).

December 22, 1846.

R. C. Griffith, Esq., in the Chair.

The following descriptions of new species of *Chama*, by Lovell Reeve, were communicated by Hugh Cuming, Esq.

CHAMA FIMBRIATA. *Cham. testâ suborbiculari, valvis ambabus concentricè fimbriato-lamellatis, valvarum marginibus minutè crenulatis; lutescente-albâ.* BM

Hab. Point Cunningham, North Australia; Dring.

A very distinct species, though its characters are set forth in few words; the lamellæ are not isolated as in most of the genus, but arranged in concentric continuous wavy frills.

CHAMA PANAMENSIS. *Cham. testâ ovatâ, circiter trigonâ, lateraliter affixâ, valvâ superiore posticè lævi, tenuissimè appresso-laminatâ, anticè rugosâ, rudè fimbriatâ, inferiore lævi, per basim lamellatâ, valvarum marginibus lævibus; albidâ, ferrugineo-fusco hic illic tinctâ.* B. M.

Hab. Panama (attached to stones); Cuming.

The upper valve of this shell is distinguished in a peculiar manner by its twofold style of sculpture.

CHAMA PRÆTEXTA. *Cham. testâ ovatâ, valvis ambabus concentricè pulcherrimè fimbriatis, fimbriis tenuibus subpellucidis, grandibus, plus minusve erectis, valvarum marginibus lævibus; pallidè croceâ, fimbriis supra rufescentibus.* BM

Hab. ——?

This truly delicate and beautiful shell was received by Mr. Cuming from a continental naturalist of some celebrity as the *C. croceata* of Lamarck, but it does not answer to the description. There are several Lamarckian species of this genus, and even the Linnæan *C. gryphoides*, which it is quite impossible to identify with the least degree of certainty.

CHAMA EXIGUA. *Cham. testâ parvâ, tenui, subpellucidâ, circuiter trigonâ, lateraliter affixâ, valvâ superiore minutissimè appresso-laminatâ et radiatim striatâ, subasperâ, inferiore divaricatim excavato-punctatâ, per basim lamellatâ; albâ.* BM

Hab. Singapore (dredged from sandy mud at the depth of seven fathoms attached to fragments of shells); Cuming.

A little transparent white shell, of which Mr. Cuming collected several specimens; the lower valve is distinguished by a peculiarity of punctured sculpture somewhat analogous to that of the *C. arcinella*; there is no trace of it, however, in the upper valve, as in that species.

CHAMA FRAGUM. *Cham. testâ suborbiculari, valvâ superiore con-*

centricè tenuissimè fimbriato-laminatâ, laminis marginem versus subtubulosis, inferiore rudè tubuloso-squamatâ, valvarum marginibus minutè crenulatis; albâ, rufo-punctatâ, intus albidâ.

Hab. Island of Mindoro, Philippines (attached to coral); Cuming.

The sculpture of this species somewhat approaches that of the *C. spinosa*; it is of a more minute and delicate character and easily distinguished on comparison.

CHAMA VARIEGATA. *Cham. testâ oblongo-ovatâ, circiter trigonâ, valvâ superiore lamellatâ, præcipuè in seriebus duabus posticis, lamellis latiusculis appressis, interstitiis obliquè rugoso-liratis, squamis perpaucis brevibus remotis, valvarum marginibus lævibus; corallo-rubrâ, liris lamellis squamisque albis, intus albidâ, rufo-fusco tinctâ.*

Hab. Honduras; Dyson.

The colouring of this shell has a very pretty effect, the oblique ridges and other external sculpture being white upon a coral or orange-red ground.

CHAMA CISTULA. *Cham. testâ orbiculari, posticè profundè sinuatâ, valvis ambabus peculiariter rudè lamellatâ et squamatâ, squamis ad margines subproductis, appressis, valvarum marginibus lævibus; albidâ, roseo-fuscescente variâ, intus albâ.*

Hab. Honduras; Dyson.

The upper valve of this shell is rather more convex than usual; the sculpture peculiarly rudely developed.

CHAMA TUMULOSA. *Cham. testâ orbiculari, posticè subprofundè sinuatâ, valvis ambabus valdè convexis, rudè tumulosis et imbricatis, interstitiis posticè obliquè liratis, liris minutissimè squamatis, valvarum marginibus lævibus; aurantio rufoque variâ, liris posticis albis, intus albâ.*

Hab. Honduras (attached to coral); Dyson.

A striking species, though of rude growth; it is doubly sinuated on the posterior side, having round orange protuberances along the summit, whilst the channeled interstices have a striped appearance, from their being crossed by white ridges on a blood-red ground.

CHAMA LINGUA-FELIS. *Cham. testâ orbiculari, supra depressiusculâ, valvis ambabus præcipuè inferiore minutè retusè squamatis, superiore pulcherrimè fimbriato-laminatâ, laminis appressis, posticè concavo-planatâ, ad angulos elongato-lamellatis, valvarum marginibus lævibus; niveâ, rosaceo hic illic tinctâ.*

Hab. Island of Guimaras, Philippines (attached to stones); Cuming.

An extremely delicate and characteristic species, in which the upper valve is very finely laminated, whilst the ground sculpture of both that and the lower valves is of a curious roughened character, somewhat similar to the *Tellinæ scobinata* and *lingua-felis*.

CHAMA PELLIS-PHOCÆ. *Cham. testâ suborbiculari, valvâ superiore undique minutissimè squamatâ, squamis umbonem versus brevissimè*

retusis, marginem versus longioribus subspiniferis, inferiore rudè lamellatâ, valvarum marginibus lævibus; albâ, squamis marginem versus rufo-fuscis, umbone roseo.

Hab. Island of Ticao, Philippines (attached to stones); Cuming.

The pink stain upon the umbone is probably a character which may help to distinguish this species.

CHAMA APPRESSA. *Cham. testâ orbiculari, valvis ambabus concentricè laminatis, laminis tenuibus plano-appressis, inferiore posticè liris perpaucis minutis obliquè exsculptâ, valvarum marginibus lævibus; albâ, roseo-fuscescente sparsim tinctâ.* BM

Hab. Honduras; Dyson.

Distinguished by its concentric flatly appressed laminæ. B.M

CHAMA RUPPELLII. *Cham. testâ suborbiculari, valvâ inferiori valdè productâ, crassiusculâ, lævigatâ, plus minusve erosâ; albidâ, valvarum marginibus internis vividè rufo-purpureis.*

Hab. Red Sea.

Approximating closely to the *C. iostoma*, but from so remote a locality that I venture to distinguish it as a new species.

CHAMA BRASSICA. *Cham. testâ suborbiculari-ovatâ, circiter trigonâ, valvis ambabus rugosis, profusè squamatis, squamis valvæ superioris subfoliaceis, inferioris brevibus, erectis; albidâ, squamis roseis.* B.M

Hab. Island of Cabul, Philippines (under stones at low water); Cuming.

An interesting species, curiously scaled, and of peculiarly circuitous growth.

CHAMA CARDITÆFORMIS. *Cham. testâ transversim oblongâ, valvis ambabus radiatim minutissimè squamæ liratis, squamis appressis, posticis majoribus, valvarum marginibus crenulatis; albâ, lirarum interstitiis posticè coccineo-rufis.* B.M

Hab. ——?

Easily distinguished by its peculiar oblong growth, which apparently is not accidental.

CHAMA VENOSA. *Cham. testâ circuiter trigonâ, lateraliter affixâ, valvis ambabus lævibus, radiatim subobsoletè tricostatâ, costis asperè nodulosis; albâ, lineis purpureo-roseis obliquis undique venosâ, intus albâ.* BM

Hab. ——? (Attached to shells.)

The blood-red lines with which the entire surface of this shell is painted are not less characteristic than the three faint sharply-noduled ribs.

CHAMA JANUS. *Cham. testâ circiter trigonâ, valvâ inferiore et dimidio postici superioris lævibus vel obliquè obtusè liratis, squamarum brevium seriebus duabus radiantibus, valvâ superiore undique irregulariter appresso-squamatâ, valvarum marginibus lævibus; purpureo-rufâ, liris obliquis squamisque albis.* B.M

Hab. Gallapagos Islands (attached to the large *Aviculæ*); Cuming.

The general aspect of this shell is not much unlike that of *C. venosa*, but the difference may be easily detected on examination; instead of being veined with fine lines of colour upon a white ground, the oblique ridges are raised upon a red ground; besides this, the upper valve is characterized by a double style of both colour and sculpture, the anterior half being of a dull brick-red colour and appressly scaled, whilst the posterior half is similar to the under valve. Mr. Broderip has figured this shell as the young *C. imbricata*, but it is far removed from that species.

CHAMA RUBEA. *Cham. testâ ovatâ, circiter trigonâ, valvis ambabus rudè flexuosis et appresso-laminatis, squamis perpaucis, valvarum marginibus subtilissimè crenulatis, purpureo-rubrâ, squamis albidis, intus albâ, margine purpureâ.*

Hab. Cagayan, island of Mindanao, Philippines (attached to stones); Cuming.

The under valve of the specimen here represented is more squamate, and the scales are more erect than the upper.

B.M

CHAMA JUKESII. *Cham. testâ ovatâ, valvis ambabus profusè et confertissimè brevispinosis, spinis valvæ inferioris subsquamatis; intus extusque niveâ, umbonibus apice pallidè purpureis.*

Hab. Cape Upstart, North Australia (on the coral reefs at low water); Jukes.

I dedicate this shell with a great deal of pleasure to Mr. Jukes, the zealous naturalist of H.M.S. The Fly, to whom this monograph is indebted through Mr. Cuming for several interesting species.

B.M

CHAMA SARDA. *Cham. testâ suborbiculari, valvis ambabus peculiariter exiliter obliquè striatis, squamis brevibus asperis remotis; intus extusque vividè corallo-rubrâ.*

Hab. Honduras (attached to coral); Dyson.

Rich in colour and very characteristic in sculpture, being crossed in an oblique direction throughout with faint striæ, and roughened here and there with short scales, like the asperities of a coarse file.

The following paper, by Dr. J. H. Jonas, containing descriptions of two new Shells, was also communicated by Hugh Cuming, Esq.

PYRULA IDOLEUM, Jonas. *Pyr. testâ oblongo-fusiformi, biconicâ, umbilicatâ, testaceo-albâ, transversim regulariter liratâ, sulcis interjectis angustis, liris sub lente squamosis; anfractibus sex per longitudinem leviter plicatis, medio acutè angulatis; angulo costâ undulatâ munito; costâ squamis imbricatis oculo nudo vix conspicuis distinctâ; caudâ spirâ breviore, recurvâ et squamis armatâ; aperturâ pyriformi, intus striatâ, columellâ lævi, nitidiusculâ, cylindraceâ, canali recurvo, aperto.*

Long. $17\frac{1}{2}$, lat. $9\frac{3}{4}$ lin.

Patria?

(Exstat in museo Gruner.)

The form of this shell differs so much from all those known to me, that I find it impossible to compare it with any of them; its

only resemblance is to a product of art—to the roof of a Chinese pagoda, and for this similarity's sake I have named it *Pyrula idoleum.* Starting from the supposition that in former times men took the productions of nature which surrounded them as models for their works of art, the peculiar form of this shell has suggested to me the conjecture that it originates from China; in all probability we shall yet obtain from this country many strange forms, as for example the *Pyrula Maweæ,* which is brought from the Chinese Sea.

ANOMIA NAVIFORMIS, Jonas. *An. testâ transversim elongatâ, angustâ, tenui, pellucidâ, marginibus dorsali et ventrali parallelis, rectis, lateralibus brevibus, rotundatis; valvâ majore æneâ, valdè concavâ, minore albâ, fragilissimâ, concaviusculâ; foramine ovato, integro.*

Long. 16, lat. 4 lin.

Patriam ignoro.

This Anomia may perhaps be an aberrant form of the *A. ænigmatica,* with which it has great resemblance in the texture of the shell, position of the umbones and form of the foramen; but I do not dare to assert this, and therefore I describe it as a peculiar species till intermediate species are found, forming the links of a chain, of which the above two are the terminating ones.

Mr. Tomes exhibited to the Meeting a specimen of the Bimaculated Duck, *Anas glocitans,* which he had obtained in Leadenhall-market; the specimen is a female, and agrees in size and plumage with that in the Society's collection.

INDEX.

The names of New Species, and of Species newly characterized, are printed in Roman Characters: those of Species previously known, in *Italics*: those of Species respecting which Anatomical Observations are made, in CAPITALS.

	Page
Achatina Bulimoides, *Pfr.*	116
—— cylindracea, *Pfr.*	31
—— Dysoni, *Pfr.*	32
—— (Glandina) isabellina, *Pfr.*	32
—— (Glandina) Lindoni, *Pfr.*	116
—— (Glandina) Sowerbyana, *Pfr.*	32
—— (Glandina) Tortillana, *Pfr.*	32
—— Lamarckiana, *Pfr.*	115
—— Rangiana, *Pfr.*	115
—— Sandwicensis, *Pfr.*	32
Achatinella Rohri, *Pfr.*	38
—— tæniolata, *Pfr.*	38
ACIPENSER STURIO, *Linn.*	27
Agapornis? malaccensis, Lath.	103
Alcedo erithaca, β. Lath.	99
—— *purpurea*, Gm.	99
Alcyone Diemenensis, *Gould*	19
—— pulchra, *Gould*	19
Amadina acuticauda, Hodgs.	103
Amphibola obvoluta, *Jonas*	35
Ampullacera	35
Anas glocitans	121
Anomia naviformis, *Jonas*	121
APTERYX AUSTRALIS	49
Athene malaccensis, Eyton	99
—— marmorata, *Gould*	18
—— rufa, *Gould*	18
—— *scutulata*, Raff.	99
Brachypteryx acutirostris, Eyton	103
—— *albogularis*, Hartlaub	103
—— *nigrogularis*, Eyton	103
—— *sepiaria*, Horsf.	103
Bulimus andicola, *Pfr.*	115
—— auratus, *Pfr.*	32
—— Bolivianus, *Pfr.*	34
—— candelaris, *Pfr.*	40
—— castrensis, *Pfr.*	115
—— castus, *Pfr.*	112
—— coniformis, *Pfr.*	114
—— Darwini, *Pfr.*	29
Bulimus dilatatus, *Pfr.*	42
—— Draparnaudi, *Pfr.*	113
—— Dysoni, *Pfr.*	39
—— Ehrenbergi, *Pfr.*	113
—— elongatulus, *Pfr.*	42
—— erubescens, *Pfr.*	112
—— fenestratus, *Pfr.*	29
—— Grateloupi, *Pfr.*	42
—— Gruneri, *Pfr.*	30
—— Guerini, *Pfr.*	40
—— holostoma, *Pfr.*	28
—— Hondurasanus, *Pfr.*	29
—— indicus, *Pfr.*	40
—— Jussieui, *Val. Mur.*	33
—— Kieneri, *Pfr.*	40
—— Leai, *Pfr.*	29
—— Martinicensis, *Pfr.*	40
—— Meridanus, *Pfr.*	33
—— Montevidensis, *Pfr.*	33
—— Moricandi, *Pfr.*	113
—— Nilagiricus, *Pfr.*	41
—— Oparanus, *Pfr.*	34
—— Orbignyi, *Pfr.*	31
—— Panayensis, *Pfr.*	33
—— (Partula) amabilis, *Pfr.*	38
—— (Partula) Ganymedes, *Pfr.*	39
—— (Partula) Hebe, *Pfr.*	39
—— (Partula) isabellinus, *Pfr.*	39
—— (Partula) radiolatus, *Pfr.*	39
—— perspectivus, *Pfr.*	33
—— Petiti, *Pfr.*	31
—— Philippinensis, *Pfr.*	42
—— porphyrius, *Pfr.*	114
—— rimatus, *Pfr.*	112
—— Rossmassleri, *Pfr.*	113
—— Sandwicensis, *Pfr.*	31
—— sarcodes, *Pfr.*	30
—— Sayi, *Pfr.*	114
—— sculpturatus, *Pfr.*	29
—— Sowerbyi, *Pfr.*	114

Page
Bulimus Studeri, *Pfr.* 112
—— Tuckeri, *Pfr.* 30
—— Vincentinus, *Pfr.* 30
—— Voithianus, *Pfr.* 114
—— Ziegleri, *Pfr.* 113
—— zonulatus, *Pfr.* 41
Callipepla venusta, *Gould* 70
Canis fulvipes 8
Caprimulgus albonotatus, Tickell ... 99
—— *macrurus*, Horsf. 99
CASUARIUS GALEATUS 26
Cavia cobaia, Auct. 8
Centropus rectunguis, *Strickl.* 104
Ceyx luzoniensis, Steph. 99
—— *microsoma*, Burton 99
—— rufidorsa, *Strickland* 99
—— *tridactyla*, Pall. 99
Chama 117
Chama appressa, *Reeve* 119
—— brassica, *Reeve* 119
—— Carditæformis, *Reeve* 119
—— cistula, *Reeve* 118
—— exigua, *Reeve* 117
—— fimbriata, *Reeve* 117
—— fragum, *Reeve* 117
—— Janus, *Reeve* 119
—— Jukesii, *Reeve* 120
—— lingua-felis, *Reeve* 118
—— Panamensis, *Reeve* 117
—— pellis-phocæ, *Reeve* 118
—— prætexta, *Reeve* 117
—— rubea, *Reeve* 120
—— Ruppellii, *Reeve* 119
—— sarda, *Reeve* 120
—— tumulosa, *Reeve* 118
—— variegata, *Reeve* 118
—— venosa, *Reeve* 119
Chaunax, nov. gen., *Lowe* 81
Chaunax pictus, *Lowe* 81
Chinchilla laniger, Gray 8
Climacteris melanotus, *Gould* 106
Cinclosoma cinnamomeus, *Gould* ... 68
Corvus collaris, *Drummond* 43
—— *monedula* 43
Crax 67
Crataionyx ater, Eyton 100
Criniger gularis, Horsf. 101
Cryptonyx ferrugineus, Vig. 105
Ctenomys Braziliensis, De Blainville 8
Cucullæa granulosa, *Jonas* 34
Cuculus Sonnerati, Lath. 104
Cylindrella Sowerbyana, *Pfr.* 116
Cypræa 23
Cypræa Gaskoinii, *Reeve* 22
—— pellucidula, *Gaskoin* 23
—— Pisum, *Gaskoin* 21
—— pulicaria, *Reeve* 23
—— Pulla, *Gaskoin* 24
Cypselus affinis, Gray 99
DASYPUS 72

Page
DASYPUS PEBA 72
Dendrocopus sordidus, Eyton 104
Dicæum chrysorrhœum, Temm. ... 100
Dicrurus affinis, Blyth 102
—— *balicassius*, Linn. 102
—— *malabaricus*, Scop. 102
—— *rangoonensis*, Gould 102
—— *retifer*, Temm. 102
Didelphis Azaræ 9
DIDUS INEPTUS 51
DINORNIS 46, 48
DINORNIS CASUARINUS, *Owen* 47
—— CRASSUS, *Owen* 47
—— CURTUS, *Owen* 47
—— DIDIFORMIS, *Owen* 49
—— GIGANTEUS, *Owen* 46
—— INGENS, *Owen* 46
—— OTIDIFORMIS, *Owen* 49
—— (*Palapteryx*) DROMIOIDES, *Owen* 47
—— STRUTHOIDES, *Owen* 46
DROMICEUS AUSTRALIS 49
EDENTATA 72
Eöpsaltria leucogaster, *Gould* 19
Eudromia 9
Eupetes macrocercus, Temm. 102
Fasciolaria clava, *Jonas* 35
Formicariinæ 101
Galictis vittata, Bell 8
Gallinula tenebrosa, *Gould* 20
Hæmatornis chrysorrhoides, Lafr. ... 101
Haliotis 53
Haliotis ancile, *Reeve* 57
—— aquatilis, *Reeve* 58
—— astricta, *Reeve* 56
—— clathrata, *Reeve* 57
—— coccinea, *Reeve* 55
—— coccoradiata, *Reeve* 55
—— concinna, *Reeve* 58
—— cruenta, *Reeve* 59
—— discus, *Reeve* 55
—— diversicolor, *Reeve* 55
—— Dringii, *Reeve* 58
—— funebris, *Reeve* 55
—— gemma, *Reeve* 58
—— incisa, *Reeve* 59
—— Jacnensis, *Reeve* 58
—— Janus, *Reeve* 58
—— Japonica, *Reeve* 54
—— lauta, *Reeve* 58
—— multiperforata, *Reeve* 55
—— nebulata, *Reeve* 57
—— papulata, *Reeve* 58
—— pertusa, *Reeve* 56
—— planilirata, *Reeve* 56
—— pustulata, *Reeve* 58
—— reticulata, *Reeve* 57
—— rosacea, *Reeve* 56
—— rubiginosa, *Reeve* 56
—— rugosa, *Reeve* 56

Page
Haliotis scutulum, *Reeve* 57
—— semistriata, *Reeve* 57
—— Sieboldii, *Reeve* 55
—— speciosa, *Reeve* 57
—— spiculata, *Reeve* 57
—— splendens, *Reeve* 54
—— squamata, *Reeve* 55
—— Stomatiæformis, *Reeve* 57
—— Tayloriana, *Reeve* 56
—— *tuberculata* 54
—— viridis, *Reeve* 56
—— Zealandica, *Reeve* 57
—— ziczac, *Reeve* 55
Helicea 28, 37
Helix arctispira, *Pfr.* 41
—— arcuata, *Pfr.* 110
—— aulacospira, *Pfr.* 37
—— Barclayana, *Pfr.* 110
—— Candaharica, *Pfr.* 37
—— codonodes, *Pfr.* 112
—— crassilabris, *Pfr.* 111
—— cyathellus, *Pfr.* 41
—— dictyodes, *Pfr.* 111
—— doliolum, *Pfr.* 41
—— Gossei, *Pfr.* 37
—— gradata, *Pfr.* 110
—— lignaria, *Pfr.* 111
—— Lindoni, *Pfr.* 109
—— lucidella, *Pfr.* 41
—— Mighelsiana, *Pfr.* 110
—— Montfortiana, *Pfr.* 38
—— pemphigodes, *Pfr.* 110
—— Rissoana, *Pfr.* 110
—— Reeveana, *Pfr.* 42
—— Spengleriana, *Pfr.* 111
—— stenostoma, *Pfr.* 28
—— suturalis, *Pfr.* 37
—— Swainsonii, *Pfr.* 28
Hemicercus concretus, Temm. 104
—— *rubiginosus*, Swains. 104
Hemipodius atrogularis, Eyton 105
Hesperomys Boliviensis, *Waterh.* ... 9
Holothuria edulis, Gray 67
HYLOBATES 11
HYLOBATES AGILIS 11
—— CONCOLOR 15
—— LAR 15
Ixos atriceps, Temm. 101
—— *metallicus*, Eyton 101
—— *phæocephalus*, Hartl. 101
Lagotis Cuvieri, Bennett 7
Laniariinæ 101
Lanius cristatus, Linn. 102
—— *ferrugiceps*, Hodgs. 102
—— *lucionensis*, Linn. 102
—— *magnirostris*, Bélanger 102
—— *melanotis*, Val. 102
—— *superciliosus*, Lath. 102
—— *phœnicurus*, Pall. 102
—— *strigatus*, Eyton 102

Page
Lichia Vadigo, Cuv. & Val. 23
Limosa Melanuroides, *Gould* 84
Lophidæ 81
Malacopteron aureum, Eyton 101
—— *macrodactylum*, Strickl. 103
—— olivaceum, *Strickl.* 103
—— *squamatum*, Eyton 103
Mangelia 59
Mangelia abyssicola, *Reeve* 62
—— angulata, *Reeve* 64
—— Antillarum, *Reeve* 59
—— astricta, *Reeve* 64
—— badia, *Reeve* 64
—— balteata, *Reeve* 64
—— bicolor, *Reeve* 62
—— capillacea, *Reeve* 60
—— casta, *Reeve* 64
—— castanea, *Reeve* 63
—— cavernosa, *Reeve* 60
—— cincta, *Reeve* 65
—— Columbelloides, *Reeve* 62
—— Conohelicoides, *Reeve* 62
—— cylindrica, *Reeve* 60
—— derelicta, *Reeve* 64
—— digitalis, *Reeve* 65
—— elegans, *Reeve* 63
—— funebris, *Reeve* 62
—— funiculata, *Reeve* 60
—— fusiformis, *Reeve* 61
—— gibbosa, *Reeve* 61
—— gracilis, *Reeve* 60
—— Hornbeckii, *Reeve* 63
—— interrupta, *Reeve* 61
—— lamellata, *Reeve* 60
—— lineata, *Reeve* 63
—— livida, *Reeve* 62
—— Lyra, *Reeve* 59
—— lyrica, *Reeve* 61
—— maculata, *Reeve* 61
—— Marginelloides, *Reeve* 60
—— marmorosa, *Reeve* 64
—— nana, *Reeve* 65
—— Novæ Hollandiæ, *Reeve* 62
—— obeliscus, *Reeve* 64
—— pallida, *Reeve* 63
—— pellucida, *Reeve* 64
—— pessulata, *Reeve* 63
—— planilabrum, *Reeve* 63
—— pulchella, *Reeve* 61
—— pura, *Reeve* 64
—— pusilla, *Reeve* 63
—— reticulata, *Reeve* 61
—— rigida, *Reeve* 63
—— Sicula, *Reeve* 59
—— solida, *Reeve* 64
—— Stromboides, *Reeve* 63
—— tenebrosa, *Reeve* 62
—— turricula, *Reeve* 62
—— vexillum, *Reeve* 59
—— vittata, *Reeve* 60

Page
Mangelia Zebuensis, *Reeve* 65
—— zonata, *Reeve* 61
Marginella albo-cincta, *Sow.* 96
—— crassilabrum, *Sow.* 96
—— *faba*, Lam. 96
—— Fauna, *Sow.* 96
—— fusca, *Sow.* 95
—— multilineata, *Sow.* 96
—— Pseudo-faba, *Sow.* 96
—— similis, *Sow.* 97
—— tæniata, *Sow.* 96
—— varia, *Sow.* 97
Melanochlora Sumatrana, Less. ... 100
—— *affinis*, Horsf. 100
Meliphaga longirostris, *Gould* 83
MULLUS SURMULETUS 27
Muscipeta plumosa, Blyth 101
Myiagra 101
Myiagra pectoralis, Hay 101
—— *pyrrhoptera*, Temm. 101
MYRMECOPHAGA JUBATA 74
Ninox nipalensis, Hodgs. 99
Nothura 9
Nyctelia 9
Nyctibius bracteatus, *Gould* 1
Octodon Bridgesii, Waterhouse 7
—— *Cumingii* 7
Odontophorus Balliviani, *Gould* ... 69
Oreoica cristata 100
Palapteryx, n. g., *Owen* 46
Parmacella Cumingi, *Pfr.* 109
Parus flavocristatus, Lafr. 100
—— *sultaneus*, Hodgs. 100
PERCA MARINA 27
Perdicaræ 9
Perdix æruginosus, Eyton 105
Pericrocotus modestus, *Strickl.* ... 102
Petroica superciliosa, *Gould* 106
Phanæus 9
Philentoma castanea, Eyton 101
Phoca ——? 80
Phyllornis aurifrons 100
—— *cæsmarhynchus*, Tickell 100
—— *malabaricus*, Temm. 100
—— *moluccensis*, Gray 100
Picus Rafflesi, Vig. 103
—— *rubiginosus*, Eyton 104
PITHECIA SATANUS 13
Pitta cyanura, Gm. 100
Poëphila leucotis, *Gould* 106
Pleurotoma 3
Pleurotoma albifuniculata, *Reeve* ... 6
—— albinodata, *Reeve* 6
—— angicostata, *Reeve* 4
—— axis, *Reeve* 3
—— Cagayanensis, *Reeve* 4
—— canaliculata, *Reeve* 6
—— cornea, *Reeve* 5
—— crebriplicata, *Reeve* 3
—— dædala, *Reeve* 6

Page
Pleurotoma delicata, *Reeve* 3
—— Dysoni, *Reeve* 4
—— fenestrata, *Reeve* 4
—— Forbesii, *Reeve* 5
—— foveolata, *Reeve* 5
—— Fusoides, *Reeve* 6
—— granicostata, *Reeve* 4
—— Hondurasensis, *Reeve* 4
—— mucronata, *Reeve* 4
—— obtusa, *Reeve* 6
—— pagoda, *Reeve* 5
—— Paria, *Reeve* 5
—— regularis, *Reeve* 4
—— rosaria, *Reeve* 3
—— scalpta, *Reeve* 5
—— scarabæus, *Reeve* 6
—— semen, *Reeve* 5
—— semigranosa, *Reeve* 5
—— symmetrica, *Reeve* 5
—— tessellata, *Reeve* 4
—— tincta, *Reeve* 5
PRIODONTES, F. Cuv. 74
Prionochilus thoracicus, Temm. ... 100
Pteroglossus cucullatus, *Gould* 69
Pupa elegantula, *Pfr.* 115
—— Pacifica, *Pfr.* 31
Pycnonotinæ 101
Pycnonotus crocorrhous, Strickl. ... 101
—— *cyaniventris*, Blyth 101
—— *hæmorrhous* 101
—— *melanocephalus*, Gm. 101
—— *rufocaudatus*, Eyton 101
Pyrula idoleum, *Jonas* 120
Rallus gularis, Horsf. 105
—— PHILIPPINENSIS 26
—— *striatus*, Linn. 105
Ramphastos Inca, *Gould* 68
REPTILIA 72
Rollulus niger 105
SARCORAMPHUS CONDOR 44
SCOMBER ——? 27
SCYLLIUM ——? 27
Serrirostrum carbonarium 9
—— *sittoides* 9
SQUALUS ACANTHIAS 27
—— CANICULA, Linn. 27
—— ——? 27
Strepera arguta, *Gould* 19
—— melanoptera, *Gould* 20
—— plumbea, *Gould* 20
Strix hirsuta, Temm. 99
STRUTHIO CAMELUS 48
STRUTHIONIDÆ 48
Succinea pallida, *Pfr.* 109
—— semiglobosa, *Pfr.* 109
—— Tahitensis, *Pfr.* 109
Sula personata, *Gould* 21
Sylochelidon strenuus, *Gould* 21
Terebratula Algoensis, *Sow.* 95
—— cognata, *Chemn.* 94

Page
Terebratula crenulata, *Sow.* 91
—— *erythroleuca*, Quoy 93
—— inconspicua, *Sow.* 93
—— Japonica, *Sow.* 91
—— Labradorensis, *Sow.* 95
—— transversa, *Sow.* 94
—— nigricans, *Sow.* 91
—— pulchella, *Sow.* 93
—— rosea, *Humphrey* 92
—— rubella, *Sow.* 94
—— rubicunda, *Sow.* 92
—— *sanguinea*, Chemn. 93
—— *sanguinea*, Quoy, Astr. 92
—— sanguinea, *Sow.* 93
TESTUDO 72
Thinochorus 9
THYNNUS COMMUNIS 27
—— PYLAMEDES 27
Tiga Rafflesi, Vig. 103
—— *tridactyla* 104
Timalia erythronotus, Blyth 103
—— *erythroptera*, Blyth 103
—— *nigricollis*, Temm. 103
—— *pectoralis*, Blyth 103
—— *pyrrhophœa*, Hartl. 103
Timaliinæ 101, 102
TORPEDO OCULATA 27
Treron Capelli, *Temm.* 105
—— *fulvicollis*, Wagl. 105
—— *tenuirostre*, Eyton 105
Trichophorus caniceps, Lafr. 101
TROCHILIDÆ 26

Page
Trochilidæ 85
TROCHILUS —— ? 28
—— (lampornis) aurescens, *Gould* .. 88
—— (lampornis) cyanopectus, *Gould* 88
—— (lampornis?) fulviventris, *Gould* 88
—— (lesbia) gracilis, *Gould* 86
—— (lesbia) smaragdinus, *Gould* ... 85
—— (lophornis) regulus, *Gould* ... 89
—— (ocreatus) ligonicaudus, *Gould* 86
—— (ocreatus) rufocaligatus, *Gould* 86
—— (petasophora) coruscans, *Gould* 44, 90
—— (topaza) pyra, *Gould* 85
—— (——?) æneocauda, *Gould* ... 87
—— (——?) cupricauda, *Gould* ... 87
—— (——?) flabelliferus, *Gould* 45, 90
—— (——?) hispidus, *Gould* 90
—— (——?) hypoleucus, *Gould* ... 90
—— (——?) inornata, *Gould* 89
—— (——?) nigrofasciata, *Gould* .. 89
—— (——?) strophianus, *Gould* 45, 90
—— (——?) ruficeps, *Gould* 89
—— (——?) violifer, *Gould* 87
TROGLODYTES NIGER 2, 15
Trogon assimilis, *Gould* 67
Turdus modestus, Eyton 100
Turnix pugnax, Temm. 105
URSUS MARITIMUS, Linn. 11
Venerupis tenuistriata, *Jonas* 35
XIPHIAS GLADIUS, Linn. 27
ZEUS FABER 27

END OF PART XIV.

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LIST

OF

CONTRIBUTORS,

With References to the several Articles contributed by each.

ADAMS, ARTHUR, Esq., R.N. *page*

Notes on certain Molluscous Animals 19

Description of a New Species of *Fulgora* 83

BARTLETT, Mr. A. D.

Description of a New Species of *Fuligula* 48

BOURCIER, M. JULES.

On undescribed Species of *Trochilidæ* 42

Description of two New Species of *Trochilidæ* 48

BRIDGES, T., Esq., Corr. Memb.

Notes in addition to former papers on South American Ornithology 28

BRODERIP, W. J., Esq., F.R.S. &c.

Description of *Voluta signifer* 232

CANINO AND MUSIGNANO, THE PRINCE OF.

Description of a New Species of Bat 115

DAVY, JOHN, M.D., F.R.S.

Note on the Early Generative Power of the Goat . . . 71

DENNY, WILLIAM, Esq.

Remarks on the Geographical Distribution of Birds in the West Indies 36

DERBY, Right Hon. the Earl of.

Observations on Struthionine Birds in the Menagerie at Knowsley 5

DOUBLEDAY, EDWARD, Esq., F.L.S., Secretary of the Entomological Society, &c. &c. page

On some undescribed species of Lepidoptera in the Society's collection 58

FRY, EDWARD, Esq.

Note of the Circulation of *Crocodilus Lucius* 116

GOSSE, P. H., Esq.

Brief Notes on the Habits of *Noctilio Mastivus* 105

GOULD, JOHN, Esq., F.R.S.

Descriptions of New Species of Australian Birds . . 1, 31

Drafts for an arrangement of the *Trochilidæ*, with descriptions of some New Species 7, 16, 94

Notes on some rare Birds of New Zealand and Australia . 50

On a New Species of *Apteryx* 93

GRAY, GEORGE R., Esq., F.L.S.

On two New Genera of *Certhinæ* 6

GRAY, JOHN E., Esq., F.R.S.

Description of a New Rat from South Australia . . . 5

Characters of six New Genera of Bats not hitherto distinguished 14

An Account of *Palolo*, with a description 17

Description of a New Species of *Amphioxus* from Borneo . 35

Observations on the Skull of *Phascolomys Vombatus* . . 41

Description of a New Genus of *Emydæ* 55

On the Genera of the Family *Chitonidæ* 63, 126

Descriptions of some New Genera and Species of *Asteriadæ* 72

On the Finner Whales, with the description of a New Species 88

Description of a New Lizard 96

Note on a Hybrid Swan 97

On the Porcupines of the Older or Eastern Continent, with descriptions of some New Species 97, 128

Additional Observations on the Cetacea of the British Islands 117

List of the Genera of Recent Mollusca, their Synonyma and Types 129

GULLIVER, GEORGE, Esq., F.R.S.

Note on the Red Corpuscles of the Blood of the *Meminna* Deer 13

GULLIVER, GEORGE, Esq., F.R.S. *page*

Note on the Spermatozoa, and on the Elevator Muscles of the Penis, of the Indian Elephant 105

HODGSON, B. H., Esq., Corr. Memb.

On a New Genus of *Suidæ* and a New Species of *Taxidea* 115

HUNT, JAMES, Head Keeper.

Note on the Breeding of the Otter in confinement . . . 27

PFEIFFER, Dr. L.

On New Species of *Heliceæ* 228

REEVE, LOVELL, Esq.

Descriptions of New Species of Shells collected in the Eastern Archipelago 24

SOWERBY, G. B., Jun., Esq.

Descriptions of several New Species of *Spondylus* . . . 86

TURNER, Mr. H. N., Jun.

Observations on the Distinction between the Cervical and Dorsal Vertebræ in the Class Mammalia 110

WHITE, ADAM, Esq., F.L.S.

Descriptions of new *Crustacea* from the Eastern Seas . . 56

Descriptions of some New Species of *Crustacea* in the Collection of the British Museum 84, 118 222

YARRELL, WILLIAM, Esq., F.L.S.

Descriptions of the Eggs of some of the Birds of Chile . 51

PROCEEDINGS

OF THE

ZOOLOGICAL SOCIETY OF LONDON.

January 12, 1847.

No business was transacted.

January 26, 1847.

George Gulliver, Esq., F.R.S., in the Chair.

The following communication was read :—

DESCRIPTIONS OF SIX NEW SPECIES OF AUSTRALIAN BIRDS. BY JOHN GOULD, F.R.S.

CYSTICOLA LINEOCAPILLA, Gould. *Cys. rufa; plumis capitis et dorsi latè conspicuèque per mediam longitudinaliter nigro-fusco striatis; rectricibus maculâ albâ infra ornatis.*

General plumage pale rufous, with broad and conspicuous striæ of blackish brown, forming lines down the centre of the feathers of the head and back, the under surface fading into white on the throat and centre of the chest; tail-feathers with a conspicuous blackish spot on the under surface near the tip; irides light reddish brown; bill and feet flesh-brown.

Total length, $3\frac{3}{4}$ inches; bill, $\frac{1}{2}$; wing, $1\frac{5}{8}$; tail, $1\frac{7}{8}$; tarsi, $\frac{5}{8}$.

Hab. Port Essington.

Remark.—Nearly allied to *C. exilis.*

MIRAFRA HORSFIELDII, Gould. *Mir. cinerea; mediis plumis, capite, dorso inferiore, alisque, fuscis; alis albo-marginatis; guld serie macularum intensè fuscarum semilunari ornatâ.*

General plumage ashy brown, with the centre of the feathers dark brown, the latter colour predominating on the head, lower part of the back and tertiaries; wings brown, margined with rufous; over the eye a stripe of buff; chin white; under surface pale buff; throat

crossed by a series of dark brown spots, arranged in a crescentic form; under surface of the wing rufous; bill flesh-brown at the base and dark brown at the tip; feet fleshy brown.

Total length, $5\frac{1}{2}$ inches; bill, $\frac{1}{2}$; wing, $2\frac{7}{8}$; tail, $2\frac{1}{8}$; tarsi, $\frac{7}{8}$.

Hab. Interior of New South Wales.

Remark.—Nearly allied to, but smaller than, the *Mirafra Javanica* of Dr. Horsfield.

Amytis macrourus, Gould. *Amy. corpore superiore fusco; plumis singulis lineâ angustâ albâ longitudinaliter per mediam ornatis; corpore inferiore nec aliter nisi pallidius picto; scapulis infra rubiginosis; caudâ fuscâ brunneo-marginatâ.*

Upper surface brown, each feather with a narrow stripe of white down the centre; under surface the same, but much paler; under surface of the shoulder pale rusty red; tail brown, margined with pale brown; irides hazel; base of the lower mandible horn-colour, remainder of the bill black; feet flesh-brown.

Total length, 7 inches; bill, $\frac{1}{2}$; wing, $2\frac{5}{8}$; tail, $4\frac{1}{4}$; tarsi, 1.

Hab. Western Australia.

Remark.—This is a more robust species than the two previously known, viz. *A. texilis* and *A. striatus*, from which it may also be distinguished by the much greater length and size of the tail.

Sericornis maculatus, Gould. *Ser. corpore superiore, alis, caudâque, fuscis; caudâ ad apicem latâ fasciâ nigro-fuscâ transversim ornatâ; rectricibus externis vix albo ad apices notatis; alis spuriis nigris; internis pennarum pogoniis albo-marginatis; corpore inferiore griseo-albo.*

Upper surface, wings and tail brown, the latter crossed near the tip with a broad band of blackish brown, and the outer feathers slightly tipped with white; forehead and lores deep black; stripe above and a small patch below the eye white; spurious wing-feathers black, margined on their inner webs with white; under surface in some greyish white, in others washed with yellow; the feathers of the throat and chest spotted with black on a light ground; irides greenish white.

Female.—Differs in having the lores brown, and in being somewhat smaller than the male.

Total length, $4\frac{1}{2}$ inches; bill, $\frac{5}{8}$; wing, $2\frac{1}{8}$; tail, 2; tarsi, $\frac{7}{8}$.

Hab. Western and Southern Australia.

Sericornis osculans, Gould. *Ser.* (Mas) *corpore superiore, alis caudâque brunneis; rectricibus, duobus intermediis exceptis, fasciâ nigrâ ad extremitatem ornatis; alis spuriis nigris albo-marginatis; guld et medio abdomine albis, griseo vel flavo tinctis; paucis oblongis maculis in guld nigris.*

Male.—Upper surface, wings and tail dark brown, all but the two centre feathers of the latter crossed by a band of black near the extremity; spurious wing-feathers black, margined with white; lores black, above which on each side a patch of white continued in a fine line over the eye; throat and centre of the abdomen greyish white

in some and yellowish white in others, marked with a few oblong black spots on the throat.

Female.—Somewhat smaller in size, and with the lores brown instead of black.

Total length, $4\frac{1}{2}$ inches; bill, $\frac{5}{8}$; wing, $2\frac{1}{4}$; tail, 2; tarsi, $\frac{7}{8}$.

Hab. South Australia.

Remark.—Intermediate in size between *S. frontalis* and *S. humilis*.

SERICORNIS LÆVIGASTER, Gould. *Ser. corpore superiore fusco; caudâ, ad apicem gradatim nigricante, in apice albâ; alis spuriis brunneis, pogoniis quarum internis albo-marginatis; corpore inferiore cervino lavato.*

Upper surface brown; tail deepening into black near the extremity and tipped with white; spurious wing-feathers dark brown, margined with white on their inner webs; lores and mark under the eye brownish black; above the eye an indistinct line of white; under surface washed with yellowish buff; irides greenish white.

Female.—Smaller than the male, and with the lores pale brown.

Total length, $4\frac{1}{4}$ inches; bill, $\frac{5}{8}$; wing, $2\frac{1}{8}$; tail, 2; tarsi, $\frac{7}{8}$.

Hab. Interior of Australia, near the Gulf of Carpentaria, where it was discovered by Mr. Gilbert.

Remark.—Nearly allied to *S. frontalis*.

February 23, 1847.

William Yarrell, Esq., Vice-President, in the Chair.

The following communications were read:—

1. Observations on Struthionine Birds in the Menagerie at Knowsley. By The President.

I shall take this opportunity of noticing some of the differences which appear to me to characterize the Struthious tribe in their breeding, and which I rather think are not generally known.

I believe the general supposition to be, that no difference exists, and that they agree at this period with most of the Rasorial birds in being polygamous; but this is by no means the case.

What may be the truth with the head of the Family, the *African Ostrich*, we have had too few opportunities or means of judging. The *Emu* is strictly monogamous; and the male, who attends to the eggs, by no means approves of any other female than the favoured one coming near the nest.

The *Rheas*, on the contrary, are clearly polygamous; and with them the male not only selects the place for and forms the nest, but actually collects together in it the eggs* (which are frequently laid at random about the enclosure), in order that he may incubate them. He shows no signs of anger when the females approach, and in one instance two females have laid in the same nest. By analogy we may perhaps suppose that the Ostrich follows a similar plan.

There are differences also in their modes of copulation. If my memory does not deceive me, the *Struthio Camelus* does not, like other birds, mount on the back of the female, but merely places one foot on her back, the necks of the pair twisting about all the while like two snakes, but without holding.

The *Rhea*, on the other hand, seizes hold of the back of the neck; and the *Emu*, I think, is the one which straddles over the female during the operation with his legs on each side of her.

The Rhea lays from fourteen to twenty-five eggs; the Emu from twelve to seventeen.

2. Description of a new Rat from South Australia. By J. E. Gray, Esq., F.R.S. &c.

Mus vellerosus. *M. brunneus, albido-varius, ad caput obscurior; vellere prælongo, denso; pilis mollibus ad basin fusco-brunneis, inde*

* The manner in which this operation is accomplished is by inserting the beak between the egg and the ground, and rolling it along by the assistance of his long neck, exactly in the way that a boy would roll a cricket-ball along by the aid of a long stick with a hooked end to it.

pallidioribus, ad apicem albis; codario mollissimo, brunni-plumbeo; caudâ annulatim squamatâ, raris brevibus et rigidioribus setis obsitâ; auribus mediocribus, rotundatis.

Hab. in campis Australiasianis inter fluvios Murray et Glenelg.

The skull resembles the typical Rats. The cutting teeth are yellow, moderate, slightly rounded in front, without any regular groove. The grinders are $\frac{3}{3}$, worn; the anterior upper oblong, formed of three transverse folds, the hinder being smallest; the second tooth is nearly circular, formed of two folds, the front fold largest, and having a notch on its inner side; the third tooth small, half ovate, with two notches on the inner side. The anterior lower grinder is formed of three, and the others of two folds; the anterior fold of the last tooth having a slight notch on the inside, and the posterior fold being smaller than the rest.

	in.	lin.
Length of skull	1	9
——— tooth-line	0	4
Total length	7	6
Tail	4	6

This rat has the dentition and somewhat the general appearance of *Mus fuscipes*, Waterh., but the skull and animal are considerably larger, and the fur is very much longer and paler.

The specimens from which this description is taken were sent to the British Museum by His Excellency Capt. Grey, Governor of New Zealand.

3. On two new Genera of Certhinæ. By G. R. Gray, Esq., F.L.S. &c.

I beg to lay before the Meeting the following description of what I believe to be a new genus belonging to the subfamily *Certhinæ*, under the name of *Caulodromus*.

Rostrum capite longius, latum, basi subdepressum, gracile, per totam longitudinem curvatum, lateribus a naribus usque ad apicem obtusum subemarginatum fortiter compressis. *Gonys* longus curvatus. *Nares* laterales, anteriùs in sulco brevi lato siti, aperturâ magnâ rotundatâ nudâ. *Alæ* breves, basin caudæ operientes, fortiter rotundatæ, remige sextâ omnium longissimâ. *Cauda* brevissima, rectricum apicibus subacutis. *Tarsi* digito medio breviores, anticè squamis latis transversis muniti. *Digiti* longi, graciles, extimo quam intimo longiore basi coadunato, intimo basi vix coadunato; postico longo, ungue longo curvato armato.

Caulodromus Gracei. *Caul. rufescens, plumarum scapis strigâ rufo-albidâ notatis, pogoniis interioribus in dorso nuchâque nigris; tectricibus caudæ superioribus inferioribusque læte rufis, alis caudâque saturatè brunneis strigis duabus nigris alterâ à rictu alterâque (breviusculâ) à rostri basi ductis, guld pectore abdomineque medio rufescenti-albis rufo-brunneo variegatis.*

Rufous brown, streaked narrowly down the shaft of each feather with rufous white; the inner web of the feathers of the back of neck

and back black; the upper and under tail-coverts bright rufous; the wings and tail dark brown; two streaks of black, one from the gape and the other (rather short) from the base of the bill; the throat, breast and middle of the abdomen rufous white, varied with rufous brown.

Total length, 5 inches; bill, from gape, 1 inch; wing, 2 inches 2 lines; tarsi, 1 inch.

This proposed division differs from the typical form of *Certhia* by the length and form of the bill and the position and form of the nostrils, while the extreme shortness of the tail at once points out a great dissimilarity from those species that properly belong to the above-mentioned genus.

I have also before me another bird that appears to belong to the same subfamily, which I shall form into a distinct genus, under the name of

SALPORNIS.

Rostrum longum latum basi subdepressum, per totam longitudinem curvatum; lateribus à naribus fortiter compressis. *Gonys* elongatus, curvatus. *Nares* laterales, anticè in sulco lato brevi siti, aperturâ magnâ nudâ. *Alæ* longissimæ, usque ad caudæ apicem ferè attingentes, acutæ, remige primâ brevissimâ, secundâ ferè longitudinis tertiæ quartæque, quæ æquales et omnium longissimæ. *Cauda* breviuscula, quadrata, rectricum apicibus rotundatis. *Tarsi* medio digito breviores, squamis latis muniti. *Digiti* longi, fortes, intimo quam extimo breviore basi parùm coadunato, extimo longius coadunato; postico longo, forti, ungue curvato armato.

The type of this proposed genus is already described by Major Franklin in the Proceedings of the Society under the name of *Certhia spilonota* (Proc. 1831, p. 121).

The differences exhibited between this and the former genus are at once seen in the form of the wings, which are lengthened and pointed, and of the tail, which has the ends of the feathers slightly rounded. These characters are like those of *Tichodroma*, while the form of the bill and feet are similar to those of the genus proposed above.

The specimen of *Caulodromus* was kindly lent me by J. R. Grace, Esq., who procured it in Darjeeling: that of *Salpornis* was presented by B. H. Hodgson, Esq. to the British Museum, and forms part of a collection from Behar.

4. DRAFTS FOR AN ARRANGEMENT OF THE TROCHILIDÆ, WITH DESCRIPTIONS OF SOME NEW SPECIES. BY JOHN GOULD, F.R.S.

Genus PETASOPHORA, G. R. Gray (*Heliothryx*, Boie; *Ramphodon*, Less.; *Colibri*, Spix).

This is one of the best-defined groups of the family, and is distinguished by several peculiarities, the principal of which are the greatly developed ear-coverts and their blue colour, and the similarity in the colouring of the sexes, the females possessing all the brilliancy of

the males and only distinguishable from them by their smaller size and more delicate contour: the young too assume the plumage of the adult.

The oldest known species of this form constitutes the type; it is the

Sp. 1. Petasophora serrirostris.

Trochilus serrirostris, Vieill. Nouv. Dict. tom. vii. p. 359; Ency. Méth. part 2. p. 561; Ois. Dor. tom. iii. pl. 1. ined.

Ornismya petasophora, Less. Ois. Mon. pl. 1; Ib. Troc. pls. 12 & 59; Pr. Max. de Wied, sp. 10; Temm. Pl. Col. 203. fig. 3; Jard. Nat. Lib. vol. i. p. 120. pl. 13, male; vol. ii. p. 81. pl. 15, fem.

Petasophora serrirostris, G. R. Gray, List of Gen. of Birds, 2nd edit. p. 17.

Hab. Brazil.

Sp. 2. Petasophora cyanotus.

Trochilus cyanotus, Bourc. Rev. Zool. 1843, p. 1; Ann. de Lyons, tom. vi. p. 41, but not the *cyanotus* stated by Lesson to be synonymous with *Delphinæ*.

This species appears to be the representative in the Cordilleras of the *P. serrirostris* of the Brazils, from which it is at once distinguished by the blue colouring of the ear-coverts.

Hab. Bogota.

Sp. 3. Petasophora thalassina.

Trochilus thalassinus, Swains. Syn. Birds of Mexico, in Phil. Mag. June 1827, p. 441.

Differs from the other members of the genus by being of a smaller size and by the greater extent of the blue on the cheeks and ear-coverts; it has also a slight wash of blue on the chin and centre of the abdomen.

Hab. Mexico.

Sp. 4. Petasophora Anais.

Ornismya Anais, Less. Col. Supp. pl. 3; Less. Troc. pls. 55, 56, 57; Rev. Zool. 1838, p. 315, 1839, p. 19; Less. Velin, no. 11; Echo du Monde savante, 1843, no. 31. ined. pl. 11.

Much confusion evidently exists with respect to this species, M. Lesson having figured one bird and described another with the same appellation; under these circumstances it will be to the advantage of science to retain the specific term *Anais* for the bird best known to ornithologists by that designation, the species so common in all collections from Bogota, the *great Anais* of the French, and which is a very fine species, distinguished by the existence of a well-defined band of blue on the throat. The female is fully as bright as the male, but at least one-third smaller in size.

Hab. Venezuela and all the Cordilleras in the neighbourhood of Bogota.

Sp. 5. Petasophora iolota, sp. nov. *Pet. capite, et corpore superiore saturatè viridibus; mento, spatio suboculari, auribus, et medio abdomine intensè, metallicè, cyaneis; corpore inferiore nitense viridi; guld quasi tessellatd, quia mediæ plumæ quam pogoniæ extremæ obscurius nitent; tectricibus caudæ inferioribus pallidis ad margines pallidioribus.*

Head and all the upper surface deep green, in some specimens tinged with gold; primaries and secondaries brown, tinged with purple; chin, space beneath the eye, ear-coverts and the centre of the abdomen rich deep metallic blue; all the under surface rich deep glossy green, the throat presenting a tessellated appearance, occasioned by the reflection from the webs throwing a darker hue on the centre of each feather; under tail-coverts pale, with lighter margins; two centre tail-feathers golden green, the remainder steel or bluish shining green, crossed near the extremity by a broad band, which is dull black on the upper surface and shining steel-blue on the under; bill and feet black.

Total length, $5\frac{3}{4}$ inches; bill, $1\frac{3}{8}$; wing, $3\frac{3}{8}$; tail, $2\frac{1}{2}$.

The female is similar to the male in plumage, but smaller in size.

Nearly allied to the preceding, but larger and finer in every respect.

Hab. Bolivia.

Sp. 6. Petasophora coruscans.

Vide Proc. of Zool. Soc. Part 14. pp. 44 & 90.

Sp. 7. Petasophora Delphinæ.

O. Delphinæ, Less. Rev. Zool. 1839, p. 44; Echo du Monde savante, 1843, no. 31; Less. Ill. de Zool. tom. ii. 1832, pl. 64.

Sp. 8. Petasophora? Geoffroyi.

Trochilus Geoffroyi, Bourc. et Muls. Ann. de Lyons, tom. vi. p. 37.

It will probably be necessary at some future period to make this the type of a new genus.

The eight species enumerated above comprise every member of this beautiful genus with which I am acquainted; I possess, however, some immature specimens which may be referable to a ninth species, in which case it will prove to be most nearly allied to *P. serrirostris*. They differ from that bird in having the two outer tail-feathers rather largely tipped with white, the lower part of the abdomen greyish white, and in the ear-coverts being very diminutive. Although I have little doubt of their being distinct, I prefer seeing other specimens before characterizing them.

Genus Oreotrochilus, n. g.

Rostrum capite longius, subcylindricum, paulo incurvum. *Alæ* subgrandes valentes. *Cauda* magna, rotundata, rectricibus attenuatis, submucronatis, rigidis. *Pedes* fortes. *Digitus* et unguis postici digito et ungui mediis longitudine æquales. *Tarsi* plumis vestiti. *Gula* luminosa infra torquata.

Gen. Char.—Bill longer than the head, almost cylindrical, but slightly curved downwards; wings rather large and powerful; tail large and rounded, the feathers narrow, rather pointed and rigid; feet strong, the hind-toe and nail about equal in length to the middle toe and nail; tarsi clothed with feathers. Throat luminous, bounded below by a distinct collar.

I propose this term as a generic appellation for a section of the *Trochilidæ*, which has hitherto only been found immediately beneath the line of perpetual congelation, where they feed upon the insects which resort to the newly expanded flowers. The type is

Sp. 1. Oreotrochilus Estella.
Orthorhynchus Estella, D'Orb. Voy. Am. Birds, pl. 6. fig. 1; D'Orb. et La Fres. in Guerin's Mag. de Zool. 1838, p. 31.
O. Ceciliæ, Less. Rev. Zool. 1839, p. 43.

Sp. 2. Oreotrochilus leucopleurus, sp. nov. *Oreot. capite, corpore superiore, alisque, olivaceo-fuscis, griseo tinctis; tectricibus caudæ superioribus sordidè æneo-viridibus; rectricibus duabus intermediis viridibus, æneo splendentibus; rectricibus lateralibus sordidè albis, apicibus et marginibus exterioribus fuscis; guld luminosè viridi, fasciâ semilunari holosericâ atrâ infrà ornatâ; medio abdomine lateribusque nigris; mediis sed lateribus et pectore albis.*

Head, all the upper surface and wings greyish olive-brown, passing into dull coppery green on the upper tail-coverts; two centre tail-feathers green, with bronze reflections; lateral tail-feathers dull white, margined externally and tipped, dull brown gradually blending into the white; throat rich luminous grass-green, bounded below by a crescentic band of deep velvety black; breast and centre of the flanks pure white; the remainder of the flanks and centre of the abdomen bluish black; feet dark olive-brown; bill black.

Total length, $4\frac{3}{4}$ inches; bill, 1; wing, $3\frac{1}{4}$; tail, $2\frac{3}{8}$.

This species is nearly allied to the preceding, but differs from it in being somewhat smaller and in having the centre of the abdomen black instead of chestnut.

Hab. The Chilian Cordilleras.

Sp. 3. Oreotrochilus Chimborazo.
T. Chimborazo, Bourc. in Rev. Zool. Sept. 1846, p. 305.

Sp. 4. Oreotrochilus Adela.
Orthorhynchus Adela, D'Orb. Voy. Am. Birds, pl. 61. fig. 2; D'Orb. et La Fres. Mag. de Zool. 1839.

Sp. 5. Oreotrochilus melanogaster, sp. nov. *Oreot. omni corpore superiore olivaceo-fusco aureo nitente, tectricibus caudæ superioribus viridi lavatis; alis griseo-fuscis purpureo splendentibus; guld fulgente viridi, pectore et abdomine intensè cyaneo-atris.*

All the upper surface olive-brown, with a golden lustre, and washed with green on the upper tail-coverts; wings greyish brown,

with purple reflections; throat rich lustrous grass-green; breast and abdomen rich deep bluish black; flanks rusty brown; tail green, with bronze reflections; bill black; feet olive-black.

Total length, 5 inches; bill, 1; wing, $3\frac{1}{4}$; tail, $2\frac{1}{4}$.

Hab. unknown.

This fine species is in the collection of Mr. John Leadbeater, to whom I am indebted for the loan of it for the purpose of describing.

Mr. Gould then described a fourth new species of Humming Bird, belonging to the genus *Calothorax*, as

Trochilus (Calothorax) Calliope. *Cal. corpore superiore viridi; alis caudáque griseo-fuscis; gulæ plumis elongatis, attenuatis, coccineis, basibus albis in formá stellæ ordinatis; pectore, abdomine medio, tectricibusque caudæ inferioribus, albis; lateribus cervino-albis.*

Upper surface green; wings and tail greyish brown; feathers of the throat elongated, narrow, and of a rich pinky scarlet, with white bases arranged in a starred form; breast, centre of the abdomen and under tail-coverts white; flanks buffy white; bill and feet blackish brown.

Total length, $2\frac{1}{2}$ inches; bill, $\frac{5}{8}$; wing, $1\frac{1}{2}$; tail, 1.

This is a very diminutive species, much smaller than the *C. cyanopogon*, but of precisely the same form.

Hab. Mexico; precise locality unknown.

The Secretary, on the part of Dr. Falconer, exhibited the lower end of the left tibia of a gigantic fossil Struthious Bird from the Sewalik Hills. This interesting remain indicates a very close generic representation of the existing African *Struthio* in the extinct fauna of Asia. Although not altogether unexpected, this is a valuable addition to the facts previously demonstrated in relation to the genera *Camelopardalis*, *Camelus*, *Elephas*, and *Hippopotamus*.

The Secretary also announced to the Meeting that a living specimen of *Otocyon Lalandii*, a drawing of which was exhibited, had been recently presented to the Society by Captain Sir Edward Belcher, C.B., R.N.

March 9, 1847.

William Yarrell, Esq., Vice-President, in the Chair.

The following communications were read:—

1. Note on the Red Corpuscles of the Blood of the Meminna Deer (*Moschus Meminna*, Erxl.). By George Gulliver, F.R.S.

After I had made known the curious minuteness of the red corpuscles of the blood of that little ruminant the Napu Musk Deer (see Dublin Medical Press, Nov. 27, 1839, and Proceedings of the Zoological Society, No. CXV.), it was to be expected that these corpuscles would present the same character in the rest of the genus. Accordingly, I some time ago found this to be the case in the Stanley Musk Deer (see Proceedings of the Zoological Society, May 9, 1843, page 66); and it appears, from an examination which I have lately made of the blood-corpuscles of the Meminna Deer, that these are not distinguishable in size from those of the Napu Musk Deer.

The following measurements of the red corpuscles of the blood of the Meminna Deer exactly agree with the measurements of the corresponding corpuscles of the Napu Musk Deer. They are, as usual, given in vulgar fractions of an English inch:—

13400	Common sizes.
12000	
16000	Small size.
9600	Large size.
12325	Average of all the above sizes.

So minute are these corpuscles, that vast numbers of them measure no more over the flat surface of the disc than the edge or thickness of the red corpuscle of human blood, the average of which appears from my measurements to be $\frac{1}{12400}$th of an inch.

The size of the blood-corpuscles in the ruminants affords a good illustration of the law, which I have elsewhere deduced from very numerous measurements (see Appendix to the English edition of Gerber's Anatomy, p. 4; Proceedings of the Zoological Society, Oct. 14, 1845, p. 94, and March 24, 1846, p. 26; and the Notes xcviii and cxviii* to my edition of Hewson's works printed for the Sydenham Society), that in the smallest species of a natural order or family of mammals the blood-discs are much more minute than in the largest species of that family; while in the entire class of Birds, the law as to the size of the blood-corpuscles is the same as in a single order of mammals.

Therefore, when that eminent inquirer Hewson states that these corpuscles are not larger in the largest animals, citing in support of his argument the Ox and Mouse, it must be understood as applicable

only to mammals of different orders. Among the rodents which I have examined, the great species, as the Capybara and the Beaver, have much larger blood-corpuscles than the smallest species, as the Bank Vole and the Harvest Mouse.

2. Characters of Six new Genera of Bats not hitherto distinguished. By J. E. Gray, Esq., F.R.S. etc.

The first four genera belong to the tribe of *Phyllostomina*, or Nose-leafed Bats.

1. Mimon.

Ch. gen.—*Membrana interfemoralis* magna, truncata. *Alæ* latæ, margine anteriore lato, a summo talo extenso. *Pedes* elongati. *Crura* nuda. *Cauda* mediocris, inclusa; apice superiore, mediano. *Aures* laterales, magnæ. *Mentum* tuberculo parvo utrinque signatum; tuberculis striâ angustâ divisis. *Pollex* longus, attenuatus; articulis æqualibus. *Dentes* incisores $\frac{4}{2}$; duo medii superiores magni; inferiores parvi, stipati.

Ch. gen.—Interfemoral membrane large, truncated. Wings broad, with a broad front margin from the upper part of the ankle. Feet elongated. Legs bald. Tail moderate, enclosed; apex superior, medial. Ears lateral, large. Chin with a small tubercle on each side, separated by a narrow groove. Thumb long, slender; joints equal. Cutting teeth $\frac{4}{2}$; two middle upper large; lower small and crowded.

In the collection at the British Museum there are two species of this genus, viz. 1. *M. Bennettii* = *Phyllostoma Bennettii*, Gray, Mag. Zool. and Bot. vol. ii. p. 6; and 2. *M. megalotis* = *Phyllophora megalotis*, Gray, Ann. and Mag. N. H. 1842, p. 257; Voy. Sulphur, t. v. fig. 2.

2. Trachops.

Ch. gen.—*Membrana interfemoralis* magna, truncata. *Alæ* a summo talo extensæ. *Pedes* osse calcis elongato insignes. *Crura* nuda. *Cauda* mediocris, inclusa; apice superiore, mediano. *Aures* permagnæ, laterales. *Mentum* et *labia* verrucosa, stria lævis angusta in medio mento. *Dentes* incisores $\frac{4}{4}$; medii superiores magni, lati, incisi; inferiores irregulariter ordinati.

Ch. gen.—Interfemoral membrane large, truncated. Wings from the upper part of the ankles. Feet with the heel-bone elongate. Legs bald. Tail moderate, enclosed; apex superior, medial. Ears very large, lateral. Chin and lips covered with warts; chin with a narrow smooth groove in front. Cutting teeth $\frac{4}{4}$; middle upper large, broad, notched; lower in an irregular series.

Type, *T. fuliginosus*.

This species is characterized by its sooty-black colour. My son-in-law, Mr. J. P. G. Smith, collected it at Pernambuco, and sent two females to the Brit. Mus.

Vampyris cirrhosum, Spix, Vesp. Braz. t. xxvi. f. 3, evidently belongs to the same genus, if indeed it is distinct from the species above

noticed. He describes his specimen as chestnut. It is to be observed that his figure is only one-third of the natural size of the animal he described, although it is not noticed on the plate.

3. Ametrida.

Ch. gen.—*Membrana interfemoralis* sublata, truncata. *Alæ* a digitorum basi extensæ. *Crura* nuda. *Caput* rotundum, rostrum perbreve, depressum, latum; frons rotundata. *Mentum* triangulari tuberculorum mole scabrum. *Pollex* elongatus, articulo superiore longo, attenuato, inferiore brevi. *Dentes* incisores $\frac{4}{4}$; superiores medii, elongati, conici, acuti; inferiores laterales, parvi, incisi.

Ch. gen.—Interfemoral membrane rather broad, truncated. Wings from the base of the toes. Legs bald. Feet small. Tail none. Head round; muzzle very short, depressed, broad; forehead rounded. Ears moderate, lateral. Chin with a triangular group of tubercles in front. Thumb elongated, the upper joint long, slender; the lower short. Cutting teeth $\frac{4}{4}$; the upper middle elongated, conical, acute; lateral and lower small, notched.

A. centurio, Epauletted Ametrida.

Ch. sp.—Sooty-brown; forehead, chin, and a spot on each shoulder at the base of the wing white. Heel-bone one-third the length of the shin. Arm-bones 11 lines. Ears moderate, rounded at the end, rather arched out at the sides. Tragus moderate, denticulate at the tip and outer side. Nose-leaf ovate, lanceolate.

Hab. Brazils, Para. Collected by Mr. J. P. G. Smith.

4. Nicon.

Ch. gen.—*Membrana interfemoralis* distincta, brevis, angulariter insecata. *Alæ* ab summo talo tensæ. *Pedes* elongati, liberi. *Os calcis* brevis. *Cauda* perbrevis, inclusa, in mediâ membranâ interfemorali superior. *Mentum* striâ tuberculis parvis marginatâ insigne. *Pollex* elongatus; articulo superiore attenuato, inferiore incluso. *Dentes* incisores $\frac{4}{4}$; duo medii superiores largiores, truncati; inferiores seriatim fornicati.

Ch. gen.—Interfemoral membrane distinct, short, angularly cut out. Wings from the upper part of the ankle. Feet elongate, free. Heel-bone short. Tail very short, enclosed, superior in the middle of the interfemoral. Ears lateral. Chin with a groove in front, edged with small tubercles. Thumb elongate; upper joint thin, longest; lower enclosed. Cutting teeth $\frac{4}{4}$; two middle upper larger, truncate; lower in an arched continuous series.

N. caudifer, Leach's Nicon = *Glossophaga caudifer*, Geoff. Mem. Mus. iv. 418. t. 17 = *Monophyllus Leachii*, Gray, Zool. Sulph. 18.

Hab. Central America.

The two following belong to the tribe of Horse-shoe Bats, *Rhinolophina*:—

5. Aquias.

Ch. gen.—*Prosthema* permagnum, complicatum, parte posteriore lanceolatâ erectâ, tribus magnis cellis utrinque; processus centralis

compressus margine anteriore lato, expanso, foliaceo, lobato, medio basi convexo; ferrum equinum anterius magnum simplex expansum, centro inciso, setosum; labium inferius duabus verrucis triangularibus in medio notatum. *Mammæ* in pube distinctæ. *Alæ* a digitorum basi.

Nose-leaf very large, complicated; hinder part lanceolate, erect, with three large cells on each side in front; central process compressed, with an expanded broad foliaceous lobed front margin, and with a convexity in the front of its base edge, formed by a diverging ring on each side in front. The front horse-shoe large, simple, expanded, nicked in the centre, very hairy; lower lip with two triangular warts in the centre. Pubal teats distinct. Wings from the base of the toes.

This genus may be divided into two sections:—

1. The interfemoral acutely produced; tail as long as the shin and foot. *Rhinolophus luctus*, Temm.
2. Interfemoral truncate; tail as long as shin. *R. trifoliatus*, Temm.

We have a specimen in spirit in the Brit. Mus., which differs from Temminck's description of *Rh. luctus* in several particulars, but these differences may arise from his description having been taken from a dry specimen.

6. Rhinonicteris.

Ch. gen.—*Prosthema* breve, erectum, cellâ utrinque, et alterâ anteriore in medio basi; processus centralis compressus, anterius planus; ferrum equinum emarginatum, concavum; inter nares culmen fimbriatum. *Aures* magnæ. *Alæ* a talo. *Dentes* incisores $\frac{4}{4}$ incisi; superiores distincti; labium inferius triangulari tuberculorum mole scabrum.

Nose-leaf short, conical, erect, with a cell on each side and one in the centre of the front of its base; the central process compressed, flattened in front, and without any pit beneath; the horseshoe deeply nicked, concave, with a longitudinal anterior fringed ridge, ending in a pit behind, between the nostrils, and with a ridge over the nostrils on each side. Ears large, separate. Tragus none. Pubes ——. Wings from the ankle. Cutting teeth $\frac{4}{4}$, notched; upper distinct; lower lip with a triangular group of small warts in front.

Type, *Rh. aurantius* = *Rhinolophus aurantius*, Gray; Eyre's Central Australia, i. 406. t. 1. fig. 1.

Hab. Port Essington.

3. Drafts for an arrangement of the Trochilidæ or Humming-Birds. By J. Gould, Esq., F.R.S. (continued.)

Genus Eriopus.

Gen. char.—Bill straight, moderately long; tail slightly forked; tarsi thickly clothed with downy feathers, forming a thick ruff round the leg.

Sexes nearly alike in colour.

Type, *E. vestita*.

I beg to propose the above generic appellation for a section of this family, comprising those species distinguished by the extraordinary ruffs of downy feathers with which their tarsi are clothed, and by the sexes being nearly alike in the colour of their plumage. All the species known frequent the mountain districts of the Cordillerian Andes or the valleys immediately beneath them.

I possess five species of this form, and I have seen two others in the collection of Mr. Loddiges, which I believe to be equally typical.

Sp. 1. Eriopus vestitus.

Ornismya vestita, Gouy de Longuemare; Less. in Rev. Zool. 1838, p. 314; Boiss. Rev. Zool. 1839, p. 18, 1840, p. 8; Mag. de Zool. pl. ——?

T. uropygialis, Fras. Proc. of Zool. Soc. 1840, p. 15.

O. glomata, Less. Echo du monde savant, young?

Sp. 2. Eriopus cupreoventris.

Trochilus cupreoventris, Fras. in Proc. of Zool. Soc. 1840, p. 14.

Ornismya maniculata, Less. Echo du monde savant.

Ornismya vestita ♀, Gouy de Long. Rev. Zool. 1838, p. 314.

Ornismya glomata, Less. Echo du monde savant, young?

Sp. 3. Eriopus Aline.

Ornismya Aline, Bourc. Rev. Zool. 1842, p. 373; Ann. de Lyons, tom. v. 1842, p. 344. pl. xix.

Sp. 4. Eriopus mosquera.

T. mosquera, Bourc. et Delatt. Rev. Zool. 1846, p. 306.

Sp. 5. Eriopus Derbyi.

T. Derbyi, Bourc. et Delatt. Rev. Zool. 1846, p. 306.

This group forms part of M. Lesson's *Race Vestipedes,* the genera comprised in which have not as yet I believe been defined.

4. An account of Palolo, a Sea Worm eaten in the Navigator Islands. By the Rev. J. B. Stair, with a description by J. E. Gray, Esq., F.R.S. etc.

The Rev. J. B. Stair kindly presented numerous specimens of this Sea Worm to the British Museum, but unfortunately most of the specimens are broken into short pieces, and as yet I have not been able to discover any specimen with a head. It appears to be a new genus allied to *Arenicola,* which may be thus described:—

Palola, Gray.

Body cylindrical, separated into equal joints, each joint with a small tuft of three or four spicula on the middle of each side. Head ——? Last joint ending in a couple of tentacles. Eggs globular.

Palola viridis, n. s.

Green, with a row of round black spots down the middle of the dorsal? surface; one spot on the middle of each joint.

Hab. Navigator Islands.

I have found accompanying this worm a single specimen of a green *Nereis*, which differs from it in being paler green above and whitish beneath, shorter, more depressed, and furnished with white tentacles.

The following is the account which Mr. Stair kindly communicated to me with the specimen from Samoa:—

"*Palolo.*—Palolo is the native name for a species of Sea Worm which is found in some parts of Samoa (the Navigator Islands) in the South Pacific Ocean. They come regularly in the months of October and November, during portions of two days in each month, viz. the day before and the day on which the moon is in her last quarter.

"They appear in much greater numbers on the second than on the first day of their rising, and are only observed for two or three hours in the early part of each morning of their appearance. At the first dawn of day they may be felt by the hand swimming on the surface of the water; and as the day advances their numbers increase, so that by the time the sun has risen, thousands may be observed in a very small space, sporting merrily during their short visit to the surface of the ocean. On the second day they appear at the same time and in a similar manner, but in such countless myriads that the surface of the ocean is covered with them for a considerable extent. On each day, after sporting for an hour or two, they disappear until the next season, and not one is ever observed during the intervening time. Sometimes, when plentiful at one island in one month, scarcely any are observed the next; but they always appear with great regularity at the times mentioned, and these are the only times at which they are observed throughout the whole year. They are found only in certain parts of the islands, generally near the openings of the reefs on portions of the coast on which much fresh water is found, but this is not always the case.

"In size they may be compared to a very fine straw, and are of various colours and lengths, green, brown, white and speckled, and in appearance and mode of swimming resemble very small snakes.

"They are exceedingly brittle, and if broken into many pieces, each piece swims off as though it were an entire worm. No particular direction appeared to be taken by them in swimming. I observed carefully to see whether they came from seaward or rose from the reef, and feel assured they come from the latter place.

"The natives are exceedingly fond of them, and calculate with great exactness the time of their appearance, which is looked forward to with great interest. The worms are caught in small baskets, beautifully made, and when taken on shore are tied up in leaves in small bundles, and baked. Great quantities are eaten undressed, but either dressed or undressed are esteemed a great delicacy. Such is the desire to eat Palolo by all classes, that immediately the fishing parties reach the shore, messengers are despatched in all directions with large quantities to parts of the island on which none appear.

"JOHN B. STAIR."

5. Notes on certain Molluscous Animals. By Arthur Adams, Esq., R.N., Assistant Surgeon to H.M.S. Samarang.

The following notices refer to the animals that construct the shells of *Pyrula, Calpurnus, Radius, Terebellum, Rostellaria, Eulima, Stilifer* and some others, which I believe have not before been described, though the shells have long been known. The drawings were made from the living mollusks on the spot.

The genus *Bullina* of Risso or *Cylindrella* of Swainson has an external subcylindrical shell covered with a thin reddish-brown epidermis. The mantle is enclosed; the foot elongate, linear, truncated, and with three conical tubercles behind. The cephalic disc is subtrigonal, broad, rounded in front, and produced behind on each side into a flat tapering process, with the eyes on the outer side of its base. They crawl very slowly, moving by an almost imperceptible series of undulations of the foot. Dredged in fifteen fathoms, between Borneo and Billiton. Mr. Gray informs me that M. Lovèn has recently described the animal of a northern species of this genus under the generic name of *Cylichna*.

The animal of *Akera*, Müller, *Vitrella* of Swainson, or the *Bulla resiliens*, is pale brown, with the foot very much expanded, narrower and rounded in front, broad and truncated behind, and with the sides sometimes bent up. The head-disc is elongated, rather broader, and slightly notched in front, but narrower and linear behind. Eyes none. The shell is perfectly external, and there is a fimbriated edge projecting through the slit in the spire. From Unsang, Borneo.

This animal agrees with Lovèn's description of the northern species. Müller figures the animal of *Akera bullata*, a northern species of this genus, in the 'Zoologia Danica'; and M. Lovèn in his recent work has observed, that Muller's species emits through the slit in the back of the whorls a series of elongated slender beards, which are appended to the mantle's edge.

The mollusk that constructs the shell of *Bulla smaragdina* would appear to form the type of a new genus. The shell is naked above. The foot moderate, rounded before and behind; the side-edges reflexed and covering the sides of the shell. The head-disc is five-sided, rather broader on each side in front, flattish above with two small tubercles in front of the central eyes, and narrower and nicked behind. It is amphibious, though entirely marine, crawling slowly on rocks immediately above the ripple of the sea. The eyes are black and sessile; the tentacula short and anterior to the eyes. The animal is dark olive-green, with the margin of the foot and mantle of a light colour, and mottled and speckled. Cagiani Islands and Disaster Island near Japan.

In *Calpurnus* of De Montfort the mantle adheres to the sides, but does not cover the shell. It is dead-white and covered with round black spots. The foot is large, thin, flat, expanded, and marked like the mantle. The tentacula are tapering with a broad black band near their extremities. The eyes are large and black, and are placed

at the outer base of the tentacles. The longest slope and narrowest end is the forepart of the shell.

Taken alive at the southern extremity of Mindoro, not far from Ylin: in shallow water and on a sandy bottom.

In *Radius* or *Ovulum Volva* the mantle is covered with nipple-shaped tubercles, the nipples and areolæ of which are dark-coloured. The tubercles extend to the extremities of the beaks of the shell. The foot is moderate and folded longitudinally. The tentacles are elongate and subulate. Dredged in five fathoms from a rocky coral bottom on the shores of Basilan.

The *Radius* is slow and languid in its movements, sliding along deliberately, and not more sensible to alarm than *Cypræa* or *Calpurnus*.

In the genus *Pyrula*, Lamk. (*Ficula* of Swainson), the siphon is elongate, subcylindrical, and produced in front. The head slender; the tentacles subulate, on the side of the extremity of the head, and separate from one another at their bases. Eyes sessile on the outer side of the base of the tentacles. The mantle is produced on each side into a rounded lobe equally reflexed on each side of the shell. The foot is very large and expanded; rounded in front, and rather produced on each side of the anterior margin, and expanded and broad with a small central point behind. There is no operculum. The head is marbled with light violet and the tentacles white. Six white opake spots are arranged round the upper surface of the edge of the foot. There is another very beautiful species of *Ficula* with a pink mantle, mottled with white and deeper pink, the under surface of the foot dark chocolate-colour with sparse yellow spots. The first-mentioned species is from the west coast of Borneo, from seventeen fathoms, muddy bottom, and the latter from thirty-five fathoms in the sea of Mindoro.

Mr. Gray has observed that Lamarck established his genus *Pyrula* on this species, *Bulla ficus*, Linn., therefore the generic name should be retained for this form of animals, which he regards as an intermediate link between *Muricidæ* and *Cypræidæ*.

The animals of *Ancillaria* crawl with a sliding motion and with considerable celerity. The specimens we found on the east coast of Africa were of a dirty white colour with dull brown blotches. When alarmed, the entire animal is retracted within the shell.

The genus *Marginella* has an elongated slender tapering siphon, with the tentacles also elongate and slender, bearing the eyes at their outer side just above the base. The foot is large, broad, truncated in front, rather acute behind, and extends beyond the shell on all sides. The mantle is thickened, and reflexed partly over the entire circumference of the shell. The animal, when roughly handled, retracted itself entirely into the shell. Dredged up in three fathoms water, sandy bottom, not far from Anger in Java.

A second species from the east coast of Africa is similar to the former, but the foot is rather more expanded and more rounded behind. The left side of the mantle is rather more produced over the

back of the shell than the right. The end of the tentacula and siphon in this species is yellow and the basal part streaked with carmine. The foot and mantle are semi-transparent flesh-colour, streaked with deep carmine.

These *Marginellæ* are quicker and more lively in their movements than *Cypræa*, crawling pretty briskly and moving their tentacles in various directions.

The head of *Eulima* is small; the tentacles are subulate, close together at the base, rather thicker at that part, and slender beyond. The eyes are placed on the back of the head behind the base of the tentacles. The foot is rather expanded, rounded and somewhat produced on each side in front, and rounded in behind. Operculum ovate, subspiral. The animal is entirely opake pearly white. The eyes black and generally concealed under the front of the shell. Tentacles yellow at the tip, orange in the middle, and white at the base.

Mr. Gray states that he places this genus with the family *Pyramidellidæ* in his arrangement, and it chiefly differs from *Pyramidella* in having no plaits on the pillar-lip. It is a slow and excessively timid animal. From eight fathoms water; Philippines.

The tentacula of the more elongated species of *Melania* are subulate, close together at the base, with the eyes on short peduncles on the outer side of the base. The trunk is oblong, expanded and annulated, with a central cylindrical groove. The foot is expanded, rather produced and acute behind, with the operculum on the front of the upper surface. Operculum orbicular and many-whorled. They are generally found partially buried in the ooze formed by decayed vegetable matter where weeds abound, and where the water is verging towards stagnation.

The animal of *Turritella* is rather small for the size of the aperture of the shell; the head is small and oblong; the tentacula short and subulate, with the eyes on the middle of their outer side. The foot is moderate and slightly notched in front. Operculum orbicular, horny, many-whorled, with an epidermic fimbriated margin.

This mollusk is very shy and sensitive, retiring quickly within its shell on the slightest alarm. It is slow-moving and inactive.

The tentacula of *Pleurotoma* are subulate and close together at the base, and the eyes are near the outer side of the tip, which latter tapers off beyond them. They generally inhabit pretty deep water and crawl tolerably fast.

Fusus, Lam., has an elongated subcylindrical siphon, with subulate tentacles close together at the base, and becoming more slender beyond the eyes. Eyes placed rather above the middle of the outer side. Foot moderate. Operculum annular, oblong.

The *Cerithium truncatum* has a broad suborbicular and expanded foot, and an elongated subcylindrical annulated trunk. The tentacula are short with the eyes at the tip. It is found generally in brackish water in mangrove swamps and the mouths of rivers. Sometimes they crawl on the stones and leaves in the neighbourhood, and sometimes they are found suspended by glutinous threads to boughs

and the roots of the mangroves. Mr. Gray (vide Proc. Z. S. 1833, p. 112) states he has found the *Rissoa* similarly suspended. From the swamps of Singapore and banks of rivers in Borneo.

The animals of *Quoyia* are amphibious like *Conovuli*, being found in the shallow water at the roots of the mangroves or adhering to stones not far inland, but exposed to the sun. They are fond of those little bays where the water is shallow and the ripple gentle.

In *Phorus* the separation from the foot is by a large space produced into a subcylindrical annulated trunk. The tentacles are tapering and elongate, with the eyes sessile on the outside of their base. The foot is small and divided into two parts, the front rather expanded, the hind part small and tapering, carrying a large operculum. Operculum ovate, subannular? Penis elongate fusiform from the right side, rather below the base of the tentacula. These animals are small for the size of the mouth of the shell, and have much the general appearance of the animal of *Strombus*, like which they appear to walk, but their eyes are sessile. In colour they are dull opake white, the proboscis pinkish and the eyes black. They crawl like a tortoise by lifting and throwing forward the shell with the tentacles stretched out, the proboscis bent down and the operculum trailing behind. They are numerous in the Javan and China seas, preferring deep water, and a bottom composed of detritus of dead shells and sand mixed with mud.

This genus has been generally placed with the *Trochi*, and some have proposed to remove it to near *Calyptræa*; but Mr. Gray, in his systematic arrangement of the genera of mollusca published in the Synopsis to the British Museum (1840), p. 119, formed for this genus a peculiar family under the name of *Phoridæ*, having observed that the animal, though a *Phytophagous* mollusk, had the annular operculum of the *zoophagous* division.

The animal of *Terebellum* has an annulated elongate proboscis with a central groove. The eyes are on the end of long cylindrical peduncles, one placed on each side of the base of the trunk and unequal in length and origin. The body is thick and short; the foot ovate, broad, rounded in front and tapering behind. Operculum triangular, small, and serrated on the outer side with a great part free. This genus is on the confines of the family of *Strombidæ*, where Mr. Gray first proposed to place it (see Synopsis, British Museum, 1841, p. 84, and 1842, pp. 52 and 89), for it agrees with the animal of that group in having the eyes placed at the ends of elongated peduncles, and in having the operculum triangular and serrated on the outer edge; but it differs from them in having no tentacula arising from the upper part of the peduncle beneath the eyes, and in having a thicker body and a broader and flatter foot.

One specimen, from which I made a sketch, was taken in the Javan sea, the other is from the Caramata Passage.

The animal is exceedingly shy and timid, retracting its body into the shell on the slightest alarm. It will remain stationary for a long time, moving its tentacula about cautiously in every direction, when suddenly it will roll over its shell and continue again perfectly quiet.

With regard to *Rostellaria rectirostris*, or more properly *rectirostrata*, I have a few words to say before I conclude this somewhat desultory communication.

The animal of this genus is exactly like that of *Strombus*. The body is subcylindrical, marbled with rich brown on the outer side, and white on the inner and front side. The trunk is subcylindrical, and annulated with a central broad line of deep bronze-black. The margins yellow with a narrow vermilion line externally. The eyes are on long cylindrical peduncles, of a deep blue with a black pupil. The tentacula are subulate, elongate, arising from the peduncle rather below the eye. The foot is narrow, rather dilated in front and small behind. The operculum is ovate, triangular, annular, semi-transparent and horny. Living in black muddy sand in thirty-one and a half fathoms water. The specimen I figured was dredged on the coast of Borneo.

Rostellaria has all the habits of the *Strombidæ*, progressing by means of its powerful and elastic foot, which it places under the shell in a bent position, when suddenly by a muscular effort it straightens that organ and rolls and leaps over and over. It is however far more timid and suspicious than *Strombus*, which has a bold disposition.

The animal of the genus *Stilifer*, which I found living on the body of a starfish (*Asterias*) on the coast of Borneo, had two elongate subulate tentacles, with the eyes sessile near the outer side of their base, and a small rounded head. The mantle is entirely enclosed and covered by the thin shell, and the foot is narrow, slender, very much produced beyond the head in front and scarcely extended at all behind.

The animal of this genus was described and figured in Mr. Sowerby's 'Genera of Shells' from a specimen in spirits brought home by Mr. Cuming, where the fleshy part enveloping the shell in its contracted state was considered as the mantle.

Mr. Gray, in the Synopsis before referred to (ed. 1842, p. 60), from the examination of these figures, placed the genus in the family of *Naticidæ*, and observes that "what has been called the enlarged mantle appears like the foot;" and the above description of the animal shows the accuracy of Mr. Gray's conclusion, both as to the proper nature of the fleshy part and the position of the genus in the system.

In the shallow pools left by the receding tide on the shore of Koo-Kian-San, one of the Maiacoshima group of islands, I discovered a large species of *Doridídæ*, which appears to be the type of a new genus, differing from all the other genera of the family in having the vent, and the gills which are extruded from it, situated beneath the edge of the mantle, which latter is extended beyond the circumference of the foot, while in all the other genera, as far as I am aware of, the vent and gills are situated on the mantle itself. This genus may be called HYPOBRANCHIÆA*.

* ὑπο (*sub*), βραγχιεια (*branchiis prædita*). The specific name might be "depressa," from its flattened appearance.

Ch. gen.—Brachiis ano circumdatis, sub posteriore pallii margine positis. Pallio lato, ultra pedem extenso; duobus tentaculis claviformibus; corpore depresso.

The animal (*Hypobranchiæa fusca*) was of a sandy colour, the central disc deeper, with oblong blotches of a dark brown colour. In length about six inches, and in breadth two and a half. The under surface was light chocolate-colour, and the tentacula reddish brown. It crawled upon its flattened ventral disc in a slow and languid manner, and when detached and thrown into deeper water floated some time by undulating the free thin edges of the mantle, and gradually sunk to the bottom.

6. Descriptions of new Species of Shells collected in the Eastern Archipelago by Capt. Sir Edward Belcher and Mr. Adams during the Voyage of H.M.S. Samarang. By Lovell Reeve, F.L.S.

Chiton Coreanicus. *Chit. testâ ovatâ, elevatiusculâ, valvis terminalibus cæterarum areisque lateralibus radiatim sulcatis, interstitiis convexis peculiariter granatis, granis prominentibus, rotundatis, solitariis, valvâ terminali posticâ umbonatâ, extremitate radiatâ parvâ, brevi; areis centralibus longitudinaliter tenuissimè granato-liratis, lirarum interstitiis excavatis; areis lateralibus nigricante-viridibus, granis lutescentibus, areis centralibus lutescentibus nigro variè maculatis et variegatis; ligamento tenuiter granoso-coriaceo, nigricante-viridi et virescente concinnè tessellato.*

Long. $1\frac{5}{8}$ poll.; lat. 1 poll.

Hab. Korean Archipelago, under stones.

The sculpture of this species is not much unlike that of the *C. luridus*; still it is distinct, and accompanied with a very characteristic style of painting. The central areas of the shell are of a yellowish ground, blotched and variegated with black. The terminal and lateral areas are very dark green, with the prominent granules conspicuously tinged here and there with yellow. In addition to these peculiarities, the ligament is strikingly tessellated with dark and pale sea-green.

Chiton fuliginatus. *Chit. testâ oblongâ, valdè elevatâ, valvis terminalibus cæterarum areisque lateralibus subirregulariter concentricè striatis, prope marginem incisis, areis centralibus lævibus, sub lente minutissimè reticulatis; sordidè albâ, nigro plus minusve sparsim fuliginatâ; ligamento corneo, angusto, fusco.*

Long. $\frac{5}{8}$ poll.; lat. $\frac{5}{16}$ poll.

Hab. Korean Archipelago.

The terminal and lateral areas, the latter of which are so slightly raised as to be nearly on a plane with the rest of the shell, are striated concentrically, the striæ next the margin being somewhat deeply engraved. Of numerous specimens collected at the above-mentioned islands, all are of an uniform dull white, more or less sparingly besooted with black.

Chiton acutirostratus. *Chit. testâ elongatâ, medio elevatâ, lateraliter subcompressâ, valvis summitate obtuso-carinatis, lævibus, utrinque creberrimè planigranatis, umbonibus productis, acutè rostratis, valvarum areis lateralibus parvis, subindistinctis, concavis; albidâ, summitate nigro hic illic inquinatâ; ligamento corneo, spicularum cristâ parvâ ad latus utriusque valvæ munito.*

Long. $1\frac{1}{8}$ poll.; lat. $\frac{1}{2}$ poll.

Hab. Cape Rivers.

An elongated species, of somewhat angularly compressed growth, remarkably distinguished by the sharply beaked structure of the umbones; the flatly-grained sculpture of the valves approaches that of *C. hirudiniformis*, to which it offers a singular contrast of colour.

Chiton petasus. *Chit. testâ parvâ, subabbreviato-ovatâ, valvis medio areâ trigonâ subrostratâ politâ, utrinque rugoso-granatis; vividè coccineâ; ligamento latissimo, præcipuè anticè, quoque vividè coccineo, setis pilisve brevibus hic illic obsito.*

Long. 1 poll.; lat. $\frac{3}{4}$ poll.

Hab. Cape Rivers.

A beautiful little bright scarlet shell enframed within a broad swollen ligament of the same very striking colour; in the form of the ligament it is the nearest approach I have seen to that remarkable species the *C. Blainvillii.*

Chiton formosus. *Chit. testâ oblongâ, subangustâ, valvis undique subtilissimè longitudinaliter striatis; vividè coccineâ; ligamento corneo, spiculis vitreis nitidè albis densè obsito, spicularum cristâ densâ erectâ ad latus utriusque valvæ.*

Long. $\frac{1}{2}$ poll.; lat. $\frac{3}{16}$ poll.

Hab. Cape Rivers.

A most exquisite little species of a bright scarlet colour, surrounded with dense tufts of white shining glassy spiculæ. Of this and the two preceding species only a single specimen of each was obtained.

Cardium Bechei. *Card. testâ subcordato-ovatâ, medio et anticè lævigatâ, striis minutis superficiariis radiantibus et concentricis sub lente decussatâ, epidermide tenui corneâ nitente in funiculis fibrisve concentricis creberrimè dispositâ; areâ posticâ, epidermide nullâ, radiatim costatâ, costis tenuibus, confertis, quinque et viginti ad triginta, spinis brevibus compressis densissimè seriatim ornatis; undique pulcherrimè roseâ, intus albâ.*

Alt. 2 poll.; lat. $1\frac{7}{8}$ poll.

Hab. Sooloo Seas and Korean Archipelago.

I have much pleasure in dedicating this species, at the desire of Capt. Sir Edward Belcher, to Sir Henry De la Beche, Director of the Ordnance Survey and President of the Geological Society. It forms a most interesting addition to the genus *Cardium*, and is without exception the most striking and distinct from any hitherto known that can well be imagined. In colour it is of a pure rose tint, with the following singular contrast of character. The middle and anterior portion of the shell is smooth, presenting a peculiar soft velvety

appearance, the effect of its being minutely decussated with concentric and radiating striæ, and covered with an exquisite thin shining horny epidermis, disposed in fine concentric cords, abruptly terminating at the posterior area. The posterior portion, accordingly destitute of epidermis, is very thickly rayed with ribs of short compressed spines, as if the delicately clad surface of the shell had been thus far ploughed up, as it were, into furrows.

Only two odd valves of this pre-eminently beautiful shell were obtained, and, singularly, in localities very remote from each other; one was dredged at the depth of forty fathoms in the Sooloo Seas, between the islands of Borneo and Mindanao; the other in the Yellow Sea, thirty degrees north, at one of the islands of the Korean Archipelago.

March 23, 1847.

William Yarrell, Esq., Vice-President, in the Chair.

The following communications were read:—

1. Note on the Breeding of the Otter in confinement in the Zoological Gardens, Regent's Park, in 1846. By James Hunt, Head Keeper.

The female Otter was presented to the Society by Lady Rolle on the 4th of February 1840, being apparently at that time about three months old. She remained without a male till the 11th of March 1846, when a large male was presented to the Society by the Rev. P. M. Brunwin, of Braintree, Essex, in whose possession it had been for some months, and had been kept in a cellar. His weight when first taken was 21 lbs., but he was not above half that weight when he arrived at the Gardens, having wasted much in confinement and become very weak in the loins, from which he soon recovered after his arrival. About a month after his arrival there was a continual chattering between him and the female during the night, which lasted for four or five nights; but they did not appear to be quarrelling. Nothing further was observed in their manners or in the appearance of the female to make me think she was with young, until the morning of the 13th of August, when the keeper that has the charge of them went to give them a fresh bed, which he does once a week; while in the act of pulling out the old bed he observed two young ones, apparently five or six days old, and about the size of a full-grown rat: he immediately put back the bed, with the young on it, and left them. On the 21st the mother removed them to the second sleeping-den, at the other end of their enclosure, and several times after she was observed to remove them from one end of the house to the other, by pushing them before her on a little straw; her object in removing them appeared to be to let them have a dry bed: on the 9th of September they were first seen out of the house; they did not go into the water, but crawled about, and appeared very feeble.

On the 26th of September they were first seen to eat fish, and follow the mother into the water: they did not dive into the water like the mother, but went into it like a dog, with their head above water; and it was not until the middle of October that they were observed to plunge into the water like the old ones. On the 22nd of December the water was let out of the pond for the purpose of cleaning it, which is done once a week: the animals were shut up in their sleeping-den, but they let themselves out when the pond was but half-full of water, and the young ones got into it and were not able to get out without assistance; after they had been in the water

some minutes the mother appeared very anxious to get them out, and made several attempts to reach them from the side of the pond where she was standing; but this she was not able to do, as they were not within her reach. After making several attempts in this manner without success, she plunged into the water to them, and began to play with one of them for a short time, and put her head close to its ears, as if she was making it understand what she meant; the next moment she made a spring out of the pond, with the young one holding on by the fur at the root of the tail with its teeth; having safely landed it, she got the other out in the same manner: this she did several times during a quarter of an hour, as the young ones kept going into the water as fast as she got them out. Sometimes the young held on by the fur at her sides, at others by that at the tail. As soon as there was sufficient water for her to reach them from the side of the pond, she took hold of them by the ears with her mouth and drew them out of the pond, and led them round the pond close to the fence, and kept chattering to them, as if she was telling them not to go into the pond again.

2. Notes in addition to former (Zool. Proc. 1843, p. 108, and 1846, p. 9) Papers on South American Ornithology. By T. Bridges, Esq., Corr. Memb.

The beautiful species of *Eudromia* mentioned in my letter to Mr. Waterhouse (Proc. for 1846, p. 9) proved to be the bird characterized by Mr. Vigors under the name of *Tinamotis Pentlandii* (Proc. 1836, p. 79). On September 15, 1845, I found three couple in the pass of Tapaquilcha, between the town of Calama and the city of Potosi: they were close to the snow, at an altitude of about 14,000 feet, with the *Pepoazæ*, skulking among the isolated stones which not unfrequently occur in grassy places in the valleys of the main chain of the Andes. When they rise they utter a shrill and loud whistle, and fly a mile perhaps, getting up rapidly and shooting off in a horizontal direction.

About twenty miles further on the road I stopped at a post-house, and there the natives brought a fresh-laid egg, which they said was the egg of this species. There could be no doubt about it, as I was engaged at the time in skinning one of the three specimens we had obtained. It was light green, larger than a lapwing's, and very obtuse at each end. It had none of that polished texture which is so characteristic in the Tinamous. I regret that it was accidentally broken.

Although I sought for this bird in many similar situations throughout Bolivia, I never again succeeded in finding it.

Tinamotis elegans; *Eudromia elegans*, D'Orb. & Geoff. Mag. de Zool. 1832, t. 1.

I met with this species on the eastern side of the Andes—I believe it never occurs on the Chilian side—in the vicinity of the city of Mendoza, in the Argentine Republic. It has an immense range over the grassy plains at the base of the Andes which run southward

to Patagonia. I believe it generally is found in pairs; at least the only two I ever saw alive were together. My men informed me that it is abundant on the Pampas, near the forts of San Raphael and San Carlos, between 33° and 34° south lat.* The young bird presents no difference in plumage from the adults, having even the crest well-developed: it seems therefore to form an exception to the generally received rule, that where the parent birds have the same plumage the young is different from either.

The Indians have a singular method of taking this bird. Having attached a noose to the end of a cane four or five yards long, they walk round and round in gradually contracting circles, until they are near enough to slip the noose over its head, and then, with a sudden jerk, they strangle it.

Attagis Gayii, Geoff. et Lesson, Cent. Zool. t. 47.

I believe the Chilian and Bolivian species are identical. I found the bird on the same day as *Tinamotis Pentlandii*, inhabiting the margins of frozen brooks near the post-house of Tapaquilcha. The Indians there know it as the Puco-puco, from its call-note. Like *Thinocorus D'Orbignianus*, these birds evince great attachment to each other, and call immediately if separated. At that season they were in pairs and breeding, but I did not obtain the egg.

Diglossa carbonaria, D'Orb. & De Lafres.
Diglossa sittoides, D'Orb. et De Lafr.

Birds of this genus are found in the temperate region, where the thickets commence, at an altitude of from 8000 to 10,000 feet. I found these species among bushes of *Salvia* and *Eupatorium*, on the slopes which fall into the valley of Cochabamba, and most abundantly at a place called Ticquepaya. They have precisely the habits of flycatchers. *D. carbonaria* I have watched often, sitting motionless on the highest twig of a bush until he discovered a passing insect, on which he descended, and then returned to his post. I may mention that the vicinity of Cochabamba was the only district in which these two species occurred to me.

Diglossa mystacalis, De Lafr.; *Diglossa mystacea*, G. R. Gray in Gen. of Birds, pl. 42.

Lives entirely in the thickets, hopping from bough to bough, as if in pursuit of insects. I have often seen this species insert its bill into a scarlet and purple flower allied to the *Arbutus*, but whether for the purpose of capturing insects or of extracting honey I was not able to ascertain. Its habitat is the Yungas of La Paz.

I believe that the specimen described by M. le Baron De Lafresnaye was from my collection.

Colaptes rupicola, D'Orb., is a Bolivian species, entirely terrestrial. I found it on the elevated table-land called the Punas, which form the departments of Potosi, Chuquisaca, Cochabamba, La Paz, and

* The specimens now in the British Museum were obtained from this locality, as well as those of *Rhea Darwinii*.

Oruro. They are occasionally intersected by valleys and isolated mountains, but the unbroken plains are sometimes several leagues in extent. You find *C. rupicola* at an altitude of 12,000 to 14,000 feet, and generally in the grass, where it feeds. On being disturbed it takes an undulating flight towards some rock, on which it settles, for this country is entirely destitute of trees. It most frequently occurs in little companies of five or six.

Another species of *Colaptes*, which frequents the warm plains of Moxas, near the town of Trinidad, not unfrequently resorts to the trees which there grow in forest patches, and in this particular it resembles *C. chilensis*.

The genus *Dendrocolaptes*, as far as I have had opportunities of observing their habits, exactly resemble the woodpeckers, ascending the trees and searching the bark in a similar manner, and even supporting themselves by the tail. In the plains between the Indian town of Loretto and Trinidad, about long. 62°, I found a beautiful instance of the modification of form to a particular end, in the apparently singular species

D. procurvus, D'Orb. & De Lafr.

As far as my experience goes, it only occurs in the open palm-groves which crown the undulating elevations which here and there rise up above the ordinary level of this district. In them I found a palm called Mutacu, with foliage like the date-palm. The short peduncles of the fallen leaves afford shelter to numerous coleoptera, and they grow from the trunk in a curve exactly similar to that which characterizes the bill of this species, so that as he runs up the trunk he is able to search all these lurking-places to the very bottom, although their form renders them impregnable to every other assailant.

In the dense forests, where this particular palm is never to be found, I observed an abundance of the other species, but *D. procurvus* not once.

3. Drafts for a new arrangement of the Trochilidæ. By John Gould, F.R.S. (continued—see ante, pp. 7, 16.)

The *Ornism. Sappho* of Lesson, and a nearly-allied species which I shall describe in the present paper, appear to differ in so many characters from all the genera of this family hitherto instituted, that I propose to place them in a distinct genus or subgenus, under the name of Cometes, with the following characters:—

Cometes, nov. gen.

Char. gen.—*Rostrum* capite longius, cylindraceum, decurvatum. *Cauda* valdè furcata, plumis latis, truncatis. *Tarsi* nudi. *Pedes* moderati. *Digitus* et *unguis* postici digito et ungue mediis breviores.

Gen. char.—Bill longer than the head, cylindrical, and curving downwards; tail much-forked, feathers broad and truncate; tarsi bare; feet moderately large; hind-toe and claw shorter than the middle toe and claw.

1. Cometes Sappho. *Ornism. Sappho,* Less., Ois. Mouch. t. 27, 28.

2. Cometes Phaon, sp. nov. *Com.* (Mas) *capite, collo, alarum tectricibus, et corpore inferiore, brunni-viridibus; dorso, caudæ tectricibus, cauddque, intensè fulgente coccineis; rectricibus ad basin nigro-fuscis, ad apicem holosericis atris; alis fuscis purpurascentibus; guld luminosè metallicè viridi.*

Male.—Head, neck, wing-coverts and under surface brownish green; back, upper tail-coverts and tail rich deep lustrous crimson; bases of the tail-feathers blackish brown; the tips deep velvety black; wings purplish brown; throat rich lustrous metallic green.

Female.—Tail of the same crimson colour as that of the male; she also possesses the lengthened and curved bill.

Total length, 7 inches; bill, $1\frac{1}{8}$; wing, $2\frac{3}{4}$; tail, 4.

This fine species is a native of Peru, and differs from the *Sappho*, which inhabits Bolivia, in having the tail rich crimson instead of flame-colour, and in having a much longer and more curved bill. The two specimens exhibited, which are male and female, have been kindly lent me, for the purpose of describing, by the Earl of Derby.

4. On eight new species of Australian Birds; and on Anthus minimus, Vig. and Horsf., as the type of a new genus Chthonicola, Gould. By John Gould, F.R.S.

Artamus albiventris. *Art. loris, spatio infra oculum, et mento, atris; capite, collo, et dorso superiore, fusco-griseis; pectore et abdomine pallidè griseis, colore griseo in tectricibus caudæ inferioribus albo mergente; tectricibus caudæ superioribus, cauddque, nigris; tertiâ parte apicali rectricum omnium, intermediis duabus exceptis, albâ.*

Lores, space beneath the eye and the chin deep black; head, neck and upper part of the back brownish grey; lower part of the back and the wings dark grey, becoming gradually deeper towards the tips of the feathers; primaries and secondaries narrowly edged with white at the tip; under surface of the wing white; ear-coverts, chest, and abdomen pale grey, passing into white on the under tail-coverts; upper tail-coverts and tail black; the apical third of all but the two middle feathers white; irides dark brown; bill yellowish horn-colour, becoming black at the tip; feet blackish brown.

Total length, 7 inches; bill, $\frac{7}{8}$; wing, $4\frac{7}{8}$; tail, $2\frac{3}{4}$; tarsi, $\frac{3}{4}$.

Hab. Darling Downs, New South Wales, &c.

Remark.—This species differs from the *A. cinereus,* to which it is most nearly allied, in the white colouring of the abdomen and under tail-coverts. Two specimens have come under my notice, both of which were killed by Mr. Gilbert, one on the Darling Downs, in New South Wales, and the other at Peak-range Camp, one of the stations so named by Dr. Leichardt during his expedition from Moreton Bay to Port Essington.

Acanthiza apicalis. *Acan. plumis in fronte cervinis, fusco mar-*

ginatis; caudâ latâ fasciâ fusco-nigrâ prope apicem transversim ornatâ, apice ipso albo; tectricibus caudæ superioribus rufo tinctis.

Feathers of the forehead deep buff, edged with dark brown; all the upper surface, wings and tail light olive-brown; tail crossed near the extremity with a broad and distinct band of brownish black, and largely tipped with white; upper tail-coverts tinged with rufous; throat and chest greyish white, each feather margined with black, giving that part a mottled appearance; flanks, abdomen and under tail-coverts pale buff; irides light red; bill, legs and feet dark brown.

Total length, 4 inches; bill, $\frac{1}{2}$; wing, 2; tail, 2; tarsi, $\frac{7}{8}$.

Hab. Swan River, Western Australia.

Remark.—Distinguished from *A. Diemenensis*, *A. pusilla*, and *A. Ewingii*, to all of which it is nearly allied, by its large size, by its larger and rounder tail, by the broad and distinct band of black which crosses the tail-feathers near their extremities, and by their being largely tipped with white.

Cysticola isura. *Cys. colli lateribus, nuchâ, et uropygio pallidè rufis; vertice, dorso, secondariisque, saturatè brunni-nigris, singulis plumis stramineo marginatis, et latâ fasciâ atrâ transversim prope apicem infra ornatis.*

Sides and back of the neck and rump pale rufous; crown of the head, back and secondaries deep brownish black, each feather margined with buff; tail dark brown, margined with buff, and crossed on the under side near the tip with a broad conspicuous band of black; under surface deep buff, becoming paler on the chin and centre of the abdomen; bill brown; feet yellowish brown.

Total length, 4 inches; bill, $\frac{1}{2}$; wing, $1\frac{3}{4}$; tail, $1\frac{1}{2}$; tarsi, $\frac{3}{4}$.

Hab. Southern coasts of Australia.

Remark.—Distinguished from the other members of the genus by the shorter and more truncated form of its tail, which has suggested the specific term assigned to it.

Chalcites osculans. *Chal. capite, corpore superiore, alisque, nitente olivaceo-fuscis, colore eodem in humeris primariisque saturatiore, sed in tectricibus caudæ superioribus albicante; caudâ intensè olivaceo-fuscâ, plumâ quâque ad apicem albâ; pectore et abdomine pallidè cinnamominis.*

Head, all the upper surface and wings glossy olive-brown, becoming darker on the shoulders and primaries, and fading into white on the upper tail-coverts; tail dark olive-brown, each feather tipped with white, and the lateral one on each side crossed on the inner web with five bars of white; ear-coverts black, encircled with white; under surface of the wing, throat, breast and abdomen pale cinnamon-brown, fading into white on the under tail-coverts; bill brown; feet olive-brown.

Total length, $7\frac{1}{2}$ inches; bill, $\frac{7}{8}$; wing, $4\frac{5}{8}$; tail, $3\frac{7}{8}$; tarsi, $\frac{3}{4}$.

Hab. New South Wales.

Remark.—I have applied the term of *osculans* to this species, because in it are united in a remarkable degree the characters of the

genera *Cuculus* and *Chalcites*; but as those of the latter genus predominate, I have retained it therein.

Synoïcus Diemenensis. *Syn. fronte, loris, et mento griseo-albis, stramineo tinctis; vertice saturatè brunneo, medio lineâ stramineâ notato; omni corpore superiore fasciis irregularibus transversis griseis, nigrisque, castaneisque, vario; mediis plumis lineâ griseo-albâ ornatis.*

Forehead, lores and chin greyish white, tinged with buff; crown of the head dark brown, with a line of buff down the centre; all the upper surface irregularly marked with beautiful transverse bars of grey, black and chestnut, each feather with a fine stripe of greyish white down the centre; primaries brown, mottled on their external edges with greyish brown; all the under surface greyish buff, each feather with numerous regular somewhat arrow-head-shaped marks of black, and many of them with a very fine line of white down the centre; bill blue, deepening into black at the tip; irides orange; feet dull yellow.

Total length, $8\frac{1}{2}$ inches; bill, $\frac{3}{4}$; wing, $4\frac{1}{2}$; tarsi, $1\frac{1}{8}$.

Hab. Van Diemen's Land.

Remark.—Nearly allied to *S. Australis*, but of a much larger size and with the markings of the upper surface more numerous and varied.

Synoïcus sordidus. *Syn. saturatè fuscus minutè nigro maculatus; mediis plumis corporis superioris inferiorisque latâ fasciâ griseo-cæruleâ longitudinaliter ornatis.*

General plumage dark brown, minutely freckled with black, each feather of the upper and under surface with a broad stripe of bluish grey down the centre; feathers of the head and back of the neck with a spot of blackish brown at the tip, those down the centre of the head and a few of the back feathers with white shafts; chin buff; flank-feathers with an arrow-head-shaped mark of black near the tip.

Total length, 7 inches; bill, $\frac{5}{8}$; wing, $3\frac{3}{4}$; tarsi, $\frac{7}{8}$.

Hab. South Australia.

Remark.—With the exception of *S. Sinensis*, this species is the least of the genus yet discovered; it moreover differs from them all in the absence of any varied markings, in lieu of which all the feathers of the upper surface have a broad bluish grey stripe down the middle.

Porzana leucophrys. *Por. fasciâ à mandibulæ superioris basi ad angulum oculi posticum ductâ griseo-albâ; maculâ latâ atrâ ab oculo ad rictum extensâ; nuchâ, corpore superiore, caudâque, fusco-nigris; capitis, colli, et pectoris, lateribus griseis; mento, et medio abdomine albis.*

From the base of the upper mandible to the posterior angle of the eye a streak of greyish white; from the eye to the gape a broad patch of deep black; crown of the head brownish black; back of the neck, upper surface and tail brownish black, each feather margined with pale reddish, the latter colour becoming very conspicuous on the wing-coverts and scapularies; wings pale brown; sides of the head,

neck and breast grey; chin and centre of the abdomen white; flanks and under tail-coverts rufous; upper mandible reddish brown; tomia of both mandibles tile-red; legs and feet oil-green, blotched with light ash-colour.

Total length, $6\frac{1}{2}$ inches; bill, 1; wing, $3\frac{1}{2}$; tail, 2; tarsi, $1\frac{3}{8}$.

Hab. Port Essington and Northern Australia.

Remark.—This bird differs from every other species of the genus inhabiting Australia, in having a superciliary stripe of white, in the black colouring of the lores, and in the olivaceous tint of the plumage.

PLOTUS NOVÆ-HOLLANDIÆ. *Plot.* (Mas) *gulâ figurâ sagittæ cuspidis albâ notatâ; latâ fasciâ albâ à mandibularum basi quatuor unciis in colli latera extensâ; scapularibus lanceolatis, lanceolatâ maculâ in medio, et caulibus atris ornatis.*

Male.—An arrow-head-shaped mark of white on the throat; a broad stripe of the same colour commences at the base of the mandibles, extends for about four inches down the sides of the neck, and terminates in a point; head, neck and all the upper surface of the body greenish black, stained with brown and with a patch of deep rusty red in the centre of the under side of the throat; under surface deep glossy greenish black; wings and tail shining black; all the coverts with a broad stripe of dull white, occupying nearly the whole of the outer and a part of the inner web, and terminating in a point; scapularies lanceolate in form, with a similar shaped mark of white down the centre, and with black shafts, the scapular nearest the body being nearly as large as the secondaries, and having the outer web crimped and the inner web with a broad stripe of dull white close to the stem; the secondaries nearest the body with a similar white stripe on the outer web, close to the stem; centre tail-feathers strongly and the lateral ones slightly crimped; orbits naked, fleshy, protuberant, and of a yellowish olive, mottled over with brown specks; irides of three colours, the ring nearest the pupil being dull orange-buff; to this succeeds another of marbled buff and brown, and to this an outer one of orange-buff; naked skin at the base of the lower mandible wrinkled and yellow; upper mandible olive, under mandible dull yellow, both becoming brighter at the base; feet yellowish flesh-colour, becoming brown on the upper part of the outer toes.

Female.—Upper surface blackish brown, each feather margined with greyish white; under surface buffy white. In other respects similar to the male.

Total length, 36 inches; bill, 4; wing, $13\frac{1}{2}$; tail, 9; tarsi, 2.

Hab. The rivers of the whole of the southern coast of Australia.

Remark.—Very nearly allied to the *Plotus* inhabiting Java, but distinguished from it by the shortness of the scapularies and by its larger size.

Mr. Gould also exhibited to the Meeting a specimen of the *Anthus minimus* of Messrs. Vigors and Horsfield, and having pointed out the particulars in which it differs from the members of the genus *Anthus*, proposed to constitute it the type of a new genus, with the following appellation and characters:—

CHTHONICOLA, nov. gen.

Char. gen.—*Rostrum* breve, a basi descendens, mandibulâ superiore ad apicem lævè dentatâ, in lateribus compressâ. *Tomiæ* introrsum curvatæ. *Alæ* concavæ, primario primo perbrevi, tertio, quarto, quinto et sexto longitudine æqualibus. *Tarsi* moderati. *Digiti* breves, posticus medio brevior. *Ungues* anteriores magis quam in "*Antho*" curvati.

Gen. char.—Bill short, gradually descending from the base; the upper mandible slightly notched at the tip, compressed laterally; tomia curving inwards; wings concave; the first primary very short, the third, fourth, fifth and sixth nearly equal and the longest; tail slightly concave, and all the feathers of an equal length; tarsi moderately long; toes short, the hinder toe somewhat longer than the middle one; front claws more curved than in the genus *Anthus*.

5. DESCRIPTION OF A NEW SPECIES OF AMPHIOXUS FROM BORNEO. BY J. E. GRAY, ESQ., F.R.S., ETC. ETC.

Capt. Sir Edward Belcher having most kindly sent to the British Museum the various species of reptiles, worms, &c. in spirit which had been collected during the voyage of H.M.S. Samarang, I hasten to lay before the Society the description of what appears to be a new species of Lancelet (*Branchiostoma*, Costa = *Amphioxus*, Yarrell), premising that I have sent a second specimen to Dr. Clarke, R.N., of Haslar, who has kindly promised to send me some anatomical details of it, which shall be communicated to the Society as soon as they arrive.

I may remark that the specimen from Borneo very much resembles in size the specimen which Mr. Couch obligingly sent to me from Cornwall, and, like it, is more silvery and considerably larger than numerous specimens I have received through the kindness of Dr. Kolliker from Naples. This difference in colour may arise from the Naples specimens having been placed in stronger spirits; but it gives the Cornish and the Borneon specimens much more the resemblance of Annelides, which generally have this metallic iridescent silvery hue.

The resemblance of the Borneon to the Cornish specimen is so striking, that it is very difficult to draw a distinction between them with neatness or brevity; yet they appear to my eye sufficiently different to induce me to regard them as distinct species, which the great geographical distance between their habitats renders probable.

Amphioxus Belcheri.—The Borneon Lancelet appears rather thicker and more convex on the sides than *Amph. lanceolatus*, and the convex ridge which occupies the place of the dorsal fin appears higher and more closely divided by internal transverse septa than in that species, and these septa appear more numerous. I have not been able to observe any beards on the margin of the mouth, which is thickened and rounded; but this may arise from the specimen not being in good condition, especially in this part where it has been injured by the spines of a Spatangus which was in the same bottle.

Hab. Borneo, at the mouth of the river Lundu.

I may remark, that the comparison of these Lancelets from Naples, Cornwall and Borneo has induced me to think that most probably the species from Naples may be distinct from the Cornish. All our specimens are smaller and more opake; the beards of the mouth appear finer; and the dorsal ridge above referred to appears comparatively smaller, even making allowance for the difference in the size of the specimens.

6. A few Remarks on the Geographical Distribution of Birds in the West Indies. By William Denny, Esq.

Humboldt, Vigors, Swainson and other eminent naturalists, lament the defective state of knowledge respecting the zoology of the West Indies. The Flora of Jamaica has been often successfully explored; the geology of a great portion has been investigated by De la Beche; the ornithology and entomology however remain nearly in the state in which they were left one hundred years since by Sir Hans Sloane. In all the departments of the natural history of the Antilles much still remains to the inquirer, but in zoology he has an almost unexplored field for his researches. The region of Tree-ferns has been left unexamined for the botanist, the western half of Jamaica for the geologist; but with the exception of about sixty species of birds noticed by Sloane and Browne, the entire ornithology is unknown*, including all the species peculiar to the mountainous districts.

About thirteen years since an attempt was made to send out a party of naturalists to examine the animals and productions of Jamaica, but it failed; and had the party reached those shores, I doubt that their researches would have thrown much additional light on zoology. The insalubrious nature of the climate in the low grounds, the excessive heat, and many other causes, would probably have rendered their exertions fruitless. The naturalist must alike be familiar with the inhabitants of the deadly swamp and the pathless mountain; he must brave the tropical heat and mountain cold, and the sudden transitions of temperature. It is only those inured to the climate by long residence, and who have had fortitude to resist its debilitating effects, or those born in the country whose habits are active and pursuits congenial, that can sustain these difficulties and dangers.

Placed at nearly equal distance from North and South America, it might be supposed that nearly an equal number of the species of each division of that continent might be found in Cuba and Jamaica. This supposition is not however fully borne out by observation, although from our knowledge of the ornithology of Terra Firma being extremely imperfect, it is difficult to render a conclusion free from error. It will hereafter appear, that of the birds of Jamaica, one-half are common to North America, while hardly one-fifth are also found in the southern region of the New World.

Of those species common to the islands more immediately under

* This want of information has been reduced very considerably at the present moment by the appearance of Mr. Gosse's work 'On the Birds of Jamaica.'

notice, and Mexico, a great identity of genera and species might be expected. Placed in the same degree of latitude, possessing many similar features in scenery, elevation, temperature and productions, with sufficient facility of communication for the feathered tribes, they might, without actual examination, be considered as constituting the same animal kingdom or province. But Mexico is united to the southern portion of the continent by land, while Jamaica is separated by leagues of sea, a great natural impediment to families possessing feeble powers of flight.

Wilson remarks that "in passing along the chain of the Bahamas, towards the West Indies, no great difficulty can occur from the frequency of these islands, nor even to the Bermudas, which are said to be six hundred miles from the nearest point of the continent." Whether this facility of communication between the United States and the greater Antilles may be sufficient to account for the greater preponderance of species from this division than from the southern, may by some be doubted; but it may be as well to bear in mind that the Raptores and long-winged families of the Insessores are common both to the States and Antilles, while the short-winged families are nearly all distinct.

There are many features of resemblance between the ornithology of Mexico and the great Antilles. Nearly all the birds common to the former and the United States are likewise found in Jamaica, while the latter possesses species supposed by Mr. Swainson to be peculiar to Mexico, and I believe that further investigation will tend to show that the distribution of species is very similar.

I will only make one remark, that many birds supposed to belong to the States are in reality tropical or West Indian, and merely very transient and in numerous instances accidental visitors to North America. For example, the *Columba Zenaida* is very rare in the States, while in Jamaica it is the most abundant species in the island, and was mentioned by Sir Hans Sloane.

I will pass over the migration of birds to and from the West Indies, as well as the influence that natural families of plants appearing in distant countries may have in producing it, as being beyond the limits which I have assigned to myself in these observations. I will now give a catalogue of all the birds that I have met with during a sojourn of six years in Jamaica, during which time my leisure hours have been constantly devoted to pursuits connected with natural history.

Birds common to Jamaica, Cuba, and the United States.

Land Birds.

1. Cathartes aura.
2. Buteo borealis.
3. Circus americanus.
4. Haliaëtus niger.
5. Accipiter pensylvanicus.
6. Pandion haliaëtus (? carolinensis.)
7. Strix flammea.
8. —— asio.
9. Hirundo fulva.

10. Caprimulgus carolinensis.
11. —— americanus.
12. Alcedo alcyon.
13. Tyrannus intrepidus.
14. Muscicapa ruticilla.
15. —— virens.
16. —— fusca.
17. —— crinita.
18. Vireo olivacea.
19. Merula minor.
20. —— mustelinus.
21. Orpheus polyglottus.
22. Sciurus aurocapillus.
23. Trichas personatus.
24. Sylvicola pusilla.
25. —— americana.
26. —— canadensis.
27. —— minuta.
28. —— pensilis.
29. Sylvicola coronata.
30. —— maculosa.
31. Vermivora solitaria.
32. Fringilla tristis.
33. —— Zevanna.
34. Dolichonyx oryzivorus.
35. Sturnella magna.
36. Icterus versicolor.
37. Corvus ossifragus.
38. Picus carolinensis.
39. Cuculus carolinensis.
40. Certhia maculata.
41. Columba leucocephala.
42. —— passerina.
43. Ortyx marylandus.
44. Tyrannula Saya.
45. Columba carolinensis (Cuba only).

Birds of Jamaica and Cuba observed in Terra Firma, but unknown in North America.

1. Sarcoramphus papa (accidental).
2. Polyborus brasiliensis.
3. Circus rutilans.
4. Muscicapa ferox.
5. Icterus dominicensis.
6. Trochilus furcatus.
7. Crotophaga ani.

Birds peculiar to the West Indies, and seldom if ever detected in the United States or Terra Firma.

[These birds have been observed in Jamaica and Cuba.]

1. Accipiter fringilloides, *Vig.*
2. Falco sparveroides, *Vig.*
3. Hirundo thalassinus, *Sw.*
4. —— Tapera, *Linn.*
5. —— albicollis, *Vieil.*
6. —— melanogaster, *Sw.*
7. —— (undetermined).
8. Caprimulgus jamaicensis, *Bris.*
9. Todus viridis, *Linn.*
10. Merula jamaicensis, *Linn.*
11. —— fusca vel leucophthalma (undescr.).
12. —— dominicus, *Linn.*
13. —— rubripes, *Temm.*
14. Sylvicola dominica, *Linn.*
15. Pyrrhula nigra, *Linn.*
16. —— collaris, *Vig.*
17. Fringilla Zena.
18. —— noctis, *Linn.*
19. —— jamaicensis, *Linn.*
20. —— bicolor, *Linn.*
21. —— lepida, *Linn.*
22. Carduelis mexicana, *Sw.*
23. Icterus bonano, *Linn.*
24. —— cucullatus, *Sw.*
25. —— mexicanus, *Linn.*
26. —— brasiliensis, *Linn.*
27. —— mexicanus*.
28. —— baritus, *Linn.*
29. Leistes humeralis, *Vig.*
30. Corvus jamaicensis, *Linn.*
31. Trogon temnurus, *Temm.*
32. Psittacus leucocephalus, *Linn.*
33. —— æstivus, *Linn.*
34. Psittacara nana, *Vig.*

* Icterus xanthornis.

35. Picus carolinus, *Linn.*
36. —— percussus, *Vig.*
37. Colaptes auratus, *Vieil.*
38. —— Fernandina, *Vig.* (Cuba only).
39. —— superciliaris, *Temm.* (Cuba).
40. Cuculus vetula, *Linn.*
41. —— pluvialis, *Gm.*
42. Certhia flaveola, *Linn.*
43. —— maculata, *Wils.*
44. Cynanthus polytmus, *Linn.*
45. —— minimus, *Linn.*
46. Lampornis mango, *Linn.*
47. Columba Caribbæa, *Gmel.*
48. —— inornata, *Vig.*
49. Columba montana, *Linn.*
50. —— jamaicensis, *Linn.*
51. —— leucoptera, *Linn.*
52. —— minuta, *Linn.*
53. —— sylvestris?
54. —— martinica, *Linn.*
55. —— Zenaida, *Buon.*
56. —— cyanocephala, *Linn.* (Cuba only).
57. { Numida meleagris, *Linn.*
{ —— maculipennis, *Sw.*
58. Tanagra gularis.
59. Sitta jamaicensis (not of Sloane or Browne).
60. Pipillo maculata, *Sw.*

Note.—Many of the above species have not been referred to modern genera on account of several of them being proposed from data so different that it is difficult for a Transatlantic naturalist to select from such eminent authorities as Vieillot, Swainson, Buonaparte, Cuvier or Temminck. When no authority is given, the nomenclature is that of Wilson.

Water Birds.

The following species, with one or two exceptions, seem equally distributed over the United States, Mexico, Jamaica and Terra Firma, so that no division of them will be necessary.

Ardeidæ.

Ardea virescens.
—— ludoviciana.
—— cærulea.
—— abba.
—— exilis.
—— candidissima.
—— herodias.
Nycticorax violacea.
—— Gardenii.
Botaurus minor.
Platalea ajuga.
Phœnicopterus ruber (Amer.).

Tantalidæ.

Ibis rubra.
—— alba.
Tantalus loculator.

Scolopacidæ.

Scolopax gallinago (Amer.).
Scolopax grisea.
—— minor.
Totanus macularius.
—— chloropygius.
—— flavipes.
—— semipalmata.
Tringa rufescens.
—— pectoralis.
—— minutella.
—— pusilla.
Numenius longirostris.

Charadriadæ.

Charadrius semipalmatus.
—— vociferus.
—— apricarius.
—— monnellus.
—— pluvialis.
—— melodus.
Squatarola cinerea.
Himantopus melanopterus.

RALLIDÆ.

Rallus minutus.
—— jamaicensis.
—— virginianus.
Aramus scolopaceus.
Parra Jacana.
—— variabilis.
Gallinula Galatea.
—— Martinica.

NATATORES.

ANATINÆ.

Dendronessa sponsa.
Boschas fera.
—— crecca (Amer.).
—— discors.
—— discors occident.
Dafila caudacuta.
Chauliodus streperus.
Anas clypeata.
Mareca americana.
Anas ? fistularis.

FULIGULINÆ.

Fuligula marita.
—— cristata.
Anas ? jamaicensis.
Anas ? spinosa.
Anas ? dominica.
Podiceps cristatus.
—— auritus.

PELECANIDÆ.

Pelecanus fuscus.
Tachypetes aquilus.
Phaëton æthereus.

LARIDÆ.

Larus atricilla.
—— argentatus.
—— parasiticus.
Sterna fuliginosa.
—— minuta.
—— stolida.
Thalassidroma pelagica.
—— Wilsonii.

Note.—I have been guilty of discourtesy to some authors by excluding species from the catalogue which are assigned to Jamaica in their works. I have never discovered them, and I must plead that they may still reward my more successful researches. I have not included St. Domingo (Haiti) in my list, as I have no local knowledge of its ornithology, but from the writings of Vieillot it appears more extensive than either Cuba or Jamaica.

Regarding an ornithological province as a portion of the earth containing in it a greater number of land species peculiar to, and not extending beyond it, than of those common to it and adjoining countries, it may be asked—Are the greater Antilles a distinct ornithological province, or merely a portion of that of Mexico or the United States ?

There are however curious differences in the birds of the several West Indian islands. Trinidad has a diversified ornithology, apparently identical with the South American continent. Many of the pigeons, woodpeckers and humming-birds differ. The *Columba carolin.* extends to Cuba and Haiti, but not to Jamaica. The *Col. Caribbæa* appears confined to the latter. The *Lampornis mango* of Jamaica is represented in Haiti by *gramineus*. There appears in the former island only one woodpecker, the *Picus carolin.*, while in Cuba

and Haiti there are several. Geological researches may assist the explanation of these anomalies. There are three mountain-ranges of different date and vegetation. One of these constitutes the Bahamas, north side of Haiti and Cuba: the Cibao range, covered with pathless forests of *Pinus occidentalis,* re-appears in Cuba and the Isle of Pines, terminating in Mexico. The precipitous mountains of the Grand Anse are formed of limestone, which is prolonged through Jamaica into Yucatan, covered with its peculiar production, *Myrtus Pimenta,* equally remarkable for its individual beauty and fragrance.

"Pauca hæc vidimus operum Dei."

April 13, 1847.

William Yarrell, Esq., Vice-President, in the Chair.

The following communications were read:—

1. Some Observations on the Skull of Phascolomys Vombatus. By J. E. Gray, Esq., F.R.S. etc. etc.

In the collection at the British Museum there are three skulls which agree with Prof. Owen's character of *Phascolomys Vombatus,* as described in vol. iii. of the Zool. Soc. Transactions: that is to say, they have only slightly curved upper cutting teeth, short noses, &c. Two were sent from Van Diemen's Land by Mr. Ronald Gunn, and one from N. S. Wales was presented by my late friend and admirable botanist, Mr. Allan Cunningham, F.L.S.

The specimens from Van Diemen's Land are much smaller (the largest being 6 in. 4 lines long), and more depressed and truncated behind, and have two moderate-sized oblong holes in the hinder part of the palate. The specimen from N. S. Wales is one inch longer, and has two large triangular holes in the end of the palate. All the three specimens differ in the size of the teeth, and especially in the size and relative position of the upper cutting teeth.

1. The least of the Van Diemen's Land skulls has rather small grinders, but the upper cutting teeth are small, compressed, rather diverging from each other, forming an angle in front and only touching each other at the truncated inner edge. The crowns of these teeth are 5 lines long and $2\frac{1}{2}$ lines wide. The lower cutting teeth are small with a roundish crown.

2. The other Van Diemen's Land skull, which is rather larger in all its measurements, has larger grinders. The cutting teeth are much larger: the upper large, oblong, diverging from each other, forming together a segment of a circle in front, and only touching

each other by the inner edge. The crowns of these teeth are $5\frac{1}{2}$ lines long and $3\frac{1}{2}$ lines wide.

3. The skull from N. S. Wales has the teeth very like those of the small Van Diemen's Land specimen, but rather larger: the upper cutting teeth are considerably larger and rather more triangular, but in the same angular position.

It is desirable that more of these skulls should be compared, to determine whether these are only individual variations, or that there are more than one species confounded under this name. I am inclined to the former view; but if this is the case, it shows that the skulls and teeth do not present such good specific characters as many zoologists are willing to believe.

2. Description de quinze espèces de Trochilidées du cabinet de M. Loddiges. Par Jules Bourcier.

Troch. mirabilis (Lodd. MSS. inéd.).

Troch. admirable. Mâle adulte: bec noir, droit, cylindrique, emplumé sur ses bases; tête allongée, couverte d'une plaque ovaliforme, bleu-clair brillant; nuque, scapulaire, dos et sur-caudale vert-gris doré: paré sur la gorge et devant du cou, d'un hausse-col, vert très brillant à reflete bleu au centre et terminé en pointe sur la poitrine, continué par une bande de plumes noires maculées de reflete d'or, se prolongeant jusqu'à la région anale, garnie de plumes, gris-verdâtre; côtés du cou et les flancs revêtus de plumes blanches; ailes peu courbées, gris violacé; queue de quatre rectrices, les autres non apparentes sont rudimentaires, les externes formées par de longues baguettes, en demi-cercle, non barbulées dans leur plus grande partie et terminées par de longues barbules arrondies en forme de raquette, noir-violacé, ses rectrices se croisant à leur base et vers leur centre représentant deux C suropposés, les médiaires étroites allongées en pointe, gris-vert-pâle luisant; pattes noires, dénudées.

Long. du bec 20 mm.; ailes 40 mm.; rect. ext. environ 160 mm.; raquettes 22 mm.; médiaires 60 mm.

Hab. Chachapoyas au Pérou, rapporté en 1836 par M. Matthews.

Rem.—Cet oiseau par ses rectrices externes se rapproche du *Ornism. Platurus, Underwoodii* de Lesson; par ses médiaires du l'*Ornism. chrysolopha*; par sa tête du *Troch. cristatus* de Gmel.; et par la parure de sa gorge à l'*Ornism. scutatus*, Less.

Troch. Aquila (Lodd. MSS. inéd.).

Troch. Aigle. Mâle adulte: bec très arqué, décrivant le tiers d'un cercle; mandibules robustes, très dilatées à la base et terminées en pointes; la supérieure noire, arrondie en dessus et cannelée sur les côtés, l'inférieure blanche, également cannelée sur les côtés dépasse en longueur de 4 mm. la supérieure; tête gris-noir; cou, scapulaire, dos et couverture caudale vert-glauque luisant, les plumes sur-caudales légèrement frangées de roux; gorge et toutes les parties inférieures du corps revê-

tues de plumes soyeuses gris-noir, flammées de blanc, sous-caudales grises, blanches à leur centre; ailes presque droites, à remiges larges, gris-noir; queue, arrondie en éventail, à rectrices angulaires vert-glauque pâle, blanches à leur extrémité, le blanc plus étendu sur les rectrices externes, diminuant sur chacune d'elles jusqu'aux médiaires où la pointe est marqué de blanc; pattes très fortes, noires, dénudées.

Long. Bec. 25 et 29 mm.; ailes 80 mm.; rect. 55 mm.

Hab. Nouvelle Grenade, les environs de Bogota, rapporté par M. Wallis.

Rem.—Les caractères de cet oiseau sont si différents des autres Troch. qu'il y a peu d'espèces avec lesquelles on puisse le rapprocher; le *Troch. Mazeppa* de Lesson est le plus voisin.

TROCH. MILLERII (Lodd. MSS. inéd.).

Troch. de Miller. Mâle adulte: bec noir, droit, cylindrique, blanc à la base de la mandibule inférieure; tête ronde; couverte ainsi que les côtés du cou de plumes soyeuses, vert-frais brillant; scapulaire, dos et couverture caudale vert doré luisant; gorge devant du cou, poitrine, abdomen, et sous-caudale blanc lacté, flancs maculés de vert doré; ailes à remiges moyennement étroites gris violacé; queue peu fourchue à rectrices étroites, gris-vert pâle tachées transversalement de brun dans leur dernier quart, les médiaires arrondies sans taches; pattes noires.

Long. Bec 16 mm.; ailes 50 mm.; rect. ext. 30 mm.; médiaires, 26.

Patrie. Le Brésil, Rio Négro, rapporté par M. Natterer.

Rem.—Cet oiseau peut se confondre avec l'*Ornism. brevirostris* de Lesson, mais ce dernier n'a pas le dessus de la tête brillante et la queue diffère de nuance.

TROCH. SCHREIBERSII (Lodd. MSS. inéd.).

Troch. de Schreibers. Mâle adulte: bec noir, fort, légèrement arqué à son extrémité, emplumé à ses bases; tête allongée, toutes les parties supérieures du corps de la tête aux couvertures caudales vert-doré luisant, la commissure du bec est prolongée d'une bande étroite de plumes fauves; gorge à plumes noires soyeuses, passant au violet glacé brillant sur le devant du cou; poitrine écaillée de plumes vertes très brillantes, le reste du dessous du corps vert foncé doré, région anale noire, sous-caudales noires à reflete vert; ailes falciformes gris-noir; queue légèrement fourchue à rectrices larges acuminées entièrement noir-bleu, les médiaires plus courtes à reflete vert; pattes noires un peu emplumées.

Long. Bec 25 mm.; ailes 70 mm.; rect. ext. 40 mm.; suivantes 45 mm.; médiaires 35 mm.

Patrie. Alto Rio Négro (Brésil), rapporté en 1836 par M. Natterer.

TROCH. MATTHEWSII (Lodd. MSS. inéd.).

Troch. de Matthews. Mâle adulte: bec noir, droit, terminé en

pointe, tête allongée; toute la tête, gorge, et cou revêtus de plumes à base rousse écaillés de vert-olive brillant; scapulaire, dos et couverture caudale vert-bronze, dessous du corps et des ailes roux-cannelle, ainsi que les sous-caudales; ailes presque droites, brun-violacé; queue légèrement fourchue à rectrices larges, arrondies roux-cannelle vif et marginées de vert luisant à leur extrémité, les médiaires entièrement vertes luisantes; pattes blanchâtres peu emplumées.

Long. Bec 17 mm.; ailes 80 mm.; rect. ext. 45 mm.; médiaires 35 mm.

Patrie. Le Pérou; rapporté par M. Matthews.

Rem.—Cet oiseau a beaucoup de ressemblance avec le *Ornism paradisæa* de Boiss. pour la taille et les formes.

TROCH. WATERTONII (Lodd. MSS. inéd.).

Troch. de Waterton. Mâle adulte: bec noir, presque droit, fort, emplumé à sa base; tête allongée, couverte de plumes semi-écailleuses vert doré; scapulaire, petites tectrices et dos bleu-violacé brillant, couverture caudale bleu verdoyant; gorge, devant et côtés du cou épigastre, vert-brillant, abdomen et flancs bleu foncé; sous-caudale noir-bleu; ailes falciformes, noir-bleu; queue très fourchue à rectrices régulièrement étagées, noir-bleu violacé; pattes noires dénudées.

Long. Bec 26 mm.; ailes 55 mm.; rect. ext. 65; médiaires 20 mm.

Hab. Mibiri Creek, à 40 mille de la rivière Essequibo.

Rem.—Cet oiseau se rapproche de la *Meriphilus* de Less., du *nigrofasciata* de Gould, et du *Colombicus* de B.

TROCH. EVELYNÆ.

Troch. d'Evelyn. Mâle adulte: bec grêle, noir, droit, cylindrique; tête ronde; toutes les parties supérieures du corps vert-brun-doré luisant; gorge et devant du cou, paré de plumes écailleuses, d'un rouge-violet très brillant revêtu sur les côtés du cou et la poitrine de plumes soyeuses blanchâtres; abdomen roux fauve, flancs maculés de vert, sous-caudale blanchâtre; ailes, à remiges étroites, gris-noir-violacé; queue à rectrices étroites, allongées et acuminées, l'externe noire à reflete violet, la suivante noire violet à son extérieure et les barbules intérieures d'un roux orangé vif, la 3e d'un roux orangé vif ne conserve du noir, que dans la dernière moitié supérieure des barbules externe, la 4e presque entièrement noire à reflete violet, est roux orangé à sa base externe, les médiaires sont rudimentaires; pattes noires dénudées.

Long. Bec 16 mm.; ailes 38 mm.; rectrice ext. 30 mm., suivantes 35 mm.; les submédiaires 24 mm.

Hab. Nassau, New Providence, rapporté par M. Swainson.

Rem.—Cet oiseau se rapproche par sa taille et ses couleurs à l'*Ornismya Elisa* de Less.

Troch. Johannæ.

Troch. de Jeanne. Mâle adulte : bec noir, droit, long, comprimé et rétréci en pointe à son extrémité ; tête ronde ; orné sur le front de plumes écailleuses, de violet glacé brillant, tête, cou, scapulaire et dos, vert-bleu cendré luisant ; couverture caudale bleu-cendré ; gorge grise passant au noir soyeux sur le devant du cou et le reste du dessous du corps ; ailes falciforme gris-noir violacé ; queue arrondie à rectrices noires, larges, acuminées, les externes cendrées à leur extrémité ; pattes noires dénudées.

Long. Bec. 35 mm. ; ailes 55 mm. ; rect. ext. 25 mm. ; médiaires 35 mm.

Patrie. Le Pérou ; rapporté par M. Matthews.

Rem.—Cet oiseau a beaucoup de ressemblance avec le *T. Ludoviciæ* de Bour. et Muls., dont il diffère par la plaque frontale verte chez cette dernière espèce.

Troch. Conradii.

Troch. de Conrad. Mâle adulte : bec noir, droit, long emplumé sur ses bases ; tête allongée, front et vertex à plumes écailleuses vertes très brillantes, le corps en dessus et en dessous entièrement d'un beau vert frais brillant à l'exception du devant du cou et de l'épigastre couverte de plumes soyeuses blanc de neige ; région anale garnie de duvete gris ; sous-caudale vert-brillant ; ailes falciformes grisâtres, la première remige rouste sur sa côte extérieure, les tectrices vertes comme le dos ; queue légèrement bifurquée à rectrices larges acuminées, les médiaires vert-brillant comme le corps, les autres rectrices d'un blanc de neige et marginées de vert-brillant dans le dernier quart de leur extrémité ; pattes blanches dénudées.

Long. Bec 35 mm. ; ailes 75 mm. ; rect. ext. 45 mm. ; médiaires 40 mm.

Patrie. Les environs de Caracas.

Rem.—Cet oiseau ressemble au *Troch. torquatus* de Boiss.

Troch. Yarrellii.

Troch. de Yarrell. Mâle adulte : bec noir, droit, cylindrique ; tête ronde, le dessus du corps entièrement gris à légers reflete de vert-jaune luisant ; gorge et devant du cou orné d'un hausse-col brillant bleu-clair verdoyant, et violacé au centre ; côtés du cou, poitrine et abdomen garnis de plumes blanchâtres, sous-caudales longues et blanches ; ailes à remiges courtes, gris-clair ; queue à rectrices gris-clair, les trois externes très étroites, allongées et courbées en forme de lame de yatagan, les submédiaires plus courtes, angulaires, ainsi que les médiaires arrondies, sont légèrement dorées ; pattes noires dénudées.

Long. Bec. 12 mm. ; ailes 30 mm. ; rect. ext. 36 mm. ; les suivantes 39 mm. ; les submédiaires 26 mm. ; et les médiaires 15 mm.

La femelle. Sauf la parure de la gorge dont elle est privée et sa queue à rectrices étroites grises à leur base, noires à leur centre

et blanche à l'extrémité, le reste du corps est semblable à celui du mâle.

Hab. Montévideo.

Rem.—Cet oiseau a beaucoup de rapport avec l'*Ornism. cora* de Lesson et l'*Ornism. Labrador.* de B.

TROCH. SPENCEI.

Troch. de Spence. Mâle adulte : bec noir, droit, cylindrique ; tête ronde, front orné de plumes écailleuses d'une nuance d'acier-bruni, toutes les parties supérieures du corps sont vert-brun doré ; gorge, devant et côtés du cou, couverte de larges plumes écaillées d'un beau violet-immortelle éclatant bordée en dessous d'une bande blanche lactée ; flancs et abdomen vert-brun brougé ; ailes falciformes, à remiges larges brun violacé, queue à rectrices égales noires bronzé-rougeâtres en dessus ; pattes noires dénudées.

Long. Bec 20 mm. ; ailes 55 mm. ; queue 35 mm.

Hab. Merida.

Rem.—Cet oiseau ressemble au *Troch. amethysticollis* de D'Orbigny et Lafresnaye, à l'*Ornis. Clarissæ* de Lesson, et du *Troch. strophianus* de Gould.

TROCH. RUCKERI.

Troch. de Rucker. Mâle adulte : bec long, légèrement arqué, dilaté à sa base, mandibule supérieure noire, l'inférieure blanche ; tête, cou, scapulaire, dos, et couverture caudale vert sombre luisant ; de la commissure du bec à la nuque, une bande blanchâtre étroite ; gorge et dessous du corps gris-noir bronzé ; ailes presque droites, brun violacé ; queue arrondie en éventail, les médiaires vert-bronzé et blanche à leur extrémité, les autres rectrices d'un blanc lacté sont traversées dans leur dernière moitié d'une bande noir-bleu ; pattes et ongles blanchâtres et dénudées.

Long. Bec 38 mm. ; ailes 60 mm. ; rect. ext. 25 mm. ; médiaires 40 mm.

Patrie inconnue.

Rem.—Cet oiseau a du rapport avec le *T. Antonia* de Bour. et Muls., et du *T. ruficollis* de Gmel.

TROCH. DOUBLEDAYI.

Troch. de Doubleday. Mâle adulte : bec droit, dilaté à sa base, blanc, et noir à son extrémité ; tête ronde ; calotte verte, très brillante à reflete azurés ; nuque, scapulaire, dos, couverture caudale vert foncé luisant ; gorge, devant et côtés du cou, épigastre revêtus de plumes écailleuses bleu vif brillant, abdomen moins bleu et vert sur les flancs ; région anale garnie de duvet blanc ; ailes légèrement recourbées gris-noir ; queue cordiforme à rectrices larges et arrondies, noir-bleu, les 4 médiaires cendrées à leur extrémité ; pattes noires dénudées.

Long. Bec 20 mm. ; ailes 45 mm. ; rect. ext. 30 mm. ; médiaires 24 mm.

Hab..... Présumé de Rio Négro.

Rem.—Cet oiseau a beaucoup de ressemblance avec l'*Ornis. cyanea* de Less.

TROCH. MITCHELLII.

Troch. de Mitchell. Mâle adulte: bec noir, droit, cylindrique, emplumé sur ses bases, toutes les parties supérieures du corps vert-noir légèrement bronzé; gorge devant et côtés du cou garnis d'un hausse-col brillant violet-immortelle foncé, poitrine blanchâtre, abdomen et flancs gris-noir; ailes à remiges étroites gris-noir; queue très bifurquée à rectrices étroites, allongées et terminées en pointe, gris-noir violacé, les médiaires très courtes et arrondies; pattes noires dénudées.

Long. Bec 15 mm.; ailes 33 mm.; rect. ext. 32 mm.; médiaires 14 mm.

Patrie. Zimapan.

Rem.—Cet oiseau ressemble par sa taille et ses formes à l'*Ornism. amethystinus* de Less.

TROCH. NORRISII.

Troch. de Norris. Mâle adulte: bec dilaté à la base, presque droit, blanchâtre et noir vers son extrémité; tête, cou, scapulaire, dos vert doré pâle, couverture caudale gris-vert pâle; gorge devant et côtés du cou, écaillés de plumes vert-doré brillant, épigastre blanc de neige, abdomen et flancs fauve clair, sous-caudales gris-blanc; ailes presque droites gris-pâle; queue à rectrices égales, allongées, acuminées, toutes gris-vert pâle luisant; pattes blanchâtres dénudées.

Long. Bec 18 mm.; ailes 55 mm.; rect. 35 mm.

Patrie. Guayaquil.

Rem.—Cet ois. ressemble par sa taille et ses formes à l'*Ornism. Amagili* de Lesson et au *Troch. corallirostris* de Bourc. et Muls. Cette même espèce existe dans la collection de la Société Zool.

M. Bourcier remarked that he had received permission from Mr. Conrad Loddiges to lay before the Society the preceding description of the species which still remained unique or uncharacterized in the superb collection formed by the late Mr. Loddiges. He was desirous also of acknowledging the kindness and courtesy with which Mr. Loddiges' MSS. notes had been communicated to him; and of bearing testimony to the value of the ideas of a classification of Trochilidæ which had evidently existed in the mind of that collector, although unfortunately he had never reduced them to writing. The collection of Mr. Loddiges has been renowned among ornithologists for many years; and there is no doubt that he was the first possessor of almost all the most beautiful and interesting forms existing in this family. The extent and richness of his cabinet cannot be better shown than by the fact of its including, at the present moment, so large a number of species which have hitherto escaped the extraordinary attention of other Trochilidists and their collectors.

In the possession of Mr. Loddiges, Mr. Gould, Mr. Rucker and Mr. Leadbeater, and in the British Museum, M. Bourcier had become acquainted with thirty species not known in the collections of France.

3. Description de deux espèces nouvelles de Trochilidées. Par Jules Bourcier.

Trochilus Caroli.

Troch. de Charles. Mâle adulte: bec noir, droit et cylindrique; tête ronde; dessus de la tête, scapulaire et dos revêtus de plumes vert sombre légèrement bronzées, passant à un vert plus prononcé sur les couvertures caudales; gorge et devant du cou, pailletés de plumes grenat brillant; tache blanche sous l'œil; parties inférieures du corps gris foncé, lavé de vert; région anale de duvet blanc à base noire; sous-caudales blanchâtres, grises à leur centre; ailes falciformes gris-violacé; queue fourchue, les quatre médiaires étagées, vert-bronzé, les six autres noires à reflete violacés, les laterales à barbules fauve sur le bord externe de leur extrémité; pattes noires dénudées.

Long. Bec 22 mm.; ailes 60 mm.; rect. ext. 55 mm.; médiaires 30 mm.

Rem.—Cet oiseau fait partie de la belle collection de Mr. Edward Wilson.

Trochilus Georginæ.

Troch. de Georgina. Mâle adulte: bec noir à base, large, recouverte de plumes; mandibule supérieure droite, sillonnée, légèrement relevée et déprimée à son extrémité; mandibule inférieure droite dans sa première moitié et courbée de bas en haut en forme d'alêne dans la seconde; tête allongée et déprimée, toutes les parties supérieures du corps sont couvertes de plumes soyeuses vert-bronzé luisant; les parties inférieures du corps gris-vert luisant et fauve sur l'abdomen, région anale garnie de duvet fauve; ailes droites, brun-violacé; bordé de roux le long du poignet; queue à remiges larges et égales noir-bleu, tachées de blanc à leur extrémité, les médiaires entièrement vert-bronzé; pattes noires et dénudées, ongles robustes.

Long. Bec 15 mm.; ailes 55 mm.; queue 40 mm.

Patrie. La Nouvelle Grenade (fait partie de la collection de T. B.)

Rem.—Cet ois. a de la ressemblance avec le *Troch. eurypterus* de Loddiges.

4. Description of a new species of Fuligula. By A. D. Bartlett.

Fuligula ferinoides. *Fulig. ferinoides fuligulæ ferinæ similis, sed magnitudine minori, colore saturatiori, alis speculo albo conspicuè notatis, oculis stramineis, trachea paulò longiore et angustiore, et sterno multo minore, diversâ; emarginationes tamen sterni ejus iis ferinæ sterni magnitudine æquales.*

Paget's Pochard. Adult male: Upper part of head, neck and cheeks reddish chestnut, tinged with purple; a small triangular spot of white at the commencement of the feathers under the bill; chin, throat, lower part of neck and breast black, darkest on the breast; back, scapulars, flank and side-feathers finely freckled with trans-

verse lines of black on a greyish-white ground; greater wing-coverts and primaries greyish-black, the latter darkest at the tips; secondaries white, forming the speculum; tips of the feathers black, edged with white; rump, tail, upper and under tail-coverts brownish black; belly mottled, the tips of the feathers being white, the remaining portion brownish; bill and legs bluish slate; the tip of the former and the webs and *claws* of the latter black; the eyes straw-colour. The young birds differ in having the head, neck and breast of a lighter and brighter chestnut-red (becoming darker as the bird advances to maturity); the under tail-coverts greyish-white.

Entire length, $17\frac{1}{2}$ inches; wing, from carpal joint, $7\frac{3}{4}$; bill, from forehead, $1\frac{3}{4}$; middle toe and claw, $2\frac{1}{2}$ inches.

I have proposed the above specific name for this bird, as it appears more closely allied to our common Pochard than to any other species. I have called it, at Mr. Fisher's suggestion, Paget's Pochard, after the late E. J. Paget, Esq., of Great Yarmouth, a gentleman well-known as a zealous and accomplished naturalist, and one of the authors of the 'Sketch of the Natural History of Great Yarmouth and its Neighbourhood,' near which place the first authenticated British specimen was obtained.

Remarks.—This bird may be readily distinguished from the common Pochard (which it most resembles) by its smaller size, darker colouring, the conspicuous *white speculum* on the wing, and the colour of the eyes. The female is unknown to me, but I presume it will much resemble the female of the Pochard, and will doubtless possess the white speculum on the wings.

The *trachea* of *F. ferinoides* differs from that of *F. ferina* in being rather longer and narrower, the tube being much narrower at the upper part, gradually enlarging towards the middle, where it is largest, and contracting gradually towards the end, which is its smallest part: the labyrinth is smaller in front, but much wider and differently formed on the left side; the enlargement at the bottom of the tympanum is also greater than that of the corresponding part in *F. ferina*: although the sternum is much smaller, the emarginations are quite equal in size to these parts in *ferina*.

With reference to the supposition that these birds are hybrids, I beg to remark, that I have paid some attention to the subject of hybrids, and have compiled a list of the different species of Water Fowl (as far as I have been able to collect) which have produced hybrids. On referring to this list it will be seen that nineteen different kinds are mentioned; five of these are referable to the *Common Goose*, and five of them to the *Common Duck*; the remaining nine kinds are referable to species commonly kept, and which breed freely in a state of captivity. I am unable to find one instance of any species of the genus *Fuligula* (which includes no less than 15 species) having under any circumstances crossed. These birds are most difficult to breed in a state of captivity; I have known several pairs of the Common Pochard (*Fuligula ferina*) kept for years in places well-suited for breeding (where many wild species and one of this genus annually

breed), yet these birds showed no inclination to breed, although they were perfectly healthy, and assumed the breeding dress at the proper season. As these birds have the power of suppressing and checking their desires when not in a perfect state of nature, I cannot imagine or think it probable that they would associate and breed, in a state of nature, with species distinct from themselves, possessing as they do the power of travelling over the globe if necessary to find a mate of its own species. Again, the fact of three specimens having been obtained at distant periods, agreeing in internal as well as external characters, is I think sufficient to prevent any one entertaining such an opinion.

List of Hybrids.

Common Goose	Hooper Swan. Chinese Goose. Canada Goose. Bernacle Goose. White-fronted Goose.
Egyptian Goose	Chinese Goose. Spur-winged Goose. Common Duck.
Canada Goose	Chinese Goose. Bernacle Goose.
Bean Goose	Pink-footed Goose.
White-fronted Goose	Bernacle Goose.
Common Duck	Muscovy Duck. Shelldrake. Pintail Duck. Wigeon. Egyptian Goose.
Shoveller	Garganey Teal.
Pintail	Wigeon.

5. Notes on some rare Birds of New Zealand and Australia. By Mr. F. Strange, in a letter to John Gould, Esq., F.R.S. etc.

"Strigops habroptilus, G. R. Gray.—The *Ka-ka-po*, or Night Parrot of the New Zealanders, is an inhabitant of the western side of the Middle island, and like the *Kiwi-kiwi* or *Apteryx* is strictly nocturnal in its habits, and never leaves its retreat during the day; its usual place of resort consists of burrows, formed by itself, beneath the roots of large trees or under immense pieces of rock, whence they cannot, even by the natives, be easily dug out. Its food consists of fern-roots, which it digs up with its bill, and the outer covering of the leaves of flax, which it obtains by drawing the leaves between the mandibles and leaving the flax behind. They are not gregarious, more than two never being found together, except a pair of young ones, which appear to stop with the old birds until they have attained the size of their parents. This is one of the birds the natives set great store by, the head being cut off, strung by the nostrils, and

worn in the ears on their grand feast-days. It is known to the sealers by the name of the Green Bird of New Zealand.

"Apteryx Australis.—*Kiwi-kiwi* of the New Zealanders. I am told that a second species of *Apteryx* is to be found on the Middle island, that it stands about three feet high; it is called by the sealers the Fireman. Aware, from your figures and description, that the sexes differ considerably in size, I pointed this out to my informant; but he still persisted that there are two species, in confirmation of which opinion he added, that he had taken the eggs of the two birds, and found those of one species to be much larger than those of the other. The larger kind are nearly the size of the Emu's; they are somewhat long in form and blunt at the ends; their colour is a dirty white. They are deposited in a burrow on a nest formed of roots and sticks, and a few of the bird's own feathers.

"Scythrops Novæ Hollandiæ.—I send you the egg of this species, and also the female bird out of which it was taken, after she had received two shots."

April 27, 1847.

William Yarrell, Esq., Vice-President, in the Chair.

The following communications were read to the Meeting:—

1. Descriptions of the Eggs of some of the Birds of Chile. By William Yarrell, Esq., F.L.S.

From my earliest acquaintance with the eggs of our British Birds, I was led to consider that this department of natural history had not been studied with the attention these beautiful objects deserve; and the examination of collections of eggs made in India, Australia, North America, and more recently in Chile, have served to confirm my first impression.

The history of a plant would be incomplete if it did not include a description of the leaf, the flower, and the fruit, as these appear in succession.

Mr. MacLeay has told us in his 'Horæ Entom.,' p. 448, that "as the knowledge of the whole life of an insect must make us better acquainted with its nature than a mere description of one of its forms, in the same proportion ought metamorphosis to outweigh every other principle of arrangement."

Of two naturalists who studied the Lepidoptera of Europe, it has been stated, that "not satisfied with an acquaintance with the insect in its perfect state, they examined it also in the early stages of its

existence; they compared the various caterpillars with the butterflies which are produced from them, traced with indefatigable industry the plan of nature in these animals, and discovered the resemblance which was invariably preserved in the structure of species related to each other in affinity, in the different stages of their existence."

With these examples in view, I have been induced to consider the egg of a bird as one stage or condition in the life of the animal:

That the colour and markings we find deposited on the external surface of the shell afford indications by which classification may be assisted:

That the eggs of congeneric species will resemble each other in colour and markings, whatever may be the geographical locality in which such species are found.

Mr. Hewitson, in the introduction to his work containing excellent delineations of the eggs of British birds, observes, that "much useful and highly interesting information might be gained towards the classification of birds, by paying some attention to their eggs; and it is gratifying to find, in thus regarding them, that, with the exception of a few instances, were we to take the eggs of our British birds as our only guide, we should arrive at the best and most approved arrangement of the different genera."

I am aware that exceptions and discrepancies may be pointed out. The colour deposited on the egg-shells is an animal matter, dependent on the health of the bird. Fear or confinement acting constitutionally upon the organs of secretion are known to affect this colouring-matter.

The greatest amount of variation is found to occur among the *Laridæ*.

With these preliminary remarks, I proceed to the description of a collection of eggs of some of the birds of Chile, obtained by Mr. Bridges, and exhibited here by Mr. Cuming.

Cathartes Iota of Molina; Chilian name *Ioté*.—The egg of this Vulture measures 2 in. $\frac{8}{10}$ in length, and 1 in. $\frac{9}{10}$ in breadth: the shape is rather peculiar, being broadest at the centre and tapering gradually in both directions, so as to become pointed at both ends. The ground colour is white, slightly tinged with red; blotched with pale red; spotted and speckled with dark brownish red.

Haliaëtus aguia, Temminck; *Aquila* of the Spanish; *Calquin* of the Indians.—The egg is 2 in. $\frac{11}{20}$ in length by 2 in. $\frac{1}{20}$ in breadth; elliptic; white, with a few spots of dark red and numerous spots and speckles of pale red.

Polyborus Brasiliensis, Swainson; Chilian name *Traro* and *Taro*. —The egg of this bird is 2 in. $\frac{4}{10}$ in length by 2 in. in breadth; blotched, spotted and speckled with dark red, on a ground of reddish white. This egg, in its colour and markings, resembles those of our British Osprey.

Milvago pezoporos, Meyen; Chilian name *Tuique*.—The egg measures 1 in. $\frac{8}{10}$ by 1 in. $\frac{4}{10}$; white, tinged with red; blotched, spotted and speckled with dark brownish red.

Strix pratincola, Bonap.; *Strix flammea* of Wilson; *Strix Americana* of Audubon. Screech Owl.—The egg is pure white, and measures 1 in. $\frac{17}{20}$ in length and 1 in. $\frac{4}{10}$ in breadth.

Turdus Falklandicus of Quoy and Gaim.; Chilian name *Torzal*.—This egg closely resembles those of our British Missel Thrush. The ground colour pale bluish white, spotted and speckled with pale red. The length 1 in. $\frac{2}{20}$, the breadth three-quarters of an inch.

Geositta canicularia of Vieillot; Chilian name *Caminante*.—The egg is pure white, and measures $\frac{9}{10}$ of an inch in length by $\frac{7}{10}$ of an inch in breadth.

Cyanotis omnicolor, Swains.; Chilian name *Pajaro*.—This small egg measures only $\frac{13}{20}$ of an inch in length by half an inch in breadth; of a pure and spotless white, but some specimens of the eggs are tinged with pale buff-colour.

Crithagra brevirostris, Gould; Chilian name *Chirique*.—The egg is white, tinged with green, speckled with brownish red, and measures $\frac{7}{10}$ of an inch in length by half an inch and $\frac{1}{20}$ in breadth.

Fringilla Diuca, Mol. The Chilian name is *Thiuca* or *Diuca*.—The egg of this bird measures 1 inch in length by $\frac{7}{10}$ of an inch in breadth: the ground colour white, tinged with green, more or less mottled all over with two shades of greenish brown.

Phytotoma rara, Mol. Called *Rara* by the natives.—The egg measures 1 inch in length by $\frac{7}{10}$ of an inch in breadth, and is of a delicate bluish green, with a few specks of dark reddish brown at the larger end.

Sturnella Loica, Mol. The Chilian name is *Loica*.—The egg of this bird measures 1 in. $\frac{1}{10}$ in length by $\frac{8}{10}$ of an inch in breadth: the ground colour white, spotted and speckled with pale red, dark brownish red, and purple grey.

Icterus Thilius, Mol. The Chilian name *Thili* or *Trili*.—This egg measures 1 inch in length by $\frac{7}{10}$ of an inch in breadth: the ground colour white, sometimes tinged with buff, with a few spots and streaks of dark reddish brown deposited over the larger end.

Zenaida aurita, Temm.; Chilian name *Tortola*.—The egg of this species, which is the most common of the *Columbidæ* found in Chile, is white, and measures 1 in. $\frac{3}{20}$ in length by $\frac{9}{10}$ of an inch in breadth.

Columbina strepitans, Spix; *Tortolita cyana* of the Chilians.—The egg of this pretty little species of Dove is also of a pure white, smooth and shining; the length $\frac{9}{10}$ of an inch, the breadth $\frac{7}{10}$.

Nothura perdicaria, G. R. Gray; *Perdiz* of the Chilians.—This beautiful egg, of a uniform rich purple-chocolate brown, the surface smooth and polished, measures 1 in. $\frac{9}{10}$ in length and 1 in. $\frac{4}{10}$ in breadth.

Two other unnamed eggs in this collection, of the same character and colour as that of the *Nothura* last-described, and probably belonging to two species of the genus *Tinochorus* found in Chile, may be here referred to; the larger one 2 in. $\frac{1}{10}$ in length by $1\frac{3}{4}$ in. in

breadth; the other 1 in. $\frac{8}{10}$ in length and $1\frac{1}{4}$ in. in breadth. Elliptic in shape, of a rich and uniform purple-chocolate brown; the surface highly polished.

Another egg in this collection, not named, but apparently belonging to some species of *Tinamou,* may be mentioned on account of its beauty. It measures 1 in. $\frac{3}{10}$ in length, and 1 in. $\frac{1}{20}$ in breadth; the shape is elliptic, and the colour a uniform delicate siskin-green.

Rhea Darwini, Gould, 'Voyage of the Beagle,' Birds, page 123, plate 47.—The egg of this fine species measures $4\frac{3}{4}$ in. in length and $3\frac{1}{2}$ in. in breadth: elliptic in form; the colour whitish, but tinged with very pale asparagus-green. This egg is figured by Dr. Thienemann in his new work now in course of publication on the incubation of birds in general, part 1. page 4. tab. 2. fig. 2, with the additional name of *Rhea pennata D'Orbignii.*

Scolopax Paraguaiæ, Vieill. Called by the Chilians *Avecasina* and *Porrotero.*—The egg is $1\frac{3}{4}$ in. long and $1\frac{1}{4}$ in. broad; olive-brown, blotched and spotted with dark reddish brown and pale brown. This egg, in colour and markings, exactly resembles the egg of our most common British Snipe.

Vanellus Chiliensis.—The egg thus marked measures 1 in. $\frac{9}{10}$ in length and 1 in. $\frac{9}{20}$ in breadth: olive-brown, spotted with black and greyish brown; closely resembling the eggs of our British *Vanellus.*

Rallus sanguinolentus, Swains.; Chilian name *Piden.*—This egg is 1 in. $\frac{8}{10}$ long and $1\frac{1}{4}$ in. in breadth: the ground colour white, tinged with red, partially spotted with yellowish red. In its ground colour and markings very similar to the egg of our British *Rallus.*

Gallinula crassirostris, J. E. Gray. Called by the Chilians *Taguita.*—The egg reddish white, spotted with two shades of reddish brown; the length 1 in. $\frac{8}{10}$ by 1 in. $\frac{2}{10}$ in breadth.

Fulica galeata, G. R. Gray.—This egg, closely resembling that of our Common Coot in its colours and markings, measures 2 in. $\frac{1}{10}$ in length, and $1\frac{1}{2}$ in. in breadth: pale brownish white, or stone-colour, speckled over with nutmeg-brown.

Cygnus nigricollis, Gmelin. *Cisne* is the Chilian name for this Black-necked Swan. The egg is near 4 in. in length by $2\frac{1}{2}$ in. in breadth; white, tinged with pale buff.

Rhynchaspis maculatus. The Chilian name of this bird is *Pato Abaston.*—The egg measures 2 in. $\frac{3}{10}$ in length and $1\frac{3}{4}$ in. in breadth; dull, greyish white, tinged with green.

Querquedula cærulata, Eyton. The Chilian name of this little Duck (the *Anas Rafflesii* of Vigors) is *Pato colorado.*—The egg is 2 in. in length and 1 in. $\frac{4}{10}$ in breadth: the colour a uniform pale buffy white.

Anas Bahamensis? Linn., called *Pato Jergon grande* by the Chilians, produces an egg $\frac{1}{20}$ of an inch larger in both its dimensions than the egg of the *Pato colorado* last-described, and of a richer and more decided buff-colour.

Podiceps Chilensis, Garnot. Called by the Chilians *Guala* and

Gualon.—This large species of Grebe produces an egg of 2 in. $\frac{3}{20}$ in length by $1\frac{1}{2}$ in. in breadth, of a dull white, stained with earthy brown.

Podiceps Kalipareus, Quoy and Gaim. The Chilian name *Gualita de la Mar.*—The egg of this Grebe measures 1 in. $\frac{8}{10}$ by $1\frac{1}{4}$ in., of a dull white, some of them more or less stained with dirty brown, depending on the number of days they may have been deposited in the nest.

The egg of a third species of *Podiceps*, bearing the Chilian name *Gargari*, is yet a little smaller than the egg of the *Gualita* last described, measuring only 1 in. $\frac{6}{10}$ in length and 1 in. $\frac{1}{10}$ in breadth; the colour as usual in the eggs of all the Grebes.

2. Description of a new Genus of Emydæ. By J. E. Gray, Esq., F.R.S., F.Z.S. etc.

In the museum of the Zoological Society is a fine specimen of a large freshwater Tortoise, presented by Lieut. Mawe, R.N., who found it in South America in the year 1833.

It is marked by Mr. Fraser "Emys Mawii, Bibron, original of M. B.'s description, No. 6899," but I can find no such species described in M. Bibron's work, nor is it an *Emys* as defined by that author.

It differs from all the known Emydæ in being covered with very thin membranaceous scales, and in having a broad sternum with a series of four large distinctly defined plates placed over the sterno-costal suture. The gular plates are very small, and there are no axillary or inguinal plates.

My genus *Platystemon* has the same kind of sterno-costal plates, but quite a differently formed shell. The head is very large and the tail elongate.

Dermatemys, n. g.

Ch. gen.—*Testa* ovalis, gibba, acarinata, in lateribus rotundata, margine posteriore expanso, paulò reflexo, scutellis membranaceis tenuissimis defenso. *Scutellæ marginales* posteriores latæ. *Sternum* planum anterius rotundatum posterius emarginatum. *Squamæ gulares* parvæ, triangulares, testæ superiori per longum symphysin affixæ. *Sutura sterno-costalis* squamis magnis quatuor defensa, postremis duabus maximis squamis, minima anteriore. *Scutellæ* axillares et inguinales nullæ. *Testa* vix ad aperturam contracta.

Head ——? Toes webbed? Claws ——?

Shell oblong, convex, not keeled; sides rounded, hinder edge expanded, slightly reflexed, covered with very thin membranaceous shields. The hinder marginal shields broad. Sternum flat, rounded in front, notched behind: the gular plates small, triangular, united to the upper shell by a long symphysis; the sterno-costal suture covered with four large distinctly defined plates; the anterior smaller, the two hinder largest. The axillary and inguinal plates none. The cavity of the shell is scarcely contracted at the opening.

Hab. South America.

Dermatemys Mawii, n. s.—Vertebral plates: 1st broad, seven-sided; 2nd, 3rd and 4th longer than broad. Colour pale brown; the upper surface covered with small, close, irregular depressions of a darker brown colour; the shields pale, nearly transparent, very brittle when dry; the under surface uniform pale yellowish white, with slightly sunken grooves.

Length of upper shell 17 inches; width 11 inches; length of sternum $12\frac{1}{2}$ inches.

Remarks.—The specimen appears to be not quite full-grown. It has much of the external appearance of *Phrynops Geoffroyii*, and the general thinness of the scales of *Chelydidæ*; but there is no appearance of any scar on the inner surface of the sternum for the attachment of the pelvis; and though the gular scale is worn and nearly obliterated, yet it is sufficiently distinct to show that it has no intergular plate.

3. Descriptions of new Crustacea from the Eastern Seas. By Adam White, F.L.S.

Family Inachidæ.

Genus Doclea, Leach.

Doclea calcitrapa, White, n. s., List of Specimens of Crust. in Brit. Mus. p. 4.

Carapace with seventeen large spines on the back and sides, and sixteen smaller tubercles on the upper surface; seven of the large spines down the middle of carapace, six of them erect, the sixth springing from the base of the much-elongated horizontal terminal spine; the last of the spines of the side much longer than the other three. The whole surface seems to have been covered with hairs. The four hind pairs of legs are very long and slender.

Breadth of carapace 1 inch 4 lines; length 1 inch 10 lines.

A species distinguishable at first sight from the four species hitherto described, of all of which there are specimens in the Museum Collection.

Hab. Philippine Islands (Zebu): Brit. Museum. From Mr. Cuming's collection.

Family Maiadæ.

Hyastenus, White.

Carapace rather oblong, rounded on the sides behind, before and behind the eyes straight; a slight transverse groove in upper orbit; front with two horns as long as the carapace, at first parallel and then diverging and directed slightly downwards; outer antennæ with all the joints cylindrical; the insertion of the basal joint concealed by the frontal horn.

Fore-legs slender; second pair of legs the longest and very slender; terminal joint with the edge spined.

A genus allied to *Hyas* and *Chorinus*, the only species of which was long ago figured in the large work of Seba.

HYASTENUS SEBÆ, White, List of Specimens of Crust. in Brit. Mus. p. 6.

Upper surface somewhat roughish, and covered with a delicate down.

Cancer araneus cornutus alter, Seba, Thes. iii. 45. t. 18. f. 12.

Hab. Philippine Islands. From the collection of Mr. Cuming. Also found by Capt. Sir Edward Belcher, C.B.

Family PARTHENOPIDÆ.

CERATOCARCINUS, Adams & White.

Form of the carapace somewhat pentagonal; the sides, over the insertion of the first pair of legs, produced into a large spine directed slightly forwards; front wide and prominent, projecting on each side in the form of conical horns, widely separate from each other. Eyes rather small, peduncles short, the eye fitting into a groove on the side of the beak. Outer antennæ considerably developed, the terminal appendages at least half the length of the whole antennæ, and projecting beyond the horns of the beak.

First pair of legs much-elongated; the sides nearly parallel; the wrist somewhat pear-shaped, without spines on the inside, the edges of the pincers meeting and serrated. The second pair of legs longer, more slender than the last three pairs; the tarsal joint slender and elongated; fourth and fifth pairs of equal length; the fifth pair, as in *Eumedonus*, placed so high as nearly to conceal the insertion of the fourth pair; the tarsal joints of these legs thick; the claw at the end translucent. Abdomen of male as in *Eumedonus*; the female unknown.

This genus is closely allied to *Eumedonus* of Prof. Milne Edwards (Crust. i. 349), and, like it, comes from the Eastern Seas.

CERATOCARCINUS LONGIMANUS, n. s., List of Specimens of Crust. in Brit. Mus. p. 125.

Two pointed transverse tubercles, tufted with hair at the end, on the back of the carapace, behind the eyes; the first pair of legs covered with minute warts and with several deep longitudinal grooves; the pincers blackish brown, except at the base.

Hab. North coast of Borneo (Balambangan): British Museum. Presented by Capt. Sir Edward Belcher, C.B., R.N.

When alive, according to the observations of Arthur Adams, Esq., who found it, the colour of this species is blood-red, with five light bands across the carapace.

GONATONOTUS, Adams & White.

Carapace pentagonal, depressed, the lateral angles very sharp; the front very wide, lamelliform, dilated, rounded, slightly notched at the end. Eyes large, prominent; peduncles short, inserted in a deepish notch on the side. Outer antennæ with the terminal appendage elongated.

First pair of legs thickish; the wrist rounded and spined on the inside, the claws serrated on the edge; third and fourth pairs of

legs rather longer than the second and fifth; the tarsal joints of the second, third, fourth and fifth pairs of equal size and thickness; the fifth pair of legs inserted above the fourth pair.

Abdomen of female seven-jointed; three or four of the basal joints seen from above. Male unknown.

This genus is allied to *Eumedonus*.

GONATONOTUS PENTAGONUS, n. s., List of Specimens of Crust. in Brit. Mus. p. 125.

Carapace above closely verrucose, the warts depressed; a strongish ridge across the back, extending from one lateral angle to the other, with two tubercles in the middle; the front grooved down the middle; the centre of the back with two longitudinal impressions; terminal joint of abdomen in female verrucose.

First pair of legs verrucose; the pincers grooved.

Mr. Adams found this species on the coast of Borneo. When alive it is of a brick-red colour, with the chelæ crimson; under surface rufous.

LAMBRUS LAMELLIGER, White, List of Specimens of Crust. in Brit. Mus. p. 12.

Front depressed, flat, thin; upper surface of carapace with three largish protuberances behind, one in the middle and one on each side; carapace longer than wide; sides about the middle crenated; forelegs very long.

Breadth of carapace $4\frac{1}{2}$ lines; length $5\frac{3}{4}$ lines.

Hab. Philippine Islands. From Mr. Cuming's collection.

LAMBRUS TURRIGER, White, List of Specimens of Crust. in Brit. Mus. p. 12.

Carapace longer than wide; front small, depressed and considerably grooved in the middle, the side with a small tooth on each side; back of carapace with four elevated spines, thickened and blunt at the end, the first about midway between front and back; behind it another much higher, and one on each side of this; on the hind margin of carapace, in the middle, are two spines.

Arms very long, verrucose; legs very slender and smooth.

Breadth of carapace about 4 lines; length about $4\frac{1}{2}$ lines.

Hab. Philippine Islands: British Museum. From Mr. Cuming's collection.

Also brought by Capt. Sir Edward Belcher, C.B., R.N.

4. ON SOME UNDESCRIBED SPECIES OF LEPIDOPTERA IN THE SOCIETY'S COLLECTION. BY EDWARD DOUBLEDAY, ESQ., F.L.S. &c. &c.

Genus PIERIS.

PIERIS PHAOLA. *Pi. alis omnibus supra albis, anticarum margine externo latè nigro, posticarum punctis sex nigris notato, subtùs pallidè flavescentibus, basi flavis, marginibus externis nigro-punctatis.* Exp. alar. $2\frac{1}{4}$ unc. vel 57 millim.

Hab. Fernando Po.

Above, all the wings white, very slightly tinted with yellowish at the base; anterior wings with the costa narrowly black; the outer margin with a broad black border, dentate internally, broadest at the apex. Posterior wings with a series of seven round black dots on the margin.

Below, pale cream-colour or white, slightly tinged with yellow; palest on the disc of the anterior wings; the base and costa of the anterior and the costa of posterior wings yellow; apex and outer margin of anterior wings with a series of nine black dots, of which the first to the sixth are minute, the seventh larger and double, the eighth and ninth larger than any except the seventh. Posterior wings with a marginal series of seven black dots: the first, second and third very minute, fourth, fifth and sixth progressively larger, seventh small.

Head, thorax and abdomen black, sprinkled especially below with white scales. Antennæ black, annulated with white.

In the collection of the Zoological Society.

This species is closely allied to *P. Eudoxia*, but differs in wanting the bright orange patch at the base of the anterior wings, and in the form and number of the dots on the posterior wings, as well as in the colour of the under surface, which is pure white with a silvery lustre in the males of that species.

Pieris Matuta. *Pi. alis omnibus supra albis, apice anticarum nigro; margine posticarum nigro punctato; subtùs albidis basi anticarum costaque posticarum luteis.* Exp. alar. $2\frac{1}{2}$ unc. vel 63 millim.

Hab. Fernando Po.

Wings above white, the anterior with the apex and outer margin as far as the third median nervule irregularly black; a black spot on the margin above the first and second median nervule. Posterior wings with a slender cuneiform dot at the extremity of each nervule. Below, anterior white, the costa itself very narrowly black, the base marked with a broad luteous patch. Posterior wings very pale cream-colour, with slight pearly reflections, the costa at the base luteous. Extremities of the nervules slightly fuscous. Head and thorax black, clothed with white hairs. Abdomen black, covered with white scales. Antennæ black, annulated with white.

Genus Aterica.

Aterica Barce. *At. alis omnibus supra æneo-nigris, marginibus externis fuscis, subtùs ochraceis, fascia communi transversa, plaga discoidali anticarum, strigis undatis maculisque brunneis.* Exp. alar. $2\frac{1}{4}$ unc. vel 55 mill.

Hab. Sierra Leone.

Above, all the wings æneo-fuscous, with green and bluish reflections; the outer margin of the anterior broadly fuscous at the apex, less so at the anal angle; a slight fuscous cloud at the end of the cell and another much larger beyond it. Posterior wings with the costal and abdominal margins and the outer angle broadly fuscous; outer margin, except at the angle, narrowly so. Abdominal fold

thickly lined with long hairs. Cilia fuscous, spotted with whitish. Below ochrey brown, the anterior wings with a minute dark brown spot in the cell close to the base; a large, irregular, subtriangular, dark brown patch before the middle, divided in the cell by a spot of the ground colour. Beyond the middle is a much-waved abbreviated brown striga, and a similar one extends along the whole outer margin. Between these two strigæ is a transverse band of a vinous brown, commencing at the apex and extending to the middle of the inner margin, narrow at its commencement, broad at its termination, where it occupies nearly the whole space from the middle of the wings to the anal angle, and is divided by a faint ochrey cloud. Posterior wings with a broad reddish brown band across the middle, divided by a pale ochreous spot near the costa, beyond which is a paler brown cloud. Near the margin is a much-waved brown striga, and the outer angle is brown. Near the base is a somewhat reniform brown spot, paler in the centre, and below it a ring of the same colours.

Head, thorax and abdomen fuscous above, rufescent below. Antennæ very long, black.

In the collection of the Zoological Society.

Genus Charaxes.

Charaxes Phraortes. *Ch. alis omnibus supra fulvis, nigro limbatis maculatisque, anticis serie marginali punctorum, posticis lunularum fulvarum; subtùs saturatè fulvis, fascia media alteraque submarginali argenteis, maculis plurimis, vittisque numerosis nigris argenteo cinctis.* Exp. alar. $4\frac{1}{2}$ unc. vel 116 mill.

Hab. Madagascar.

Above, all the wings fulvous, with a broad black border externally, broadest on the posterior wings, marked on the outer margin of the anterior with a series of fulvous dots between the nervules, and on the posterior just within the margin with a series of lunules also placed between the nervules; this border is irregularly dentate within on the anterior wings, and divided near the apex by a row of four fulvous dots; not dentate internally on the posterior wings, but less defined, being slightly shaded into the fulvous. The base both of the anterior and posterior wings is slightly shaded with fuscous, and the anterior are marked, in the cell, with two rounded spots, an elongate subquadrate one on the disco-cellular nervules, a subquadrate one immediately beyond the cell above the third median nervule, a longer one immediately below this, and another broadly lunate between the first and second median nervule, all black. Between these spots and the black margin is a short submacular band extending from the costa to the second disco-cellular nervule. Outer margin of anterior wings sinuate, dentate, of posterior dentate, caudate.

Below, the anterior wings are bright deep fulvous at the base and along the costa beyond the middle of the wings; marked as above with black spots and a short marginal black band, but all these mark-

ings are broadly margined with silvery white; and there are, in addition to the spots of the upper surface, a small round spot in the cell close to the base, and an oval one above the first median nervule near its origin, both black with a silvery border. Beyond the middle is a silvery white irregular band, narrowed on the costa, where it is marked by four black dots, the third and fourth indistinct, broadest on the inner margin, where it becomes of a pearly hue. Between this band and the margin the prevailing colour is a pale fulvous. A band composed of a series of silvery grey lunules commences on the costa and terminates on the submedian nervure. These lunules have their points directed inwards, and are margined internally with black, those nearest the costa less broadly than the others. The terminations of the nervules are bordered with silvery grey, and beyond this with black, and the cilia are spotted with the same colours. The posterior wings are bright deep fulvous, paler towards the outer margin, traversed beyond the middle by a flexuous silvery band. At the base, before the precostal nervule, is an oval black spot bordered with silvery white; beyond this is a macular band composed of four black transverse vittæ bordered with silvery white, extending from the costa to the abdominal fold; the inner vitta transverse only at its origin, extending down the abdominal to unite with a similar fold which traverses the cell and descends obliquely between the first median nervule and the submedian nervure. The inner margin of the silvery band is marked with a series of black spots and vittæ, and the abdominal fold is beautifully marked with alternate silvery, bright fulvous and black vittæ. Near the outer margin is a broad silvery white band sprinkled with grey and fulvous scales, and clouded with these colours, bordered externally with black. On the outer margin itself is a narrow black border, margined internally with white. Cilia, except on the tail, white.

Head fulvous. Thorax fulvous above, streaked below with fulvous and white. Legs white.

In the collection of the Zoological Society.

This beautiful insect is closely allied to *Ch. Castor*, but may at once be known by the silvery markings below.

5. Description of Strigops habroptilus. By G. R. Gray, Esq., F.L.S. &c.

With reference to the interesting particulars about *Strigops habroptilus*, communicated by Mr. Gould (*suprà* p. 50), I am induced to remark that this singular bird was first noticed under the native name of Kakapo in the Appendix to Dr. Dieffenbach's Travels in New Zealand, where it was suggested to belong to the family of *Cuculidæ*, from the supposed similarity of the few feathers brought by that gentleman to those of the genus *Centropus*. This idea was at once dispelled by the arrival of the perfect specimen now in the British Museum, from which a figure was made by my friend Mr. Mitchell, and published as pl. 105 in the 'Genera of Birds.' The singular appearance of the feathers of the head, and especially their arrange-

ment about the bill, gives it much of the expression of the family *Strigidæ*. It was this resemblance that induced me to give it the above generic name. Dr. Dieffenbach states that its native name implies that its habits are nocturnal: the natives catch the bird by torchlight. He further informs us that it chiefly inhabits the South island of New Zealand, but is very rare even in that locality, which is in some degree the result of the destruction it meets with from the attack of cats and dogs, to which its habit of frequenting the lower branches only of trees the more readily exposes it.

As I have never published a specific character, I subjoin the following:—

STRIGOPS HABROPTILUS, G. R. Gray. *Str. olivaceo-viridis viridi-griseo tinctus, plumis singulis strigâ medianâ flavâ nigro-marginatâ extus irregulariter transversè nigro-fasciatis, tectricum majorum remigum secundariorumque pogoniis exterioribus caudâque totâ pallidè umbrinis transversè luteo-fasciatis fasciis irregulariter nigro-marginatis; subtùs pallidior luteo tinctus plumis singulis strigâ medianâ lutea piceo-marginatâ extus irregulariter transversè piceo fasciatis; fronte, genis, regionibus auricularibus plumisque ad rostri basin prominentibus pallidè umbrinis medio luteo-notatis; rostro albo, pedibus plumbeis.*

Upper surface sap-green, with a verdigris tinge on the wings; each feather marked in the middle with yellow, which is margined on the sides with black, from which spring irregular transverse bands of the same colour; the outer webs of the greater wing-coverts, quills, secondaries and the entire tail, brownish buff, irregularly banded transversely with black; between every alternate set lemon-yellow; the inner webs of quills and secondaries black, more or less transversely banded with lemon-yellow. Under surface pale greenish yellow, tinged with lemon-yellow, more or less marked along the shaft with pale yellow, which is narrowly margined with brownish black; some of the feathers have transverse bands of the same colour.

The top of the head brownish black, margined outerly with sap-green, tinged in some places with verdigris, and marked in the middle with pale yellow; the front, cheeks, ear-coverts and the projecting feathers of the face pale umber, marked in the middle with yellowish white. Bill white; feet plumbeous-black.

Length, 2 feet 4 inches; bill, 1 inch 8 lines; wings, $11\frac{1}{2}$ inches; tail, $9\frac{1}{4}$ inches; tarsi, $1\frac{3}{4}$ inch.

May 11, 1847.

William Spence, Esq., F.R.S., in the Chair.

The following paper was communicated to the Meeting:—

On the Genera of the Family Chitonidæ. By J. E. Gray, Esq., F.R.S.; F.Z.S. etc.

This family now contains so many species, offering such varied modifications of form and structure, that it becomes necessary to separate it into several genera, for the purpose of more accurately determining the species and showing their relations to each other.

Most authors have regarded the family as a single genus, and even M. De Blainville, who formed the family into a class under the name of *Polyplakiphora*, so regarded them. He forms of this class and his *Nematopodes* or Barnacles a subtype of the animal kingdom, which he called *Malentozoaria* or *Molluscarticulata*; but there is no sufficient character to separate the Chitons from the other Mollusca, and the *Nematopodes* are now known to be *Crustacea*, so that this division or subtype of the animal kingdom has been erased from the system by most succeeding authors.

Dr. Leach in his MSS. proposed to divide this family into genera, according to the form of the appendages which cover the upper surface of the mantle; and Risso, who was in constant correspondence with Dr. Leach, has in his work published two of Dr. Leach's genera. Mr. Guilding has formed some genera on the same principles in the Zoological Journal, and I have added two others in the Synopsis of the British Museum for 1841.

I may remark that these appendages of the mantle form exceeding good characters for the more minute division of the groups, but the scales so gradually pass into spines or tubercles on the one side, and on the other they so gradually diminish in thickness to furfuraceous scales, which are easily deciduous that it is difficult to define when they are quite absent; therefore they do not afford characters of sufficient importance to use them as Leach, Risso and Guilding have done, for the primary divisions of the family.

Lamarck divided the family into two genera, *Chiton* and *Chitonellus*, but he left in the former genus several species which are more naturally allied to the latter.

M. De Blainville in 1825 published a monograph of the family, under the article 'Oscabrion' in the Dict. Sci. Nat. xxxvi., in which he introduced some new characters for the division of the species into sections. He observes: "Les organes sur lesquels nous appellerons successivement l'attention pour le distinction des espèces sont les suivants:—

"1. L'existence ou l'absence des paires de pinceau de soies dis-

posés bien regulièrement de chaque côte du limbe, qu'il soit revêtu ou non d'écailles, d'épines, ou même de poils.

"2. La disposition des branches commençant plus ou moins en arrière et se terminant plus ou moins en avant.

"3. La forme de valves de la coquille, considérée spécialement dans l'existence plus ou moins marqué des aires latérales.

"4. La grandeur proportionnelle de ces valves et leur dégré d'occlusion.

"5. La forme des lames d'insertion et le nombre de leur échancrures ou dents.

"6. Enfin la disposition des couleurs de la coquille."—*D. S. N.* xxxvi. 536.

Certainly this was a great improvement to what had been previously done, but unfortunately M. De Blainville appears to have had the opportunity of observing only a limited number of species, and has placed the others in the sections to which, from their external appearance, they appeared to belong, though on examination they have not the characters assigned to the division in which they were placed: thus *Chiton amiculatus*, p. 546, is said to have the front and hinder valves lobed and pectinated; *C. niger*, p. 541, the teeth of insertion pectinated; *C. echinatus*, p. 550, the anterior and posterior valve toothed; and *C. gigas*, the lobes not pectinated.

From repeated examination and comparison I am inclined to consider the following as the best characters for the distinction of the genera and species, arranged according to their permanence and importance.—

1. The presence or absence of the pores, furnished with a bundle of spicula on each side of the mantle.
2. The comparative length and position of the gills.
3. The form and modification of the plate of insertion of the valves, especially of the posterior valve.
4. The size and form of the exposed part of the valve, and the kind of sculpture on its surface.
5. The absence or presence of appendages on the mantle, and the form, sculpture on the surface, disposition, and equality or inequality of size of these appendages.
6. The colour of the valves and appendages of the mantle.

It has been objected, that the character derived from the form of the plates of insertion can only be seen by the destruction of the specimens, as they are generally kept in the cabinets: this is not always the case, for they can generally be seen from the under-side or through the substance of the mantle; but when this is not the case, the form of the plates of insertion can be easily discovered by carefully paring away the under part of the mantle, so as to show part of the edge of the valve without any injury to the specimen. And it should be recollected too, that the separate valves are the only part of the molluscous animals which are usually kept in cabinets.

The number of lobes into which the edge of the margin of insertion is divided may be also easily seen by the porous lines which are to be observed on the inner surface of the valves, diverging from the

apex to the margin, each of these lines going to the bottom of the notch which separates the lobes on the inner processes of insertion.

Various authors, as Spengler, Chemnitz, De Blainville, Sowerby, Barnes and Reeves, have described and figured many species of the genus.

Synopsis of the Genera.

I. *Mantle simple, without any pores or tuft of spines on the sides.*

A. *The plate of insertion of the anterior and posterior valve divided into several lobes, and of the central valves into two lobes.*

a. The valves exposed, broad, with regular, equal, well-defined margin for insertion, divided into lobes more or less denticulated. The hinder valve with the apex superior, subcentral.

1. Chiton. The posterior valve entire; margin covered with regularly-disposed imbricate scales.

2. Tonicia. Posterior valve entire; margin naked.

3. Acanthopleura. Posterior valve entire; margin spinose, spinulose or bristly.

4. Schizochiton. Posterior valve with a deep notch on its central hinder margin; mantle slit behind.

b. The valves exposed, broad; the hinder valve with a slightly raised, smooth or slightly crenated plate of insertion (not divided into lobes on the sides), and with the apex subterminal.

5. Corephium. The hinder valve with a rather raised apex, and the plate of insertion crenulated, with one small central slit.

6. Plaxiphora. The hinder valve with a produced posterior apex, and the plate of insertion entire, smooth, rounded; valves thin; mantle with tufts of bristles.

7. Onithochiton. The hinder valve with a produced terminal apex; plate of insertion entire, rounded; valves thick; mantle covered with spines, bristles, or chaff-like scales.

8. Enoplochiton. The hinder valve with a produced terminal apex; plate of insertion entire, rounded; valves thick; mantle covered with oblong, unequal, elongated, oblong scales.

B. *The plate of insertion of all the valves with only a single notch on each side. The valves more or less covered; the hinder valve with expanded plates of insertion (as in the central valves), with only a single notch on each side, and a concave sinuosity below.*

9. Mopalia. Valves, exposed part broad, transverse; plates of insertion moderate; mantle spinulose; front edge sometimes expanded.

10. Katharina. Valves, exposed part small, cordate, as long as broad; mantle smooth.

11. Cryptochiton. Valves entirely hidden; mantle covered with tufts of spicula.

II. *Mantle with a series of pores (each furnished with a tuft of spines) on each side. The plates of insertion of all the valves with only a single notch on each side, which is sometimes rudimentary.*

12. Cryptoconchus. Exposed part of valves very small, linear, much longer than broad; mantle smooth.

13. Amicula. Exposed part of valves small, subcordate, as broad as long; mantle bristly.

14. Acanthochites. Exposed part of valves moderate, broad cordate, as long as broad; mantle spinulose.

15. Chitonellus. Exposed part of valves linear-lanceolate, elongate; body vermiform; mantle spinulose.

1. Chiton, *Linn.* (part), *Guilding, Z. J.* v. 27; *Swainson*; *Gray, Syn.* Lepidopleurus, "*Leach MSS.*," *Risso, Eur. Merid.* 267. Chiton, sect. A. 1. *Blainv.* Lepas spec., *Adanson.* Corephium, *Brown.* Lophurus, *Poli.* Gymnoplax, *Gray.*

* *Scales of the margin moderate, smooth, polished; valves thickish.*

Ch. striatus, *Barnes.* Ch. olivaceus, *Frembly, Sow. C. Ill.* f. 3, 41. Chiloe.
Ch. Cumingii, *Frembly, Sow. C. Ill.* f. 32, 51. Chili.
Ch. albolineatus, *Sow. C. Ill.* f. 39. Mexico.
Ch. squamosus, *Linn.* Ch. bistriatus, *Wood.* Ch. obscurus, *Sow.* West Indies.
Ch. sulcatus, *Wood, Sow. C. Ill.* f. 12.
Ch. granosus, *Frembly.* Chili.
Ch. Barnesii, *Gray.* Coquimbo.
Ch. glaucus, *Gray, Spic. Zool.*=Ch. viridis, *Quoy.*
Ch. granulosus, *Frembly.* Conception.
Ch. Siculus, *Gray.* Ch. Polii, *Desh.* Sicily.
Ch. lyratus, *Sow. C. Ill.* f. 126.
Ch. foveolatus, *Sow. C. Ill.* f. 60.
Ch. excavatus, *Gray, Sow. C. Ill.* f. 131.
Ch. fasciatus, *Wood, Sow. C. Ill.* f. 153.
Ch. australis, *Sow. C. Ill.* f. 46.
Ch. Stokesii, *Brod., Sow. C. Ill.* f. 24.
Ch. virgulatus, *Sow. C. Ill.* f. 132.
Ch. patulus, *Sow. C. Ill.* f. 134.
Ch. marmoratus, *Gmelin, Sow. C. Ill.* f. 148. West Indies.
Ch. evanidus, *Sow. C. Ill.* f. 139.
Ch. articulatus, *Sow. C. Ill.* f. 18. California.
Ch. lævigatus, *Sow. C. Ill.* f. 18*. California.
Ch. Goodallii, *Sow. C. Ill.* f. 50. Galapagos.

** *Scales of the mantle small, smooth, polished.*

Ch. Bowenii, *King, Sow. C. Ill.* f. 37. Magellan Str.

*** *Scales of the margin transversely grooved; valve rounded, not keeled, thin.*

This section forms a very natural group.

Ch. textilis, *Gray, Spic. Zool.*=Ch. longicymba, *Blainv., Quoy.*

Ch. Indicus, *Sow. C. Ill.* f. 55. Ch. Solea, *Sow. C. Ill.* f. 61. Cape of Good Hope.

Ch. Magdaliensis, *Hinds.*

**** *Scales of the margin lanceolate, elongate, erect, closely pressed.*

Ch. lævis, *Mont.*=Ch. corallinus, *Risso.*

2. Tonicia, *Gray, Syn.* Chiton, *Risso, E. M.* 267.

* *Valves broad, transverse.*

T. atrata. Ch. atratus, *Sow. C. Illust.* f. 57, 58. Falkland Islands.

T. elegans. Ch. elegans, *Frembly, Sow. C. Illust.* f. 73, 74. Ch. Chiloensis, *Sow.* Ch. lineolatus, *Frembly.* Ch. graniferus, *Sow.* Ch. Sparius, *Sow.* Conception Bay.

T. rubra. Ch. ruber, *Linn.* Ch. marmoreus, *O. Fab.* Ch. latus, *Lowe.* Ch. fulminatus, *Couth.*

T. fulva. Ch. fulvus, *Wood, Sow. C. Ill.* f. 53. Cadiz.

T. lineata. Ch. lineatus, *Wood, Sow. C. Ill.* f. 77.

T. Swainsonii, *Sow. C. Ill.* f. 5. Peru.

T. cerasina.

T. lævigata. Ch. lævigatus, *Flem.*

T. lyrata.

T. Grayii. Ch. Grayii, *Sow. C. Illust.* f. 8—16. Peru.

T. castanea. Ch. castaneus, *Wood, Sow. C. Illust.* f. 114, 115, 116. Cape of Good Hope.

T. fastigiata. Ch. fastigiatus, *Gray, Sow. C. Illust.* f. 11. California.

** *Valves moderate, subcordate, rounded, and far apart on the sides; lobes of insertion wide; mantle broad.*

T. disjuncta. Ch. disjunctus, *Frembly, Zool. Journ.* t. 77. f. 5, forms the passage to the Chitons, which have only a small part of the valves exposed.

3. Acanthopleura, *Guild. Z. J.* v. 27; *Gray, Syn.*

Canthapleura, *Swains.*

This genus gradually passes to *Onithochiton.*

* *The plate of insertion of the hinder valve well-developed, regular; valves thin; lateral area distinct; margin bristly.*

A. Peruviana. Ch. Peruvianus, *Lam., Sow. C. Ill.* f. 44. Peru.

A. bicolor. Ch. bicolor, *Adams.* West Indies.

A. Hennahi. Ch. Hennahi, *Gray, Sow. C. Ill.* f. 1 & 33.

A. Watsonii. Ch. Watsonii, *Sow. C. Ill.* f. 81, 82, 130 = Ch. castaneus, *Quoy.*

** *The plate of insertion of the hinder valve narrow, rather irregular.*

† *Margin bristly; lateral area distinct.*

A. nobilis, *Gray*. New Zealand.

†† *Margin spinose or spinulose; lateral area indistinct.*

A. picea. Ch. piceus, *Sow. C. Ill.* f. 147. West Indies.
A. spinigera. Ch. spinigerus, *Sow. Conch. Ill.* f. 68. Peru.
A. Owenii, *Gray*. West coast of Africa.
A. spinosa. Ch. spinosus, *Brug.*, *Sow. C. Illust.* f. 151. Australia.
A. brevispinosa. Ch. brevispinosus, *Sow. C. Illust.* f. 136. Island of Johanna.
A. magnifica. Ch. magnificus, *Gray*, *Sow. C. Illust.* f. 52.

††† *Margin smooth?; lateral area very distinct.*

A.? gigas. Ch. gigas, *Gmel.* Cape of Good Hope.
A.? truncata. Philippines.

4. Schizochiton.

Valves elongate, subcordate, narrow; lateral area short, distinctly defined; the hinder valves large, with a subposterior superior apex and a deep notch on its hinder lower edges, and the plate of insertion small, with a few oblique notches, scarcely pectinated. Mantle broad, covered above with small chaff-like scales, deeply notched behind.

Schizochiton incisus. Chiton incisus, *Sow.* Philippines.

5. Corephium.

Valves broad; wing of insertion of the anterior valve lobed and pectinated; the hinder valve oblong, with a subcentral, subposterior, not produced apex; the edge of insertion distinct, not lobed on the sides, with a single nick behind, and slightly denticulated; mantle spinose.

C. echinatus. Chiton echinatus, *Barnes*. C. tuberculiferus, *Sow.* Ch. spiniferus, *Frembly*; *Sow. C. Illust.* f. 47, young.

6. Plaxiphora.

P. Carmichaelis. Chiton Carmichaelis, *Gray*, *Spic. Zool.* Ch. albidus, *Blainv.* 547. Ch. raripilosus, *Blainv.* 547. Ch. costatus, *Blainv.* 547. Ch. biramosus, *Quoy*, *Voy. Astrol.* t. 74. f. 12, 16. Ch. setiger, *King*, *Z. J.* v. 338; *Sow. Conch. Ill.* f. 17. Ch. Frembli, *Brod. P. Z. S.* 1832, 28; *Sow. Conch. Ill.* f. 2. Ch. setosus, *Sow.*, *Beechey Voy.* Terra del Fuego.

See also Ch. setosus, *Sow. C. Ill.* f. 19?

7. Onithochiton.

O. Gaimardi. Chiton Gaimardi, *Blainv.* 546.
O. hirtosus. Chiton hirtosus, *Blainv.* 546.
O. undulatus. Ch. undulatus. Van Diemen's Land.

8. Enoplochiton.

E. niger. Ch. niger, *Barnes*. Ch. Coquimbensis, *Frembly*. Coquimbo.

The valves become very much eroded.

9. Mopalia.

Valves broad, transverse, depressed; margin of insertion moderate; the hinder valve with a rounded lobe on the hinder edge; mantle moderately broad, bristly above, narrow behind.

* *Margin moderately wide in front.*

M. Hindsii. Ch. Hindsii. West coast of America.
M. Simpsonii. Ch. Simpsonii, *Gray*. Brit. Mus.

** *Margin very wide in front.*

M. Blainvillii. Ch. Blainvillii, *Sow. C. Ill.* f. 6. Inner Lobos Island.

10. Katharina.

K. tunicata. Chiton tunicatus, *Wood, Conch.* ii. t. 2. f. 1; *Cat.* t. 1. f. 10. Wood's specimen is now in the British Museum.
K. Douglasiæ. Ch. tunicatus, *Sow. C. Illust.* f. 152. California.

11. Cryptochiton.

The gill only occupies the hinder part of the sides.

C. amiculatus. Ch. amiculatus, *Pallas, Nov. Comm. Petrop.* ii. 241. t. 7. f. 26, 30; *Sow. Tank. Cat.* (spec. Brit. Mus.); *Wood, Cat.* t. 1. f. 12, inner side of shell; *Sow. Conch. Illust.* f. 80, half-grown. Chiton Sitkensis, *Reeve's Conch. Icon.* f. 55, adult. Kurile Islands.

12. Cryptoconchus, "*Blainv.*," *Swainson*; *Gray, Syn.*

Body oblong, rather convex; back flattish or concave in the centre, with the tuft of spines on the upper part of the sides of the back. The gills extend about half the length of the sides.

Cryptoconchus porosus, "*Blainv.*," *Burrows, Elem. Conch.* 190 (1815), spec. Brit. Mus. Chiton porosus, *Burrows, E. C.* t. 28; *Wood, Cat.* t. 1. f. 39. Ch. Leachii, *Blainv. D. S. N.* 554, spec. Brit. Mus. Ch. monticularis, *Quoy, Voy. Astrol.* t. 73. f. 30, 34, 36, and lower fig. 7; *Sow. Conch. Illust.* f. 129, valves. New Zealand.

13. Amicula, *Gray, Syn.* 1840.

Body ovate, convex; back convex; mantle bristly.

Amicula vestita. Chiton vestitus, *Sow. Zool. Journ.* iv. 368; *Sow. Conch. Illust.* f. 128. Ch. Emersonii, *Couthoy*. Atlantic Ocean.

14. Acanthochites, *Leach, B.M.*; *Gray, Syn.*

Acanthochites, "*Leach.*" Acanthochitus, *Risso*. Phakellopleura, *Guild., Swainson*. Chitonellus (part.), *Guild.* Acanthochiton, *Herrm.*

Body oblong, elongate, rather depressed; mantle spinulose; tuft

of spines generally large; gill extending about two-thirds the length of the sides.

M. De Blainville says, the valves of this genus are always without any trace of lateral area (*D. S. N.* xxxvi. 537), but this must have arisen from his only having examined worn specimens.

A. fascicularis. Ch. fasc., *Linn.* C. echinites, *Blainv.*, *Sow. Conch. Ill.* f. 87—93.

A. Garnoti. Ch. Garnoti, *Blainv. D. S. N.* 552?; *Quoy, Voy. Astrol.* t. 73. f. 9, 14. Asc. Zelandica, *Quoy, Voy. Astrol.* t. 73. f. 5. A. Hookeri, *Gray, Dieffenbach*, 262.

A. polychetus. Ch. polychetus, *Blainv.* 553.

A. roseus. Ch. roseus, *Blainv.* 553.

A. Lesueurii. Ch. Lesueurii, *Blainv.* 553.

A. scaber. Ch. scaber, *Blainv.* 553.

A. violaceus. Ch. violaceus, *Quoy, Voy. Astrol.* 73. f. 13, 16, 17, 20; not *Sow. Ill.* f. 133.

A. hastatus. Ch. hastatus, *Sow. C. Ill.* f. 127.

A. hirundiniformis. Ch. hirundiniformis, *Sow. C. Ill.* f. 148.

A. strigatus. Chitonellus latus, *Guild. Z. Journ.* v. 28. Chitonellus strigatus, *Sow. C. Ill.*

15. Chitonellus, *Lam.*

Chitonella, *Desh.* Cryptoconchus, "*Blainv.*," *Burrows.* Cryptoplax, *Blainv.* Chitoniscus, *Herrm.*

Body elongate, compressed, convex above; mantle covered with crowded spines; the exposed part of the front valves oblong, square, broad, often worn; of the hinder ones narrow, lanceolate; the plates of insertion large, produced in front, and scarcely notched on either side. The gills occupy the hinder third of the sides.

M. De Blainville inserts Lamarck's species of Chitonelli with the spiny Chitons in section D., and in section E. he redescribes them, from specimens in spirits in the British Museum.

Chitonellus lævis, *Lam.* Chiton vermiformis, *Blainv. D. S. N.* xxxvi. 553. Oscab. fascie, *Quoy, Voy. Astrol.* t. 73. f. 21, 29. Cryptoconchus larvæformis, "*Blainv.*," *Burrows, Elem. Conch.* 190. t. 28. f. 2, 4; *Wood, Cat.* t. 1. f. 40. Philippines.

Chitonellus striatus, *Lam.*; *Sow. Conch. Illust.* f. 62? Oscab. ocule, *Quoy, Voy. Astrol.* t. 73. f. 37, 38. Australia.

The fossil Chitons of the older strata described by Munster, more lately by Ryckholt, *Bull. Acad. Brux.* 1845, xii. 36. t. 1—4, appear to belong to a peculiar genus, which may be called *Gryphochiton*, most nearly allied to *Chitonellus*.

I have described some peculiarities in the development, disposition and structure of the valves of the Chitons in a paper which will be read at the Royal Society on the 16th of June next.

May 25, 1847.

Harpur Gamble, Esq., M.D., in the Chair.

The following communications were made to the Meeting:—

1. Note on the early generative power of the Goat. By John Davy, M.D., F.R.S., Inspector-General of Army Hospitals. (Communicated by Geo. Gulliver, F.R.S.)

In the young salmon, the par, we have the remarkable example, now well-authenticated, of the precocious development of the testes with functional activity. What I have witnessed in the young male goat in this island (Barbadoes) as regards its generative power, is hardly, it appears to me, less remarkable. I shall briefly notice the few circumstances which have come to my knowledge illustrating it; such as I can state with certainty as facts.

On the 2nd of May, 1846, a goat which belongs to me gave birth to two kids, a male and a female. When less than a month old, the former exhibited strongly the sexual propensity. When about five weeks old, the penis was protruded in his attempts to copulate. When four months old the mother was in heat, and was then covered and impregnated by her offspring. Five months after, viz. on the 2nd of February, 1847, she gave birth to four kids—three females, one male, all of the usual size and vigorous. On the 10th of February I had the male kid castrated: each testis was about the size of a French bean. A little transparent fluid was obtained from the vas deferens, which under the microscope, viewed with a high power, exhibited some granules, a few fine fibres, and one that had the appearance of a pretty well-formed spermatozoon. The fluid procured from the incised substance of the testis contained many blood-corpuscles, some dark granules and a few small spermatozoa; these were best seen after having been dried on the glass support.

The young female received the male shortly after the mother, but was not then impregnated.

It is said here that the goat breeds at six months old. It is also said that both male and female are two years in attaining their full size.

The goat of Barbadoes appears to resemble in every respect the common goat of Europe, from whence it is supposed to have been originally brought.

The precocity of the young male, as I have described it, and of the effect of which in its generative power there can be no doubt, as the female had access to no other male, is here not considered extraordinary. Whether the same function at so early an age is exercised in a cooler climate, I am ignorant. Should it be found to be so exercised, it may perhaps be considered a provision of nature to secure the preservation of the species, endangered by the localities

the animal in its wild state inhabits amongst precipitous rocks, subject to the attacks of birds and beasts of prey. In accordance with this idea I may remark, that the young pair of kids when five weeks old, when they began to eat grass freely, kept constantly together, and were more frequently absent from than with the mother. The colostrum and the milk of the goat, I may add, containing an unusual proportion of nutritive matter, as indicated by their specific gravity, may also be considered in accordance with this idea. The colostrum first drawn, I have found of the high specific gravity 1088; it coagulated at about 170°. The milk drawn the following day was of the specific gravity 1041; it formed a soft coagulum at about 182°, and a firm one at about 190°. The milk drawn two days later was of specific gravity 10343. After this it underwent very little change; some drawn a week after was of specific gravity 10333, and some drawn three weeks later was of the same specific gravity.

Barbadoes, April 15th, 1847.

2. Descriptions of some New Genera and Species of Asteriadæ. By John Edward Gray, Esq., F.R.S. etc.

In the 'Annals and Magazine of Natural History' for November 1840 I published a monograph of the species of this group then known to me, and divided them into five families and several genera; since that time the British Museum has received numerous specimens further illustrative of those which we then possessed, and many other specimens, several of which are the types of new genera. Some of these I shall proceed to describe in the following communication, intending on a future occasion to send the remainder.

I may remark, that for several years before the publication of that paper, I had been engaged in the study of these animals, with the intention of publishing an illustrated monograph of the order. The preparation of the plates has occupied many years, but I hope it is now in the course of fulfilment.

In the same year in which I published my paper, Professors J. Müller and D. Troschel read at the Berlin Academy a paper on the same subject, and in 1842 they published a 4to work, with the description of various species.

M. Müller has there reduced the number of genera to eighteen, and for these has most unnecessarily changed the generic names, much to the confusion of the science. I do not know why the *Stellonia* of Forbes is not to be used for *Asterias glacialis* and its allies. If the generic name of *Asterias* is to be erased from the list, I do not see in what respect *Asterocanthion* is preferable to either of these names, or why he rejects Link's name of *Pentaceros* for *Oreaster* (he says Cuvier has used *Pentaceros* for a genus of fish, but I do not find this name in any of Cuvier's works; and if it had been so used, Link has the priority over Cuvier), or why *Astrogonium* is preferable to *Goniaster*, or *Asteropsis* to *Gymnasteria*.

The Star-fish have generally been described as having no vent. Colonel Sabine, in figuring *Asterias polaris*, represented a projecting

tube near the middle of the back, and Professor Müller in his 'System' uses the presence or absence of this tube, which he regards as a vent, as a character to separate the class into two divisions; but I think his table of genera shows that this division can scarcely be considered as natural, for he has been obliged to separate species of *Astropecten* from their allies, and to place them, on this single character, in another division of the family. Secondly, it is very difficult to observe the presence or absence of this part, especially in *Astropecten*, on account of the *paxilli*, and some species, which are said to be without it, may have it; for it is to be observed, that Müller and Troschel place the genus in which Sabine first observed the vent, in the family characterized as not having one.

I must consider their work as a retrograde movement, after the publication of my paper, which they quote; for though they might not adopt the genera, yet it cannot but be allowed, that what I have considered as genera are natural groups; and it would have facilitated the making out of the species they have described, if they had used them as sections; they have done so in a few instances (thus after the publication of their paper they have divided the genus *Goniaster* into two, adopting my sections as their genera; but as in the case of *Asterias*, because they have divided it, they blot the names from the system); thus their first section of *Ophidiaster* is the same as my genus, and their second is my genus *Linkia*, and the second section of *Asterocanthion* appears to be my *Tonia*.

It has always appeared to me, that the great advantage of dividing the species into small groups (let us call them genera or sections, as we may) is, that it enables one more accurately to determine and neatly describe and distinguish the species, and prevents the necessity in each description of repeating what has been given as the character of the group, as is the case in the system of Star-fish.

Lastly, I suspect that had M. Müller had the opportunity of examining and comparing the number of specimens of this genus to be found in English collections, he would have come to the same conclusion as I have done with regard to the distinctness of several species which in the work above referred to he has regarded as mere synonyma of some well-known species. At the same time it is remarkable that it should not occur to M. Müller, that when the specimens on which a certain number of species have been established are contained in a single collection, and divided into minute groups, and arranged side by side, it is not so easy to make mistakes in this particular as when the materials are to be collected from various scattered museums; as the differences and the similarities are then more easily to be seen, and any errors which may have been made, more easily discovered.

Thus I am convinced, if he had seen the series of specimens of *Asterias Helianthus* and *Cumingii*, and *A. multiradiata*, which have passed through my hands, and the selection of them in the Museum collection, it is quite impossible that he could have confounded them into a single species. The same may be observed with regard to *Linkia Typus*, *L. Brownii*, *L. bifasciatus* and *L. unifasciatus*; with

Asterina gibbosa and *A. Burtonii*; with *Pentaceros grandis*, *P. gibbus* and *P. reticulatus*; with *P. turritus* and *P. Franklinii*, &c. &c.

Culcita, Agassiz.

This genus chiefly differs from *Randasia* and *Pentaceros* in having no upper series of marginal ossicules. It agrees with *Randasia* in the back being nearly flat.

Culcita Schmideliana.

A. Schmideliana, *Retz. Dis.*; *Schmidel's Naturf.* xvi. t. 1. good. A. discoidea, *Lam.*

Body subcircular, flat above when dry (very convex subglobose when alive). The back coriaceous, without any apparent reticulations, covered with scattered, small, conical spines. The oral surface rather convex (when dry), closely and minutely granular, and with larger conical tubercles; those near the ambulacra and oral angles much the largest and ovate.

Inhab. ——?

There are distinct indications of the lower marginal ossicules in this species, but they and the ossicules of the oral surface are not sufficiently large and close to force the dry specimen to assume the pentangular form of the following species.

Culcita pentangularis.

Body pentangular; back flat when dry, convex beneath, minutely and closely granulated; back with obscure reticulations, the reticulations armed with small conical tubercles; the interspaces closely and minutely porous. The oral surface protected with distinct well-defined ossicules, defining the lower edge of the margin, covered with close and minute granules and larger round-topped tubercles, those near the ambulacra and the oral angles being largest and highest.

Inhab. Reef of Oomaga.

This species is very distinct from the former, and forms the passage to the genus *Randasia*, but there is a series of concave, minutely porous spaces in place of the upper marginal plates.

Randasia, Gray.

Body pentagonal, depressed, minutely granular; back nearly flat, minutely granular, reticulated; reticulations rather tubercular, interspaces sunken (when dry) and covered with very minute close perforations. Dorsal tubercles roundish, single, subcentral. Margins furnished with an upper and lower series of oblong ossicules, the upper one narrower internally, with a central series of tubercles, the lower ones oblong, close together and convex. The oral surface protected by close, regular, squarish, convex ossicules, covered with short crowded granules. The ambulacral spines in rounded groups; the series of tubercles nearest the ambulacra larger, crowded, and placed in groups of three or five, and those in the oral angles largest and flat-topped.

This genus differs from *Pentaceros* in the back being flat, elevated,

and not angular; it is in several respects intermediate between *Culcita* and *Pentaceros*.

Randasia granulata, n. s.

Body five-sided; back minutely granular, with roundish convex subconical tubercles in the reticulations; the marginal plates fourteen on each side, the upper ones with a central series of tubercles.

Inhab. Reefs of Attagor, Torres Straits.

There are two specimens of this species in the British Museum, one in a very bad state.

Randasia spinulosa, n. s.

Body five-sided; back and upper marginal plates covered with numerous small, conical, acute spines, without any larger tubercles; the upper marginal plates indistinct.

Inhab. ——?

This species is very like the former in shape, size and appearance, but is very easily known from it by the numerous mobile acute spines with which the back and upper part of the margin are covered, appearing to take the places of the small granulations, and by the absence of the tubercles on the elevated ribs of the back.

Asterodiscus.

Body pentagonal. coriaceous, depressed, covered with numerous close, flat-topped, unequal, small tubercles; back convex; dorsal wart roundish, subcentral; arms short, rounded, with a pair of large convex kidney-shaped ossicules on each side of the tip above. Margin simple, rounded, beneath concave; ambulacra with a series of short linear spines, placed in groups of four or five, each group on a separate ossicule, and with two series of larger, blunt, club-shaped spines on the outside of the ambulacral spines. The young specimens have indistinct inferior marginal ossicules.

Asterodiscus elegans.

Pale brown when dry; tubercles of the back unequal, the larger ones truncated, those nearest the mouth on the underside larger, club-shaped, rather crowded.

Inhab. ——? Brit. Mus.

Pentaceros granulosus.

Five-rayed; rays as long as the diameter of the disc, rounded at the tip. Back rather convex. Ossicules convex, rounded, all covered with close rounded granules, the two or three central ones on the top of each ossicule being larger, those on the middle of the back largest and subtubercular. The marginal ossicules convex, rounded.

Inhab. Western Australia.

Young? Arms more slender, and the lower marginal ossicules near the tip of the arm each with a group of two or three spines, the one nearest the tip largest.

The dorsal surface of this species is furnished with abundance of *pedicellaria*, one arising from each hole between the ossicules.

Stellaster Incei.

Purplish, minutely granular; back with scattered, conical, convex tubercles, those down the centre of the arm largest. The lower marginal plates are flattish.

Inhab. North Australia.

This species is very like *Stellaster Childreni*, Gray, Ann. and Mag. Nat. Hist. 1840, 278; Müller, Aster. 62. 128. t. 4. f. 3; *Asterias equestris*, Retzius, Diss. 12; but it is purplish when dry; the back is tubercular; the whole surface is minutely granular; while the Japanese species is always white, the back smooth, and the granules of the surface are so minute and thin that they are very easily eroded, and the lower marginal plates are more convex and the central ones much larger than the others.

Stellaster Belcheri.

Back convex, with two or three large conical tubercles on the line extending to the centre of the arms. Arms slender, tapering, rather longer than the diameter of the disc.

Inhab. Amboina or New Guinea.

This species is intermediate between *S. Childreni* and *S. Incei*, having the white colour and the slender arms of the former, and the convex back and tubercles of the latter, but the tubercles are larger and fewer, and the arms are more slender, having only a single series of plates between the marginal ones.

There are two specimens in spirits and one dry, in the British Museum collection.

Calliderma.

Body flat, five-sided, rays rather elongated; attenuated end only formed of the marginal plates. Ossicules all minutely granulated; the dorsal ossicules flat-tipped, six-sided, some with a larger, globular, central tubercle-like granule. The marginal ossicules broad, gradually becoming smaller near the tip, short-edged, minutely granular, those of the upper and lower series alternating; the edge of the upper ones with some indistinct spines on the margin, the lower ones with scattered mobile spines on the oral surface. The ossicules of the oral surface three-, four-, or six-sided, granular, with one (rarely two) central, compressed, acute, mobile spines. The ambulacral spines very small, close, fourteen or sixteen on each ossicule, forming a rounder group, with two or three series of large, scattered, mobile, acute spines on the outer side.

This genus resembles *Stellaster*, but differs from it in the oral surface being furnished with scattered spines.

There is a fossil species very like the one here described found in the chalk, and figured in Mr. Dixon's work on the fossils of Worthing, which I propose to call *Calliderma Dixonii*. There are probably several other fossil species from the same locality; they have been referred to the genus *Tosia*, but the ossicules are granular and the oral surface spinose.

Calliderma Emma.

Flat, pentangular, the sides concave, the arms elongated, produced, tapering to a fine point, about two-thirds the length of the diameter of the disc. The dorsal ossicules six-sided, regular, flat-topped, covered with minute roundish granules; the central granules of the central ossicules and those down the centre of the arms larger, globular, tubercular-like. The margin sharp-edged, concave in the centre; the ossicules of the upper and lower series alternating, minutely granular, with one or two larger subspinose granules on the middle of the upper margin. Marginal ossicules about fifty on each surface on each side, the lower series with scattered, acute, compressed spines on their oral side.

The ossicules of the oral side four- or six-sided, rather irregular, minutely granular, each armed with a central, compressed, acute, mobile spine.

Inhab. ——?

This species most nearly resembles a fossil found in the chalk, which has hitherto been referred to the genus *Tosia*, and figured in Mr. Dixon's forthcoming work on the fossils of Worthing.

I have named this fine species in compliment to my daughter Mrs. J. P. G. Smith, who before her marriage commenced a series of plates to illustrate a monograph of this genus.

Anthenea.

This genus may be divided into two sections, one having a very large two-lipped pore on each ossiculus of the oral surface; the back netted and chaffy, as in *A. Chinensis* and the following new species.

Anthenea tuberculosa.

Back obscurely netted, rather chaffy, with scattered, long, flat-backed tubercles. Marginal ossicules with some moderate granules, the upper ossicules with one or more large flat-topped tubercles on their upper part.

Inhab. Port Essington.

This species is very like *Anthenea Chinensis*, Gray (*Asterias pentagonula*, Lam.?), but differs from it in being more convex and netted and more distinctly tubercular, and in the upper marginal tessera being armed with tubercles.

Like the Chinese species, all the ossicules, both marginal and discal, of the oral surface, are furnished with large, elongated, two-lipped pores.

The second section contains the following species, which have one or more small two-lipped pores on some of the ossicules of the oral surface; the back subtubercular, and the ossicules all covered with large roundish granules.

Anthenea granulifera.

Both surfaces covered with small roundish granules, the back with

rather convex ossicules; the arms as long as the diameter of the body; back with one or two scattered tubercles.

Var. Back with a blunt tubercle on the centre of each of the ossicules of the middle of the back.

Inhab. —— ?

This species is easily known from the former by the smaller granules on the surface, the length of the arms, and the small size of the two-lipped pores; those of the dorsal surface are very minute.

Hosia spinulosa.

Body flat, pentagonal, sides concave; arms not half the length of the diameter of the body; ossicules large, subequal, six-sided, very minutely granular. Marginal ossicules $\frac{10}{10}$ on each side, convex, deeply separated from each other with a series of two or three small, acute, spine-like tubercles in the centre of each. The ossicules of the oral surface flat, minutely granular, with small two-lipped pores.

Inhab. Indian Ocean; Philippines.

This species nearly resembles the shape of *Tosia australis*, but is at once known from that species by the granular ossicules, the spines on the margin, and the two-lipped pores beneath; it differs from *Hosia flavescens* in its being five-sided instead of five-armed, and in having no spines on the middle of the back.

Astrogonium (restricted).

Body pentangular, flat above and below. Back and oral surface protected by triangular ossicules, each covered with numerous erect, cylindrical, truncated tubercles or granules, those of the oral surface longest. Margin strengthened with regular, oblong, four-sided ossicules, covered with small regular granules, except on the most convex part of their centres, those of the upper and lower series opposite each other. Dorsal wart single. Ambulacra with cylindrical truncated spines, in groups of four on each ossiculus of equal size, not forming a rounded group, and with a series of similar, rather larger spines on their side, and a series of small ossicules with terminal granules on their outer sides. Bilabiate slits are on either surface.

Messrs. Müller and Troschel have proposed a genus under this name, which I have here restricted to smaller limits, to more accurately distinguish the species. I have described all we have in the Museum.

A. *Body flat, five-sided; granules short; ossicules flat-topped, not tubercled.*

Astrogonium granularis. Asterias granularis, *Retz. Dis.*; *Müller, Zool. Dan.* t. 92. f. 1.

Pentagonal, sides rather concave. Back bright crimson; oral surface yellowish; marginal ossicules oblong, $\frac{14}{14}$ on each side, rather convex, covered, except at the most convex part of the upper and lower surface, with very minute granules. Dorsal ossicules hexagonal, flat-topped, with short flat-topped granules; ossicules of oral surface similar, but granules longer.

Inhab. North Sea. British Museum.

This species is very like *Tosia australis*, but is at once known from it by the granules covering the greater part of the surface of the marginal ossicules.

Astrogonium miliare.

Flat, dark red, pentangular; rays rounded at the end, about one-third the length of the diameter of the disc. Margin rounded, ossicules $\frac{20}{20}$ or $\frac{24}{24}$ on each side, covered with uniform, close granules. Dorsal ossicules rather convex, covered with uniform granules.

Inhab. New Zealand.

Like *A. granularis* in form, but the margin is round, and the marginal plates are more numerous.

Astrogonium inæquale.

Pentagonal, sides rather concave. Arms acute. Dorsal ossicules rather convex, covered with small roundish granules. Marginal ossicules $\frac{6}{8}$ on each side, the two central ones small, narrow; four others large, convex, the two at the tip very small.

Inhab. New Guinea? or Amboina? Capt. Sir E. Belcher.

B. *Back rather convex, the marginal and dorsal ossicules with a small central convexity or rounded tubercle; the granules of the oral surface rather elongate, rounded.*

Astrogonium tuberculatum.

Body pentangular, sides concave; arms rather produced, acute, tapering; the ossicules of the dorsal surface, of the upper and lower marginal series, each furnished with a small, central, rounded tubercle. Marginal ossicules $\frac{28}{28}$ on each side, the dorsal tubercles on the middle of the back and down the centre of each arm rather larger.

Inhab. Port Natal.

C. *Body flat; ossicules of the dorsal, marginal and oral surface entirely covered with rather elongated uniform granules; marginal ossicules small, erect, rounded above.*

Astrogonium paxillosum.

Blackish (perhaps discoloured). Pentagonal, flat. Arm nearly as long as diameter of disc, rounded at the end. All the ossicules of the back, edge, and oral surface, covered with regular, uniform, rather long, erect granules, forming a level surface; granules of the oral surface longest. The marginal ossicules narrow, erect, rounded above. Ambulacral spines elongate.

Inhab. Port Essington.

This species, from the length of the granules, passes towards the *Astropectens*, the elongated tubercles having much the appearance of those which are called *paxilli* in that genus.

Pentagonaster Dübeni.

Body flat, five-rayed; rays two-thirds the length of the diameter

of the disc, rounded at the end; ossicules all convex, rounded. Marginal ossicules $\frac{10}{10}$, large, round, those near the end of the arms largest and most convex.

Inhab. W. Australia.

This species differs from *P. pulchellus* in the marginal ossicules being more equal, and in the arms being much longer and more slender. The ossicules of the dorsal disc are unequal in size and rather irregularly formed; those near the margin on the middle of the sides are oblong and narrow, those of the oral surface are more regular and not so convex, those near the angles of the mouth being the largest and subtriangular.

I have named this beautiful species in memory (I regret to say) of M. W. Von Düben, who has lately published a very admirable paper on the northern species of this family.

Tosia, Gray.

The granules between the ossicules are deficient in the dead and washed specimens. It has been thought that the fossil species found in the chalk belonged to this genus, but the surface of the ossicules of most of the specimens I have seen show, from the scars with which their surface is covered, that they were covered with granules, therefore they rather belong to the restricted genus *Astrogonium*.

In some species of this genus the ossicules of the oral disc are more or less entirely covered with crowded, flat-topped granules.

Tosia grandis.

Dorsal ossicules very unequal, flat-topped. Marginal ossicules $\frac{14}{14}$ or $\frac{16}{16}$ on each side, rather convex; the ossicules of the oral surface are furnished with two or three rows of crowded granules, and those near the ambulacra are most covered.

Inhab. Western Australia.

Link, under the name of *P. regularis*, t. 13. f. 22, 23, copied (E. M. t. 96. and *Seba*, iii. t. 8. f. 4) a species like the above, but it has only ten marginal plates. Müller, who thought he examined Link's specimen at Leipsic, describes it as having seven upper and five under marginal plates.

Tosia aurata.

Golden yellow. Dorsal ossicules flat-topped, the five in the centre, between the central lines of the arms, largest, and round; the marginal ossicules $\frac{10}{10}$, or $\frac{12}{12}$, rather convex and nearly equal (that nearest the top not being longer than the others); the ossicules of the oral disc, all except a few in the middle of each area, entirely covered with flat-topped granules.

Inhab. Australia. Brit. Mus., three spec.

In others, the ossicules of the oral surface are only edged with a single series of granules, like those of the back.

Tosia tubercularis.

Yellow, edges reddish. The dorsal ossicules convex, subtubercular,

those of the centre of the arms highest, those between the arm in the centre largest, nearly flat. The marginal ossicules $\frac{6}{6}$ or $\frac{8}{8}$ on each side, convex, subtubercular, the one near the top of the arm largest and oblong, longitudinal, convex. The ossicules of the oral surface small, each surrounded with a single series of granules.

Var. ? or young ? The ossicules of the oral surface near the edges covered with granules.

Inhab. Swan River.

There is a specimen in the British Museum with six marginal ossicules very like the above, but differing from it in the dorsal ossicules being only convex and rounded; it has the same convex and large marginal plate.

Tosia rubra.

Red brown. Dorsal ossicules rather convex, rounded. Marginal ossicules $\frac{10}{10}$ on each side, rather convex, equal, that at the tip of the arms smaller, narrow. The ossicules of the oral surface flat-topped, with a single series of marginal granules.

Inhab. Australia.

Tosia australis, Gray, Ann. Nat. Hist.

Yellowish or reddish. Dorsal ossicules rather convex, rounded. Marginal ossicules $\frac{6}{6}$ on each side, rather convex, equal; the ossicules of the oral surface flat-topped, with a single series of marginal granules.

Inhab. W. Australia, Swan River.

Petricia.

Body convex, five-rayed. Skin above and below varnished and spineless. Back strengthened with numerous, sunken, moderate-sized ossicules; the margin with two series of larger oblong ossicules, but spineless; the oral surface with rather regularly disposed smaller ossicules. Ambulacral spines subulate, placed in pairs, with a second series of similar but rather larger spines on the outer side of them.

This genus is very like *Porania*, but the back does not appear to be angular, the margin is edged with spines, and the ambulacral spines are in pairs, and not single as in that genus. The ossicules of the back and oral surface are punctured, and one of them situated near the edge of the back, in the middle space between the arms, is furnished with a linear pore edged with convex lips.

Petricia punctata.

Orange, when dry.

Inhab. the Reef of Attagor. J. B. Jukes, Esq.

There is a single species of this genus in the British Museum collection.

I may here remark, that the specimen of *Porania gibbosa*, the *Asterias gibbosus* of Leach, and *Goniaster Templetoni* of Forbes, in the British Museum from Arran, are exactly like *Asterias pulvillus* of Müller, received from Norway, in the same collection.

Patiria.

The upper side, between the angles of the arms, is covered with small, roundish groups of spines.

This genus may be divided into three sections:

1. *Body pentagonal; the dorsal ossicules lunate, narrow; the edge of the arms acute.*

Patiria coccinea, Gray.

Asteriscus coccineus, *Müller & Trosch.* 43.

The roundish group of spines between the lunate ossicules are very abundant.

2. *Body five-rayed; rays thick, rounded; dorsal ossicules lunate, subtriangular; arms convex above and rounded on the sides.*

Patiria granifera.

? Asterias granifera, *Lam.* n. 24 ?; var. à petits grains, *Oudart*, t. Brown. Back rather convex. The arms broad, rounded at the end, nearly as long as the diameter of the disc, rounded above, flat beneath; the lunate dorsal ossicules covered with short, crowded spines, and with only a few small tufts of spines between them, the ossicules of the oral surface each with a transverse line of six or eight spines.

Inhab. ——?

Variety, the arms more slender, about one-third longer than the diameter of the disc.

Inhab. ——? Brit. Mus.

The variety may be a distinct species, but the specimen is not in sufficiently good preservation to determine this point with accuracy.

3. *The body five-rayed, rays thick, rounded; the dorsal ossicules, especially those at the end of the arms, broad, rounded, the back covered with two or three beaked pedicellaria nearly hiding the tubercles.*

Patiria ocellifera.

Asterias ocellifera, *Lam.* 45; *Oudart*, t. . fig. .

Body five-rayed; arms thick, rounded, as long as the diameter of the disc, bluntish at the end; the dorsal ossicules broad, oblong or roundish, reddish, covered with short, crowded spines; the oral surface with transverse rows of three to five mobile spines.

Inhab. ——?

This species much more nearly resembles Oudart's figure than the species I have described under the name of *Nectria oculifera*.

Patiria obtusa.

Brown, depressed, five- to six-rayed; rays depressed, rounded at the end; dorsal surface with lunate ossicules crowded with short spines; oral surface with circular groups of crowded spines in the middle of each ossicule.

Inhab. Panama. Sandy mud, six to ten fathoms.

Patiria ? crassa.

Pale yellow (dry), five-rayed; rays thick, rather tapering, about half as long again as the diameter of the disc. Dorsal surface formed of convex, subhemispherical ossicules, covered with crowded minute spines. The oral surface with roundish groups of short, crowded spines, like *paxilli*.

Inhab. W. Australia. Mr. Gould.

Pteraster Capensis.

Body subpentagonal, swollen, edge very thick, rounded; back convex, reticulated, with rounded groups of very small ossicules at the junction of the reticulations.

Inhab. Cape of Good Hope.

The spines of the ambulacra are like those of *Pteraster militaris*, but they are longer, and the series of webbed spines on their outer margins are scarcely longer than those of the ambulacra, while in the northern species they are much longer and thicker, and there is no appearance of the two long glassy spines at the angle of the mouth, so distinct and peculiar in that species.

Ganeria.

Body flat, five-rayed. Back coriaceous, strengthened with numerous small, linear and curved series of very short cylindrical spines. Margin perpendicular, with two series of narrow ossicules, each armed with a central, erect, linear series of short cylindrical spines. Oral surface covered with diverging spines, one being placed on each ossicule. Ambulacra linear, with two series of tentacles, and edged with subulate spines, two on each ossicule, and with a series of diverging spines at the angles near the mouth.

Ganeria Falklandica.

Body five-rayed; rays as long as the diameter of the disc, rather blunt at the tip.

Inhab. Falkland Islands. Captain Sir James Ross.

3. Description of a new species of Fulgora. By Arthur Adams, Esq., R.N.

Fulgora (Hotinus) Sultana, Adams and White. *Fulg. thorace superiore et rostro sanguineis; elytris ad basin nigro-fuscis lineis ochreis venosis, ad apicem ochreo-fuscis; alis ad basim intensè carmineis, ad angulum analem roseis, ad apicem fuscum quatuor vel quinque maculis rotundatis albis ornatis.*

Rostrum and upper surface of thorax of a rich blood-red colour. The form of the beak intermediate between that of *H. clavatus* of Westwood and *H. pyrorhynchus* of Donovan. Elytra blackish brown at the base, traversed by ochraceous veins, with the tip ochraceous brown. The wings with the base of a deep carmine fading to pale pink towards the anal angle, the tips brown, with four or five roundish white spots. Body above straw-coloured.

Body covered, when alive, with a white mealy substance. Lantern not luminous by day or night. Remains in a torpid state during the heat of the day, and becomes more active in the evening.

Forest of Borneo near Tampasook.

4. Short Descriptions of some new species of Crustacea in the Collection of the British Museum. By Adam White, F.L.S.

Family Parthenopidæ.

Cryptopodia dorsalis, White and Adams, n.s.

Carapace narrower and wider than the same part in the *Cryptopodia fornicata*, the greater part of the back covered with slight pustules; on the posterior part of the carapace are two deep grooves placed longitudinally and slightly bent, so as to have a lyre-shaped form; posterior edge of the carapace with coarser and rounder crenations than in *C. fornicata*; the ridges on the chelæ with blunter tubercles.

This distinct and beautiful species of a singular genus was found by Mr. Adams in the Sooloo Sea, where the bottom was stony.

When alive, it is of a dirty flesh-colour, with brown markings and minute black specks; on each chela there is an orange linear spot: under surface of a dead white, on the breast reddish.

Mr. Adams informs me that the species of this genus resemble those of *Calappa* in their habit of simulating death when disturbed, folding the chelæ close to the front of the carapace and concealing their legs under the dilated sides of the carapace. They are always found in deep water, while the *Calappidæ* are found on sandy flats, sometimes buried under the sand.

Family Ocypodidæ.

Gelasimus crassipes, White, Cat. Crust. in Brit. Mus. p. 36.

Carapace very much arched, suddenly narrowed behind; four hind pair of legs thicker and stronger than in other species; front with a lobe, without narrow stalk.

Hab. Philippine Islands (Siquejor). From Mr. Cuming's collection.

Gelasimus bellator, White, l. c.

Carapace with the fore-part just behind the insertion of eye-peduncles sinuated, the front slightly dilated into a rounded lobe. Larger hand with the fingers very long, the moveable with the sides nearly parallel, two or three larger tubercles on the edge near the base; fixed finger margined on the under side; the cutting edge with a very wide shallow tubercular sinus at base; at the end of sinus beyond the middle a strong wide tooth, which gradually slopes down to the end, which curves up.

Hab. Philippine Islands. From Mr. Cuming's collection.

Gelasimus cultrimanus, White, l. c. p. 35.

Front between the eyes with a small dilated rounded lobe. Edge

of lower orbit very distinctly crenated; carapace with the upper surface smooth; the lateral edges rounded, without any sharp keel from the outer orbital angle. Larger hand with the fingers wide, both at the end slightly curved outwards, the lower finger with a very wide sinus in the middle; near the end a wide lobe serrato-crenated on the edge; moveable finger with the lower edge nearly quite straight.

Hab. Philippine Islands. From Mr. Cuming's collection.

GELASIMUS PORCELLANUS, White, l. c. p. 36.

Eye-pedicels very long; the frontal portion of carapace not narrowed at base; the hind part of carapace much longer than the side. Lower finger thickened at the end, the inner margins of both fingers with four larger tubercles amongst the small crenules.

Hab. Borneo. Presented by the Lords of the Admiralty.

Family MAIADÆ.

TYCHE, Bell.

TYCHE EMARGINATA, White, l. c. p. 10.

Carapace with the dilated part behind, deeply notched in the middle; the tubercles on the sides of the depressed part with hairs.

The genus *Tyche* was established by Professor Bell in the Zoological Transactions for a species from Panama, which he has described and figured under the name of *T. lamellifrons*. The specimen from which the above brief description is taken is very much mutilated, but is clearly distinct from Mr. Bell's.

Hab. West Indies. British Museum.

Family THELPHUSIDÆ.

VALDIVIA, n. g.

Outer jaw-feet with second joint wider than long; third joint longer than wide, slightly notched at the end. Carapace depressed, rather more rounded in the outline than in *Thelphusa*; the latero-anterior edge with four sharp teeth directed forwards; legs very long, last joint very long, smooth.

This genus is closely allied to *Trichodactylus*.

VALDIVIA SERRATA, White, l. c. p. 31.

Front quite straight; a strong distinct keel from last tooth on side of carapace to hind part; the whole upper surface of carapace and legs is covered with a brownish epidermis.

Hab. ——? British Museum.

Family GRAPSIDÆ.

UTICA, White, n. g.

Carapace somewhat eight-angled, tabular, the latero-anterior margin with three teeth; the latero-posterior part of the carapace ob-

lique; carapace behind very straight; behind the middle there is a very strong transverse ridge. Outer jaw-feet with the third joint on the outside straight, not dilated. Fore-legs small; hind-legs very long; tarsus not particularly dilated, somewhat elongated, fringed with hairs, as is the preceding joint.

This genus, which is shortly characterized above, belongs to the family *Grapsidæ*, being nearly allied to *Trichopus*, De Haan, which is synonymous with *Varuna*, M. Edwards.

UTICA GRACILIPES, White, l. c. p. 43.

Front wide, fore-edge very straight; behind it, and extending to the middle of the carapace, there is a considerable, wide, somewhat three-sided elevation, separated from the transverse ridge by a deep lunated depression, from the ends of which a slight impressed line proceeds to the side of the ridge where it deepens; legs very slender and fringed with hair.

This species is a native of the Philippine Islands, from which it was first brought by Mr. Cuming. He found it in a freshwater rivulet among the mountains of the island of Negros. Mr. Adams found it also in the island of Mindanao, and from his journal has given me the following description, taken from the crustacean when alive:—

"Carapace dark liver-colour; legs reddish brown; under surface dark brown, on the legs with a lighter tinge; abdomen also of a lighter colour, with a yellowish line down the middle. ♀. Frequents the deep, still, muddy freshwater rivers of the island of Mindanao, hiding under weeds and rotten wood. When caught this singular crustacean feigns death, contracting its limbs and rendering them rigid, as if it were in a catalepsy."

5. DESCRIPTIONS OF SEVERAL NEW SPECIES OF SPONDYLUS. BY G. B. SOWERBY, JUN.

SPONDYLUS UNICOLOR. *Spond. testâ solidâ, obliquè ovali, rubro-violascente; costis 6 principalibus, squamis crassis, arcuatis; subtùs concavis, paululùm palmatis, propè marginem numerosis; costis interstitialibus spinis crassis, brevibus, arcuatis ornatis; inter costas sulcis nonnullis.*

Hab. ——? Mus. M. Grüner; G. B. Sowerby.

SPONDYLUS CUMINGII. *Spond. testâ liberâ, regulari, subrotundatâ, subdepressâ; areâ cardinali parvâ; costis principalibus 6 elevatis, lævibus, squamis subelongatis, lævibus, arcuatis, palmatis, ad latera palmarum undulatim fimbriatis; interstitiis imbricatim striatis; colore fusco rubescente.*

A free-growing species, with short cardinal area, in some degree resembling *S. regius* and *S. imperialis*, but most remarkable for the beautiful manner in which the arched palmated scales are frilled and fluted at the sides.

Hab. ——? Mus. H. Cuming.

SPONDYLUS LIMBATUS. *Spond. testâ ovali, crassâ, vix costatâ, squamis depressis, lævibus, palmatis, brevibus, irregularibus, inæqualibus, 9 ad 11 dispositis; interstitiis minutissimè striatis, cardine magno; colore squamarum croceo, interstitiarum obscurè violaceo; intus limbo purpureo.*

Hab. Persian Gulf. Mus. Grüner. Brit. Mus.; G. B. Sowerby.

SPONDYLUS SINENSIS. *Spond. testâ lævi, elongato-ovali, areâ cardinali plerumque elongatâ; costis 5 ad 6 principalibus, vix elevatis, squamis lævibus, depressis, palmatis; interstitiis lævibus, costis inæqualibus et squamis minoribus; colore pallidè fulvo, vel roseo, vel albo, prope umbonem fusco variegato.*

Remarkable for the smooth, depressed, palmated, spoon-shaped scales on the five or seven principal ribs, which are repeated in miniature in the interstices.

From China.

SPONDYLUS LINGUA-FELIS. *Spond. testâ ovali, crassâ, areâ cardinali et auriculis magnis; costis numerosis, vix elevatis, spinis brevibus, æqualibus, numerosis armatis; colore fusco, subtùs croceo.*

A much more solid shell than *S. asperrimus*, with the hinge large; the colour is a uniform dark brown, which is shown in the interior by a well-defined border. The shell is covered by nearly equal ribs, which are armed by short, thick, slightly curved prickles.

Hab. ——? Mus. M. Grüner.

BM SPONDYLUS DIGITATUS. *Spond. testâ subrotundatâ, tenui, costatâ; costis 6 ad 9 principalibus, vix elevatis, squamis rectiusculis, arcuatis, ad terminos palmatis, aculeatim divisis; interstitiis spinosis; colore fusco, vel rubro, vel purpureo, ad umbones rubro variegato.*

The peculiarity of this species consists in the beautifully branched and digitated palmations which terminate the erect and arched scales.

Hab. Bermudas; Belcher. Mus. H. Cuming.

BM SPONDYLUS ASPERRIMUS. *Spond. testâ subrotundatâ; costis numerosis vix elevatis, subæqualibus, aculeis brevibus, erectis, creberrimis, subtùs canaliculatis; interstitiis scabriculis et spinosis, colore valvæ superiori fusco, prope umbonem variegato; valvæ inferiori croceo.*

Hab. ——? Mus. H. Cuming.

BM SPONDYLUS TENUISPINOSUS. *Spond. testâ ovali, tenui, costis principalibus 8 spinis elongatis, tenuibus, erectis, numerosis, spinis interstitialibus minutis; interstitiis minutè imbricatis; laminis valvæ superioris elegantissimè foliaceis; colore pallidè cinereo, prope umbonem rubro variegato, valvæ inferioris albo, prope umbonem flavido rubro radiato.*

This species is distinguished by the thin, sharp, erect, white spines which ornament the numerous ribs. The upper valve is of a pale ashy colour, variegated with red near the umbo, and the under

valve is white, with beautifully foliated laminæ and a few graceful spines.

Hab. Australia. Mus. Cuming.

June 8, 1847.

Harpur Gamble, Esq., M.D., in the Chair.

The following papers were read:—

1. On the Finner Whales, with the description of a new species. By J. E. Gray, Esq., F.R.S. etc.

Sibbald has described and figured two specimens of Finner Whale. Artedi, and after him Linnæus, regarded these figures as representations of separate species, but the characters which they gave for the species appear to depend solely on the state the specimens were in when described and figured. These species have been generally adopted in the Fauna of this country.

The Whales appear to differ greatly from one another in the degree of mobility of the neck, as is well-shown in the union or separation of the cervical vertebræ, and in the variations in the development of their lateral and spinous processes.

The union or separation of the cervical vertebræ appears to afford good generic distinctions.

Duvernoy, in the second edition of Cuvier's 'Comparative Anatomy,' has observed, "In the Cetacea the seven cervical vertebræ of the genus *Balæna* are all soldered together, and sometimes the first dorsal is equally soldered to the cervical.

"In the genus *Physeter* the atlas is distinct, and the six other vertebræ are soldered.

"In the *Delphinus* the atlas and axis only are united, and the five other vertebræ remain separate, but they are very thin.

"Lastly, in the Rorquals (Pike Whales), *Delphinus gangeticus* (the genus *Platanista*), the Dugong and Lamantin, they are all or nearly all separate."—Duvernoy in *Cuv. Anat. Comp.* ed. 2. i. 195.

I may further observe, that in *Balænoptera rostrata*, which I have considered as the type of *Balænoptera*, the second and third cervical vertebræ are united by their spinous processes, while the fourth, fifth, sixth and seventh vertebræ are separate and well-developed; while in *Physalus Boops, antiquorum* and *Sibbaldii*, and in *Megapteron longimanus* they are all well-developed, and separate from one another. In the Grampus (*Orca gladiator*) the first five cervical vertebræ are united together into one body, and the sixth and seventh are very thin,

rudimentary and separate. In *Hyperoodon* all the cervical vertebræ are rudimentary and united, as in *Balæna*. In *Monoceros* the first and second cervical vertebræ are separate and large, and the remainder are very thin, separate, and nearly rudimentary.

M. Cuvier (*Oss. Foss.* v. 378, 380) has observed that the second and third cervical vertebræ of the Cape *Megapteron* are united together by their bodies: this does not appear to be the case with the Greenland *Megapteron longimanus*.

The union of the vertebræ in the different genera appears to take place at an early period in the life of the animal, for in the skeleton of a young *Balænoptera rostrata* which has the epiphysis of the vertebræ and arm-bones quite separate, the vertebræ were firmly united.

Cuvier, in his researches on the Whales (*Oss. Foss.* v. i. 378, 380. t. 26. f. 13 and 18), observes that the two kinds of true Whale (*Balæna*) might be distinguished by the form of the lateral processes; and Professor Eschricht of Copenhagen has made the same observation with respect to the Finner or Pike Whales (*Balænoptera*); and from what I have observed, they appear to present the best character for the distinction of the species, for there can be no doubt that the expanded lateral processes of the *Physalus antiquorum* must be for a very different purpose, and require very different muscles for their movements than the short lateral processes of *Physalus Boops* and *Sibbaldii*.

In my Essay on the Cetaceous animals published in the 'Zoology of H.M.S. Erebus and Terror,' from the examination of several skeletons and their fragments and the descriptions of different authors, I attempted to establish that there were three distinct British species, distinguished by good zoological and osteological characters. Having lately had occasion to examine other specimens, and being enabled to make more minute comparison, I am now satisfied that there is a fourth species which inhabits our coast, and the re-examination of these specimens has enabled me to correct some inaccuracies in my former account.

In the paper above referred to I proposed to divide the genus *Balænoptera* into three subgenera; but on reconsideration I think it preferable that it should be divided into two genera, retaining the name *Balænoptera* for one of the species, and using the old generic name of *Physalus* for the other three, the genera being established on both zoological and osteological characters.

Genus Balænoptera, Piked Whales.

The pectoral fin one-third and the dorsal fin two-thirds the length of the body from the end of the nose. The second and third cervical vertebræ united by the spinous process. The lateral process of the second cervical vertebra rather expanded, united, wing-like. Vertebræ 46 to 48. The pectoral fin moderate, about one-eighth the length of the body. Dorsal fin behind the orifice of generation. Chest with longitudinal folds.

BALÆNOPTERA ROSTRATA, Gray, Zool. Voy. H.M.S. Erebus and Terror, 50. t. 2.

Balæna rostrata, *Müller, Hunter, &c.*

Rorqualus minor, *Knox, Jardine N.L.* 142. t. 7.

Inhabits the British coast, North Seas, Greenland.

There is a skeleton of this species in the British Museum, and a skull in the museum of the Hull Philosophical Society.

In this species the first cervical vertebra is rather broader than long; the central hole is half as high again as broad. The second and third cervical vertebræ are united together by the upper edge. The second cervical vertebra has a broad, much-expanded, lateral process, with an oblong central hole near the body of the vertebra, reaching rather more than half its length. The third, fourth, fifth and sixth cervical vertebræ have two (upper and lower) lateral processes; the upper process of the third is the shortest and least developed, and these processes increase in length to the sixth. The lower process of the third is the thickest; the fourth and fifth rather small, and in the sixth the basal part of the process is shorter, and the upper part much-elongated and thinner. The seventh has only the upper process, which resembles that of the first dorsal in form, but is smaller.

This species is the smallest of the family, and rarely if ever exceeds twenty-five or thirty feet in length. It is easily known by the white spot on the base of the upper side of the pectoral fin.

Genus PHYSALUS, FINNER WHALES.

The pectoral fin one-fourth, the dorsal fin three-fourths the length of the body from the end of the nose. The cervical vertebræ all separate and free. Vertebræ 54 to 64. Pectoral fin moderate, about one-eighth the length of the body. Dorsal fin behind the orifice of generation. Chest with longitudinal folds.

This genus may be divided into two sections, according to the form of the transverse apophyses of the cervical vertebræ.

* *The transverse apophyses of the cervical vertebræ much-expanded, united, forming a ring in the second to the sixth vertebræ.* PHYSALUS.

1. PHYSALUS ANTIQUORUM.

Balæna Physalus, *Scoresby.*

Balænoptera antiquorum, *Fischer, Syn.* 325; *Gray, Z. E. & T.* 50.

Rorqual de la Mediterranée, *Cuvier, Os. Foss.*

Inhabits British Ocean, Mediterranean.

Skeleton at Black-Gang Chine, from Isle of Wight, and in Mr. Patch's show, from Plymouth.

The transverse apophyses are as broad as the body of the vertebra, and the latter is oblong, half as broad again as high. Vertebræ 54, viz. 7 cervical, 13 dorsal, 17 lumbar, and 17 caudal. The ribs are simple.

The lateral processes of the cervical vertebræ are much longer than

the width of the body of the vertebra; the lateral process of the second cervical has a small, nearly central perforation, and this perforation gradually becomes larger on each succeeding vertebra, until in the sixth it nearly occupies the whole disc of the lateral process, the seventh being only found with a narrow elongated process from the upper edge, the lower process being reduced into the form of a small tubercle.

The Plymouth specimen is travelling the country, curiously mounted in three caravans (the first containing the head, the second the thorax, and the third the middle of the tail), so as to exhibit the parts of the skeleton in their proper situations when the caravans are placed one after the other with their ends removed, and the cervical, lumbar, and caudal vertebræ suspended between or beyond them.

This specimen was found floating on the sea in a decomposed state on the 20th of October, 1831, in Plymouth Sound, and is said to have been 102 feet long and 75 feet in circumference, but most likely the abdominal cavity was distended by internal decomposition.

The lumbar vertebræ are thick and large; both these characters must render this Finner much more powerful and active in the water than any of its allies. The lower jaw 17 feet long; the blade-bone 32 inches by 51; the upper arm-bone 20 inches long by $10\frac{1}{2}$ wide; the lower arm-bone 31 inches long. The lumbar vertebræ are 11 inches long and 14 inches wide; the first rib 59 inches long and $10\frac{1}{2}$ inches wide at the sternal end. The chest-bone is 28 inches wide and 18 inches long.

In this skeleton the proprietor has placed a blade of Greenland whalebone (*Balæna mysticetus*) on one side, and several of South Sea whalebone (*Balæna australis*) on the other side of the upper jaw, in the place of the true baleen of *Physalus*.

There is a second skeleton, which most probably belongs, or is very nearly allied to this species, exhibited at Black-Gang Chine, on the south side of the Isle of Wight, which was caught near the Needles. It was 75 feet long, of a greyish colour.

The skull is 16 feet 7 inches long, 5 feet wide at the orbital notch; the lower jaw 16 feet 9 inches long; the sternum 26 inches wide and 14 long; the upper arm-bone 24 inches long, the lower 33 inches long.

This skeleton chiefly differs from the former in the bones of the arms being rather longer, though the body is one-third shorter; but the length of the Plymouth specimen may be over-estimated.

** *The transverse apophyses of the cervical vertebræ short, of the third, fourth, fifth and sixth separate.* RORQUALUS.

2. PHYSALUS (RORQUALUS) BOOPS.

The transverse apophysis of the second cervical vertebra thick, short, converging, but separate at the end; of the other cervical

vertebræ slender, rather longer, far apart. The upper apophysis of the sixth bent down, rather elongate, the lower one thicker, shorter, and bent up at the end.

Skeleton in the British Museum. Taken on the coast of Wales and towed into Liverpool in 1846.

The length of the skeleton of the Liverpool specimen is 38 feet; the head is 9 feet long. The vertebræ are 60 in number, and there are 15 pairs of simple ribs.

The cervical vertebræ are all separate, and nearly equally developed; the body of the cervical vertebræ is squarish oblong, about one-fourth broader than high. The spinal canal is oblong, depressed, twice as wide as high. The second vertebra is twice as thick as the other, with two large broad lateral processes scarcely as long as half the width of the vertebra, coming together at the end, but separate, and leaving an oblong hole between them. The third, fourth, fifth and sixth each with superior and inferior narrower lateral processes, the upper one of the third being the narrowest, and gradually increasing in thickness to the sixth; the lower of the fourth rather the broadest, and of the sixth the thickest and most tapering at the end.

The third, fourth, fifth, sixth and seventh have only two rather short processes on each side, the upper process being the most slender, compressed and bent down, and the lower one conical, stronger, compressed; the processes of the third vertebra are the thinnest, and they gradually increase in thickness and strength to the seventh or last.

The specimen here described was mentioned in the papers of the day as a *spermaceti whale!*

3. Physalus (Rorqualus) Sibbaldii.

The transverse apophyses of the second cervical vertebra rather elongated, united, leaving only a small subcentral hole; of the other cervical vertebræ slender, shorter and far apart, nearly straight, directed out laterally.

Inhab. Coast of Yorkshire.

There is in the museum of the Hull Literary and Philosophical Society a very perfect skeleton of this species, taken in the Humber, which is fifty feet long. It has 64 vertebræ, as follows: cervical 7, thoracic 16, lumbar and caudal 41; and the arms and paddles are 6 feet 9 inches long; the ribs 16 pair, all simple. The baleen is black.

This specimen is said to have been eight years old, but on what authority I cannot learn.

I have to thank my friend Mr. Pearshall, the curator of the above museum, for his kindness in sending me a detailed drawing of the natural size of the cervical vertebræ of this interesting species.

For the purpose of comparison with the foregoing description, I here add the following account of the cervical vertebræ of *Megapteron longimanus*, or *Hunchback Whale*, from a fine skeleton in the collection of the British Museum.

The second cervical has two very large, thick, converging, lateral processes, as long as half the diameter of the body of the vertebra.

The third, fourth, fifth, sixth and seventh have elongated, slender, superior lateral processes, which bend rather downwards, and the sixth and seventh rather forwards. The fourth and fifth have a very short, rudimentary, inferior lateral process, which is smaller on the left side. The other vertebræ are without any process. The cervical vertebræ are all free.

The upper part of the spinous process of the second vertebra is very large and convex, covering this part of the next vertebra.

I may here remark that Professor Eschricht informed me that he could find no difference between the *Megapteron* of the North Sea and the Cape specimen in the Paris Museum. I may also observe that Cuvier (*Oss. Foss.* v. 381) described the Cape specimen as having the second and third cervical vertebræ united by the upper part of their body, which is not the case with our Northern specimen, and that Cuvier's figures of the lateral process of the Cape specimen are very different from the Northern one here described.

2. On a new species of Apteryx. By John Gould, Esq., F.R.S. etc.

We have abundant evidence that at some former period New Zealand, and probably the Polynesian Islands, have been inhabited by a remarkable group of Birds, of which the *Dinornis*, so ably described by Professor Owen, formed a part, and of which the genus *Apteryx* is the only form at present known to exist; this form, so different from all others, has been, and will ever be, regarded with great interest, as the sole remnant of a race of which every other genus is believed to be extinct. Hitherto a single species only of this genus has been recorded; I have therefore no ordinary degree of pleasure in introducing to the notice of this Meeting a second, and if possible a still more extraordinary one than that previously described, and as I reported to the meeting held on the 13th of April, I have intelligence of the existence of a third and much larger species than either of them.

The bird I am now about to describe has just arrived from New Zealand by way of Sydney, but unaccompanied by any information as to the locality in which it was procured, or any particulars of its habits and economy.

It appears to be fully adult, and is about the same size as the *Apteryx Australis*, from which it is rendered conspicuously different by the irregular transverse barring of the entire plumage, which, with its extreme density and hair-like appearance, more closely resembles the covering of a mammal than that of a bird; it also differs in having a shorter, more slender, and more curved bill, and in the structure of the feathers, which are much broader throughout, especially at the tip, and of a loose, decomposed, and hair-like texture. I propose to characterize this new species under the name of *Apteryx Owenii*, feeling assured that it can only be considered as a just compliment to Professor Owen, who has so ably investigated the group to which I believe it pertains.

Apteryx Owenii. *Ap. corpus superius fusco et fulvo transversim radiatum; plumis singulis, ad basim argenteo-fuscis, in medio saturatius fuscis, deinde fasciâ semilunari transversâ fulvâ, cui macula succedit informis nigra, ad apicem fulvis. Corpus inferius superiore pallidius, pluma enim quæque inferioris corporis tribus radiis fulvis, superioris tantum duobus ornatur; fulvus quoque color inferiore longius quam superiore corpore in apicibus plumarum extendit.*

Face, head and neck dull yellowish brown; throat somewhat paler; all the upper surface transversely rayed with blackish brown and fulvous; each individual feather being silvery brown at the base, darker brown in the middle, then crossed by a lunate mark of fulvous, to which succeeds an irregular mark of black, and terminated with fulvous; under surface paler than the upper, caused by each feather being crossed by three rays of fulvous instead of two, and more largely tipped with that colour; the feathers of the thighs resemble those of the back; bill dull yellowish horn-colour; feet and claws fleshy-brown.

Total length, from the tip of the bill to the extremity of the body, 18 inches; bill, from the gape to the tip, $3\frac{5}{8}$; bill, $\frac{7}{8}$ broad at the gape; tarsi, $2\frac{1}{4}$; middle toe and nail, $2\frac{1}{2}$.

Hab. New Zealand.

Remark.—In this species the wing is even more rudimentary than in the *Apteryx Australis.*

3. Drafts for a new arrangement of the Trochilidæ. By John Gould, Esq., F.R.S. (continued*), with the characters of two new genera and descriptions of three new species.

Metallura, gen. nov.

Char. gen.—*Rostrum* rectum, sublongum. *Plumæ* molles sericeæ. *Cauda* subgrandis, rotundata. *Gula* et *rectrices infrà* tanquam metallum expolitum luminosæ. *Alæ* subgrandes. *Tarsi* nudi. *Pedes* subgrandes. *Digitus* et *unguis* postici digitum et unguem medios longitudine æquantes vel superantes.

Gen. char.—Bill straight, moderately long; plumage soft and silky; tail rather large and rounded; throat and under surface of the tail-feathers very luminous, like shining metal; wings moderately large and apparently adapted for an easy mode of flight; tarsi bare; feet rather large; hind-toe and nail as long or longer than the middle toe and nail.

Females.—Much less brilliant than the males in every respect, and in most of the species wanting the luminous mark on the throat.

The species are—

Trochilus cupreocauda, Gould.
Trochilus æneocauda, Gould.
Trochilus Alardi, Bourc.
Trochilus smaragdinicollis, D'Orb.
Trochilus Williami, Bourc.

* See *antè*, pp. 7, 16, 30.

DORYFERA, gen. nov.

Char. gen.—*Rostrum* forte, ad tertiam partem apicalem, quæ sursum curvatur, rectum. *Alæ* subgrandes. *Cauda* rotundata, subrigida, rectricibus singulis mucronatis. *Tarsi* aliquâ parte vestiti. *Pedes* magnitudine mediocri. *Digitus* et *unguis postico* digito et ungui medio longitudine æquales.

Gen. char.—Bill long, straight for three-fourths of its length, and inclining upwards to the extremity; wings moderately large; tail rounded, rather rigid, each feather ending in a point; tarsi partly clothed; feet moderate in size; hind-toe and nail as long as the middle toe and nail.

The species are—

Trochilus (*Doryfera*) *Louise.*

TROCHILUS (DORYFERA) VIOLIFRONS. *Troch. fronte maculâ rotundâ metallicè violaceâ notatâ; occipite, collo, et dorso superiore æneo-viridibus; dorso inferiore, et tectricibus caudæ superioribus, sordidè griseo-cæruleis; gulâ, et abdomine, nigris viride splendentibus; tectricibus caudæ inferioribus intensè violaceis; caudâ ipsâ nigrâ violaceo subnitente.*

On the forehead a round spot of beautiful metallic violet; back of the head, neck and upper part of the back bronzy green, passing into purer green on the back and shoulders; lower part and upper tail-coverts dull greyish blue; throat and abdomen black, with green reflexions; under tail-coverts deep violet-blue; wings purplish brown; tail black, slightly glossed with green; bill black; feet brown.

Total length, $4\frac{1}{8}$ inches; bill, $1\frac{1}{4}$; wing, $2\frac{1}{4}$; tail, $1\frac{3}{8}$.

Remark.—This most interesting addition to the *Trochilidæ* is precisely of the same form in every respect as *T. Louise*, but differs most remarkably in the colouring of its plumage, the forehead being violet instead of green, and the under surface black instead of golden green.

LOPHORNIS REGINÆ. *Loph. vertice, et cristo, ferrugineo-rubris, plumis singulis maculâ viride ad apicem ornatis; loro, gulâ et colli lateribus, viridibus, candentibus; maculâ plumarum lanceolatarum subviride albâ; nuchâ, et dorso superiore, fulgente viridibus; dorso inferiore, uropygio, et tectricibus caudæ superioribus, æneo-fuscis; uropygio lineâ albâ transversim fasciatâ; caudâ castaneo-fuscâ, rectricibus duabus intermediis ad apicem et margines, rectricibus etiam duabus externis ad margines, æneo-viridibus.*

Crown of the head and crest bright rusty red, each feather with a beautiful dark green spot at the tip; lores, throat and sides of the neck resplendent metallic green, beneath which is a patch of white lanceolate feathers; back of the neck and upper part of the back lustrous green; lower part, rump and upper tail-coverts bronzy brown; rump crossed by a distinct line of white; tail chestnut-brown, the tips and margins of the two middle and the margins of the external feathers rich bronzy green; abdomen light metallic green; wings purplish brown; bill reddish brown at the base, dark brown at the tip; feet brown.

Total length, $2\frac{3}{4}$ inches; bill, $\frac{1}{2}$; wing, $1\frac{5}{8}$; tail, $1\frac{1}{8}$.

Remark.—Nearly allied to *Lophornis Regulus* and *ornatus*, but differing from the former in having the crest-feathers broader and the green spots on the tips much larger. It is a very beautiful species.

Trochilus (Glaucis?) cæruleogaster. *Troch. vertice, nuchâ, uropygio, et tectricibus caudæ superioribus, æneo-viridibus; mento, colli lateribus, et dorso viridibus; guld, et abdomine, cyaneis; tectricibus caudæ inferioribus magnis, albis; caudâ nigrâ pallidè cyaneo nitente.*

Crown of the head and back of the neck dull bronzy green; back green, passing into bronzy green on the rump and upper tail-coverts; chin and sides of the neck green, gradually passing into the beautiful blue of the throat and abdomen; under tail-coverts largely developed and of a pure white; tail black, with steel-blue reflexions; wings purplish brown; bill black; feet brown.

Total length, $4\frac{3}{4}$ inches; bill, $1\frac{1}{8}$; wing, $2\frac{3}{4}$; tail, 2.

Remark.—About the same size as, and similar in every respect to, *T. Buffonii*, Lesson, but differs from it in the throat and abdomen being beautiful blue instead of green.

June 22, 1847.

Harpur Gamble, Esq., M.D., in the Chair.

The following communications were read:—

1. Description of a New Lizard discovered by Mr. Dyson in Venezuela. By J. E. Gray, Esq., F.R.S., F.Z.S.

In the 'Annals and Magazine of Natural History' I described a lizard, from Columbia, which Mr. Brandt sent me under the name of *Argalia marmorata*, and considered it as the type of a peculiar family. In Mr. Dyson's collection, just received at the Museum, there is a second species of this genus from Venezuela, differing from the former not only in the colouring, but in the size of the head and the comparative length of the tail.

This genus has much the appearance of the *Barisiæ*, but is at once known from them and other New World *Zonuridæ* by having femoral pores, by the position of the nostrils, and by the scales on the side of the body not being granular, though rather smaller than those of the back.

ARGALIA OLIVACEA.

Olive-green; beneath pale brown; sides of neck and body yellow spotted; tail rather longer than the body and head, thick at the base. Palms of the feet bright yellow.

Inhab. Venezuela.

Mr. Dyson found a pair of these lizards on a tree in the mountains, 8000 feet above the level of the sea, near the Colonia de Tova, by a tree called *Grand Cedro*, the largest known in Venezuela, and much larger than that described by Humboldt.

They now form part of the collection of the British Museum. The sexes are quite alike in form and colour.

2. ACCOUNT OF A BLACK AND WHITE MOTTLED SWAN, ON THE WATER IN THE DEMESNE OF THE EARL OF SHANNON, CASTLE MARTYR, COUNTY CORK. BY MAURICE GLENCON, GAMEKEEPER TO THE EARL OF SHANNON. COMMUNICATED BY THE PRESIDENT.

In the year 1843 a male black swan paired with a white female swan; she laid six eggs, and hatched four cygnets. Before they got to the age of six months, three of them met with untimely deaths. This bird in 1845 paired with its father, and laid four eggs, which came to nothing. It is very like the father about the head, but about the body it resembles the white swan. It lives on the water with others, black swans and white swans, and agrees with both.

The above statement may be relied on as authentic and correct, because I have witnessed it from beginning to ending.

Upon the same island where this bird was born I have seen more than eighty cormorants' nests, on Scotch fir-trees not under sixty feet in height, in which they hatched their young. This was fourteen years ago.

Castle Martyr, June 1847.

3. ON THE PORCUPINES OF THE OLDER OR EASTERN CONTINENT, WITH DESCRIPTIONS OF SOME NEW SPECIES. BY J. E. GRAY, ESQ., F.R.S., F.Z.S. ETC.

This genus, on account of the similarity of the appearance of the species, has been very imperfectly examined. M. F. Cuvier, in the eleventh volume of the 'Mémoires du Muséum,' has given a paper on the crania and teeth of the family, and divided them into genera, forming those of the old world, which alone came within the scope of this communication, into two: the first he calls *Hystrix*, and figures as the type a skull which he considers as that of the *Porcupine of Italy*; and formed a second genus under the name of *Acanthion* for a skull brought by Leschenault from Java, and a skeleton described by Daubenton (Buffon, H. N. xii. t. 53) in the Paris Museum. He gives a general description and some observations on the relative size of the face and brain-cavity, rather than a character for these genera, and no distinctive character by which the two species of the genus *Acanthion* can be recognized.

The Baron Cuvier does not take any notice of the genus *Acanthion* in the second edition of the 'Règne Animal' (i. 215), but merely observes that the Indian and African species have their heads less swollen; but he formed for the *fasciculated Porcupine* (*H. fasciculata*) a genus under the name of *Atherura*, characterized by the muzzle not being swollen, and the tail elongated and not prehensile. Some authors, as Fischer (Synopsis Mam. i. 267, ii. 602), have considered this animal as the one on which F. Cuvier established his genus *Acanthion*. See on this subject the excellent remarks of Mr. Bennett on the gardens and menageries of the Zoological Society, i. 176.

J. F. Brandt, in the 'Mémoires de l'Académie Impériale des Sciences de Saint Pétersbourg' for 1835, on the Rodent in the museum of that Academy, has also overlooked M. F. Cuvier's genus, and he observes, "The genus *Acanthion* of F. Cuvier I add to the genus *Hystrix*, on account of the resemblance of the cranium of *H. hernitorostris* with that of *Acanthion Daubentonii*. G. Cuvier, although he proposed the new genus *Atherura*, does not say a word respecting *Acanthion* in the new edition of the 'Règne Animal'; and I should almost conclude from his words under the genus *Hystrix* (i. 215),—'there are (in the genus *Hystrix*) species with the head less swollen;' that he himself regarded the quotation *Acanthion* and *Hystrix* as one and the same."—*Mém. Acad. Pétersb.* 1835, 267, *note*.

I may here remark, that the skull figured by M. F. Cuvier as that of the *Italian Porcupine* does not agree with our specimen of the skull of the European species, and belongs to what I have considered the genus *Acanthion*, as I keep the name of *Hystrix* for the old Linnæan species *H. cristata*: that the skull figured by Brandt as a new species, under the name of *Hystrix hernitorostris*, does agree with our specimen from Xanthus, which I regard as the European species; and though he compares it in the note above quoted with F. Cuvier's figure of the genus *Acanthion*, it differs from that figure in most important characters; while the skull which Brandt figures for that of *Hystrix cristata* very nearly resembles F. Cuvier's figure above referred to, which represents, according to the characters pointed out in this communication, what I regard as the genus *Acanthion*.

Having had the opportunity of comparing the various skulls and skeletons of the species of this genus contained in the British Museum with the skulls of the Indian species in the collection of Colonel Cautley, and with the three skulls in the collections of the Zoological Society, I have been induced to make the following communication to the Meeting, as containing the results of this examination, and with the hope of calling the attention of the Members to the necessity of further attention to this hitherto neglected genus. These skulls form themselves into three groups, and that I may not encumber science with new names, I have used the three already proposed by the brothers Cuvier, though the characters I have given for the genus *Acanthion* may not be such as M. F. Cuvier had in his mind when he formed the division.

Synopsis of the Genera.

I. *Tail short; skull convex above; the nasal and intermaxillary bones large to (or to behind) the front edge of the orbit; the (upper) grinders all with a fold on the inner side.*

1. Hystrix. The intermaxillary broad and truncated, and as wide behind as before. The grinders oblong, longer than broad, with one very distinct fold on the inner and three or four on the outer side.

2. Acanthion. The intermaxillary triangular, tapering behind; the grinders subcylindrical, not longer than broad, with a distinct fold on the inner and two or three on the outer side.

II. *Tail elongate, tufted at the end; skull nearly flat above; the nasal and intermaxillary bones short, not nearly reaching to the front of the orbits. Intermaxillary narrow, truncated behind; the front (upper) grinders (and perhaps all but the last) without any fold on the inner side.*

3. Atherura.

1. Hystrix.

Tail short; crown and nape crested; spines subcylindrical, striated; the skull very wide, swollen, convex above; the nasal and intermaxillaries large, reaching to the line even with the front edge of the orbit. The intermaxillaries very large, broad, oblong, as wide behind as before, and truncated behind; the palate wide between the grinders; the grinders oblong, longer than broad. The development of the face is produced by the dilatations of the hinder part of the intermaxillary bones.

1. Hystrix cristata, Linn., &c. (*Crested Porcupine*).

H. hirsutirostris, *Brandt, Mém. Pétersb.* 1835, 375, t. 8. f. 3—6.

Black; spines of the sides greyish, softish, subcylindrical; of the back thick, tapering, with several black rings and a moderate white tip. The upper part of the intermaxillary wider than the width of the nasal. Skull very convex and wide, the palate wider than the width of the teeth.

Inhab. South Europe and Africa.

The spines are described from a specimen from South Africa, presented to the Museum by Dr. W. Burchell, and the skull, from that of an Italian specimen, received from a menagerie, and a young skull with only three grinders, brought from Xanthus and presented to the British Museum by G. Scharff, Esq.

The skull figured by Brandt, Mém. Acad. Pétersb. 1835, t. 8. f. 3, 4, 5, 6, as that of his *Hystrix hirsutirostris*, well represents the skull of the young *H. cristata* from Xanthus.

The skull of the Italian porcupine figured by F. Cuvier, and of *H. cristata* figured by Brandt, do not belong to the species above described.

2. Hystrix leucurus, Sykes, *Proc. Zool. Soc.*, (*Indian Porcupine*).

Hystrix cristata, *Bennett, Gard. & Menag. Zool. Soc.* 171: fig. good.

Black; spines of the throat white-tipped (forming a half-collar); of the sides rigid, angular, of the back very long, slender, with several black rings, and a very long, slender, white tip. Skull elongate, rather narrow; the hinder part of the intermaxillary as wide as the nasal. The palate narrow, not wider than the width of the teeth.

Inhab. Bombay. Dukhun, Colonel Sykes. Nepal, B. H. Hodgson, Esq., N. India.

The above description is taken from two adult and one young specimens in the British Museum,—one presented by Colonel Sykes and the others by B. H. Hodgson, Esq.,—two skulls from Mr. Hodgson's specimens, three skulls from Colonel Cautley's collection, and a skull in the museum of the Zoological Society.

The young skull, which has three well-developed and worn grinders, is the same length as the young skull of *H. cristata* from Xanthus, which has the third grinder partly developed. The Nepal skull is much less swollen, less convex above, and nearly one-third narrower, and the teeth are smaller, occupying about one-fourth less space than the three teeth in the European skull.

I may observe, that though these skulls preserve a very distinct character, yet they vary so much amongst themselves as to show that skulls afford no better character for the distinction of species than any other single character, such as colour, but can only be depended on when taken in connexion with the rest of the organization.

In Colonel Cautley's collection there are three adult skulls (nos. 32, 34, 35) of this species from Northern India; they agree nearly in size and in the comparative width of the intermaxillary and nasal bones; one differs from the other two considerably in the width between the orbits, and slightly in the convexity of the frontal line. They are all much larger than Mr. Hodgson's specimen from Nepal.

No. 34 is peculiar for having a fifth grinder appearing behind the fourth on the left side above.

This species is easily known by the very elongate slender spines of the back and by the form of the intermaxillary, though they are subject to some variation.

The figures by Harvey published by Mr. Bennett above-quoted well represent the elongated drooping dorsal spines of this species.

Measurement of the Skulls in inches and lines.

	H. cristata.	H. cristata.	H. leucurus.	H. leucurus.	H. leucurus.	H. leucurus.	H. leucurus.
	Adult.	Junior.	No. 32.	No. 34.	No. 35.	Adult.	Junior.
Length of skull above.....	5 7	4 0	5 10	5 8	5 11	5 0	4 0
Length of nasal	2 8½	1 9	3 0½	2 8½	2 11	2 5½	1 9½
Width at middle of orbits.	2 3	1 11	2 5	2 3	2 6	2 1	1 7
Width of nose in middle...	1 10	1 4½	1 10	1 9	2 0	1 11	1 2½
Width of lower edge of zygoma	2 7	2 2	2 11	2 11	2 9	2 7	2 0
Lower edge of zygoma to central suture	.....	.....	2 11	2 7	2 10	2 4	
Palate to middle of crown end of nasal.....	.....	.....	2 7	2 2½	2 5	2 1	
Length of skull beneath ...	5 10	4 2	6 2	5 7½	6 0	5 3	4 1
Length of palates	3 2	2 2	3 3	3 0½	3 2	2 10	2 0½
Length of grinder series ...	1 5	1 5	1 4½	1 3½	1 5	1 3	0 10½
Length of lower jaw	3 10	2 11	4 2	4 2½	.....	3 8	2 11
Width at ear-bones.....	2 1	1 11	2 3	2 1	2 2	1 11	1 8
Width at condyles	1 2	1 0	1 2	1 2½	1 2	1 3	1 0
Height of occiput from foramen	.....	.....	1 3½	1 2	1 3	1 2	

2. Acanthion.

Tail short; crown and nape not crested. Spikes short, flattened and channeled above. Skull rather elongate, convex above; the nasal and intermaxillary reaching to the line even with the front, or even to the middle of the orbit; the intermaxillaries triangular, narrowed behind; the palate moderately wide between the grinders; the grinders subcylindrical, not longer than broad.

F. Cuvier established his genus *Acanthion* on a skull and skeleton in the Paris Museum. He gave as the character the less convexity of the head and the smaller size of the nose; but he takes no notice of the size and form of the intermaxillary, which appears to be the best character of the group.

M. G. Cuvier and Brandt have not adopted M. F.Cuvier's genus.

This genus presents two very distinct sections:—

* *The nasal very long, broad to the middle of the orbit.* Acanthion.

† *Malar bone simple. Palatine opening parallel.*

1. Acanthion Hodgsonii, n. s. *Lesser Indian Porcupine.* # alpinus Anderson see p 120

Crown and nape without any crest. Blackish brown, neck with a very narrow indistinct white collar. Spines of the head and neck slender, bristle-like; of the front half of the body short, angular, acute, with a deep groove; of the hinder part of the back longer, with a very small pale tip and some white ones; some of the latter are moderately long and thick, with a black end; and others are longer and slenderer, with a subcentral black band. Skull rather elongate, narrowed before the orbit; the intermaxillaries very narrow, and rather

acute behind. Palatine opening narrow and nearly parallel. Malar bone moderately wide, and rather gradually narrowed behind. The nasal holes large; the front end of the nasal over the base of the upper cutting-teeth.

Inhab. India. Nepal; B. H. Hodgson, Esq.

The spinous process of the second cervical vertebra is very large and recurved; of the first dorsal is shorter than the second or others; the ribs are 15·15, very broad and large. The caudal vertebræ are deficient.

This species is described from a half-grown specimen and its skull, and a skeleton of an adult animal from Nepal, presented to the British Museum by B. H. Hodgson, Esq.

†† *Malar bone with a deep notch behind. Palatine opening diverging.*

2. Acanthion Cuvieri, n, s. H. africana australis Peters

Porc epic d'Italie, *F. Cuv. Mém. Mus.* ix. t. 20*. f. 1. Skull.

Hystrix cristata, *Brandt. Mém. Pétersb.* 1835, t. 8. f. 1, 2. Skull.

Black? Spines? Skull very convex above, very wide over and before the orbits. The hinder part of the intermaxillary rather broad, and rounded at the end. The palatine openings wide, and diverging from each other behind. The malar bone very broad in front, narrow behind. The nasal hole very large; the front edge of the nasal far back behind the base of the cutting-teeth.

Inhab. ——? Mus. Zool. Soc.

This species is described from an adult skull, with the hinder part of the upper surface cut away, which is contained in the museum of the Zoological Society. It agrees in almost every particular with the skull figured by Brandt and F. Cuvier as that of the *European Porcupine*. Brandt's figure is just half, and Cuvier's rather more than half the size of this specimen. Brandt's figure is most characteristic, both in the posterior position of the nasal bone and the notch in the lower edge of the orbit produced by the sudden narrowing of the malar bone.

** *Skull narrower in front. Nasal bone moderate to the front edge of the orbits. Malar bone with an obtuse post-orbital process.* Acantherium.

3. Acanthion Javanicum. *Short-spine Porcupine.*

Acanthion Javanicum, *F. Cuvier, Mém. Mus.* ix. t. 1. f. 3, 4. From a skull; and Mus. Leyden.

Hystrix brevispinosus, *Wagner.*

H. torquatus. Mus. ——?

Greyish black, throat with a large square white spot. Spines of the head elongate setaceous; of the front half of the body short, dark, with a deep groove and a white tip; of the hinder part of the back longer, more cylindrical, white, with a black tip and bands; of the under-side of the tail white; the sides with a few scattered, very slender, white spines. The palate narrowed behind. Condyles of

the skull small. Dorsal vertebræ thirteen, with thirteen pair of rather elongate slender ribs; the spinous process of the first dorsal vertebra as long as the second and following ones. The caudal vertebræ fifteen.

Inhab. India? Java?

There is a skin and skeleton of this species in the collection of the British Museum: it is a male which lived in the Surrey Zoological Gardens for ten or twelve years.

M. F. Cuvier established a species under the name of *Acanthion Javanicum* on a skull from Java in the Paris Museum. In the Leyden Museum there are several specimens of this or the next species, which they regard as M. F. Cuvier's species. Neither M. Cuvier's nor my notes on the Leyden specimens enable me to distinguish to which the names belong.

While living in the Surrey Zoological Gardens it bred with a female of the Common Crested Porcupine, and produced a hybrid specimen, which, with its skeleton, is now in the British Museum collection. The animal is intermediate between the two species, having only a short compressed crest; and the skull is equally intermediate in character, having the broad palate and oblong teeth of *H. cristata*, and the more elongated form of the skull and the triangular intermaxillaries of the male parent.

4. Acanthion Flemingii. *Square-spined Porcupine.*

The palate between the grinders narrow ($2\frac{1}{2}$ lines), and rather wider behind between the last grinders. Condyle of skull large.

The dorsal vertebræ fourteen, with fourteen pair of rather wide ribs; the spinous process of the first dorsal is nearly as long as the second and third; and of the second cervical is large and recurved. Caudal vertebræ seventeen.

Inhab. ——? Skull in British Museum.

see p. 128

Measurement of Skulls in inches and lines.

	Acanthion Hodgsonii.				Acanthion Cuvieri.		Acanthion Javanicum.		Acanthion Flemingii.		
	Adult.		Junior.		Adult.						Hybrid.
Length of skull above	4	$7\frac{1}{2}$	4	2	5	6	4	6	4	6	4 6
Length of nasals	2	6	2	$3\frac{1}{2}$	2	$9\frac{1}{2}$	1	10	2	1	1 10
Width over middle of orbits	1	8	1	6	2	3	1	7	1	7	1 8
Width of nose in middle	1	3	1	1	1	$1\frac{1}{2}$	1	$1\frac{1}{2}$	1	$1\frac{1}{2}$	1 $2\frac{1}{2}$
Width of lower edge of zygoma	2	3	2	$0\frac{1}{2}$	2	11	2	$0\frac{1}{2}$	2	0	2 1
Width of lower edge of zygoma to central suture	.....		1	9	2	5	.....		.....		1 $10\frac{1}{2}$
Width of palate to middle of crown end of nasals	.....		1	$6\frac{1}{2}$	2	3	.....		.....		1 8
Length of skull beneath	4	8	.....		5	4	4	5	4	5	4 5
Length of palate	2	$5\frac{1}{2}$	2	$1\frac{1}{2}$	2	11	2	3	2	3	2 3
Length of lines of grinders	1	0	1	0	1	4	1	0	1	0	1 $0\frac{1}{2}$
Length of lower jaw	3	0	2	10	3	10	2	10	3	0	3 $0\frac{1}{2}$
Width at ear bulla	1	9	1	9	2	$1\frac{1}{2}$	1	10	1	10	1 11
Width of the condyles	0	$11\frac{1}{2}$	.....		1	$1\frac{1}{2}$	0	$11\frac{1}{2}$	1	$1\frac{1}{2}$	1 0

We have a skeleton of this species, which was purchased of Mr. Bartlett as "*the Square-spined, not Crested Porcupine,*" but unfortunately the skin was not preserved.

I ought in justice here to remark, that Edward Gerrard, who has the preparation and the care of the skeletons in the British Museum collection, and Mr. Bartlett both informed me there were osteological distinctions between these very distinct species.

3. Atherura, *Cuvier.*

Tail elongate, tapering, ending in a tuft of peduncled, compressed spines. Skull elongate, rather suddenly narrowed in front, rather depressed and flattened above. The nasal moderate, not reaching to the front edge of the orbit. The intermaxillary rather narrowed behind, square at the hinder end. The malar bone broad in front, subtriangular, very narrow behind. The palatine foramen rather far apart, linear and rather diverging behind. The grinder subcylindrical. The upper front one with two large folds on the outer side, reaching nearly to the inner edge, and with a smaller fold on middle of the outer, and three similar folds on the hinder edge; the other upper grinder with two grooves or folds on outer edge, and one on the middle of the inner: these grooves become isolated, oblong rings of enamel as the teeth become more worn: the fold on the inner side of the last grinder is most distinct. Palate truncate behind.

1. Atherura fasciculata, *Cuv.*

Landak, *Marsden,* Hist. Sumatra. *Raffles.*
Hystrix macroura, *Linn.* From *Seba.*
Hystrix fasciculata, *Shaw.* From *Buffon.*
Inhab. Sumatra, *Raffles*; Malacca, *Buffon*; Celebes, *Seba.*

2. Atherura Africana. Ath. fasciculata, "*Cuv.,*" *Bennett, Garden and Menag. Zool. Soc.* 175.

Inhab. Fernando Po, Lieut. Vidal; Sierra Leone, Mr. Frazer.
Skull, without lower jaw, in collection of Zool. Soc.

	in.	lin.
Length of skull above	3	9
Length of nasal	0	11
Length of palate	2	2
Length of teeth-line	0	10
Width at orbit	1	$3\frac{1}{2}$
Width at zygoma beneath	1	9
Width of valve	0	4
Width at ear bulla	1	$6\frac{1}{2}$
Width of condyles	0	11

"The animals are found in such plenty (in the colony of Fernando Po) as to afford a staple article of food to the inhabitants."—*Bennett, l. c.* 175.

4. Note on the Spermatozoa, and on the Elevator Muscles of the Penis, of the Indian Elephant. By George Gulliver, F.R.S.

In the testicle of the elephant that died on the 7th of this month in the menagerie of the Society, there was scarcely any semen. The seminal tubes measured from the $\frac{1}{109}$th to the $\frac{1}{85}$th of an English inch in diameter; they contained a brownish pulpy matter, which, under the microscope, appeared to be composed of a liquid loaded with a multitude of minute, shining, oil-like molecules, either free or aggregated into roundish and shapeless corpuscles. There were also a few objects like altered epithelial corpuscles; but not a single spermatozoon, either free or in a cell, could be discovered.

Within the tube of the epididymis, however, a few distinct spermatozoa were found; and the drawing of them now shown is on a scale of $\frac{1}{4000}$th of an inch, the objects being magnified between 700 and 800 times, linear admeasurement.

It will be seen that there is nothing peculiar either in the form or size of these spermatozoa of the elephant. They resemble generally those of numerous other mammalia. For the sake of comparison I exhibit drawings, made on the same scale, of spermatozoa from the *Cervidæ*, *Camelidæ*, *Ursidæ*, *Mustelidæ*, *Soricidæ* and *Sciuridæ*, all of which are noticed more or less in my papers in the Proceedings of the Society, July 26, 1842, April 11, 1843, and February 24, 1846.

The elephant was supposed to be about forty years old.

I may mention, that while engaged in looking for the testicles of the elephant, we exposed two large muscles arising from the pubes, and inserted into the dorsum of the corpora cavernosa penis. Each of these muscles was quite as large as the biceps muscle of the human arm.

The use of these muscles in the elephant, to elevate, retract and suspend his immense penis, is indicated by their attachments. Under the microscope the fibre of these muscles of the penis was found to possess all the characters of common voluntary muscle.

5. Brief notes on the habits of Noctilio mastivus. By P. H. Gosse, Esq.

The following notes are extracted from a journal kept in Jamaica during a residence there in the years 1845 and 1846:—

"Being out on a shooting excursion on the 18th of October, 1845, round Crabpond Point, on the southern coast, about the middle of the day I looked about for a seat on which to rest while I ate some refreshment. A gigantic cotton-tree (*Eriodendron anfractuosum*) in the grass-piece of Mount Edgecumbe seemed to promise in its long root-spurs the seat I was seeking. On arriving at it I found the tree was hollow, the trunk forming a wide chimney of unknown height, as being closed at the top, the darkness prevented my seeing more than a few yards up. I remarked to my servant that it was a likely locality for bats; but the appearance of a large Gecko drew off my attention, and I attempted to capture it. The reptile darted

however within the cavity, and I then noticed that beneath the hollow was piled a heap, several feet in diameter, and at least a foot in height, of a soft granular substance, which on examination I found to be the dung of some insectivorous animals, with a very rank peculiar odour. I had now no doubt of the tree being the abode of bats, but had little expectation of being able to ascertain the fact. While peering carefully up, however, I distinctly heard the flapping of wings and some shrill squeakings, and this determined me to fire my fowling-piece at random up the cavity. This I did twice, and though I brought down nothing but a little rotten wood, yet presently, when the smoke had a little subsided, on looking up again I discerned amidst the darkness one or two heads, which seemed those of rats, and immediately another just above them, evidently crawling downwards. I pointed them out to my negro lad, who saw two or three more, and presently, as it became more clear of smoke, the whole sides of the cavity appeared full of curious round faces. I now fired, no longer at random, and had the pleasure of bringing down this beautiful bat, which fell dead. The smoke of this discharge made the others more anxious to come down to the fresh air, and we could see them descending fast, head downwards. As the shot lacerated the membranes considerably, I bethought myself of another plan: cutting a long switch with a few twigs at its extremity, I stood at the bottom and *whipped* one down; he came sprawling with expanded wings on the ground, apparently with but little notion of flight, although unwounded. On being taken up by the wings he displayed uncommon fierceness, biting savagely and powerfully anything within his reach. Three or four more I obtained in the same manner and brought home.

"When thrown up into the air in a room, they would not fly, but merely opened the volar membranes to break their fall, as with a parachute. Two, which I kept alive, hung themselves up by the hind-feet from the side of a cage into which I put them, and would not move, except to shift an inch or two; nor did the approach and arrival of night excite them to activity. One, however, which had contrived to secrete himself in the room, when, having taken both out of the cage, I turned my back for a moment, and which I had vainly searched for, I found at night, by going into the room with a candle: hearing a scrambling, I looked up to the top of the wall, where was my lost bat, endeavouring to suspend himself. On being touched he flew off, but immediately alighted, and so repeatedly; sometimes, when he failed of taking a hold of the wall, he came to the floor, whence he readily rose, though very obliquely. I was struck with his expanse of wing when performing his noiseless flight around the room, and with his resemblance to a bird, aided by the enormous interfemoral membrane, which being expanded by the hind-legs and *depressed*, looked like the broad tail of a flying bird, and appeared to guide the motion in like manner.

"While taking some drawings of one, as it hung from the immense hind-feet, I was amused to see how it would thrust its nose into every part of the volar membranes, apparently searching for para-

sites (of which several were briskly crawling among the hair); and now and then it brought down one hind-foot, and scratched itself with exactly the motion of a monkey; and once I observed, after scratching its breast, it delivered something into its mouth. The flexibility of the ankle-joint was extreme, so that the foot could reach with ease any part of the body.

"I presented to one a large cockroach, which he seized greedily and munched up, moving the jaws only vertically. The eating was attended with a loud and very harsh *cranching* of the teeth—not produced by crushing the horny parts of the insect, for it was equally perceptible when munching a bit of soft flesh. The jaws moved rapidly, but yet the mastication was a long operation, *for it appeared to me to be performed almost wholly by the canines.* As the insect was progressively masticated, portions were allowed to fall into the cheek-pouches (the one being pretty well filled before the other was used), which when full hung down on each side of the lower jaw, to the depth of three or four lines, like distended bags, displaying a warted surface. When the whole of one cockroach had been masticated, and deposited in the pouches, it would take another, which was gradually disposed of in the same receptacles; then, after a few moments' intermission, by a contortion of the jaw, aided by the motion of the muscles of the pouch, a portion was returned to the mouth, and again masticated. This was repeated till all was swallowed, and the pouches appeared empty and contracted up out of sight. The whole process was much like rumination. Small portions of the muscle of a bird, which were presented to one, he chewed up and deposited in the pouches; but after being regurgitated, and a second time masticated, they were expelled instead of being swallowed. The process of eating seemed an awkward one; it was a rapid succession of choppings with the long canines, through which the tongue was thrust about so nimbly that it appeared a wonder it was not impaled perpetually.

"In order to rest, like other bats they crawled upwards and backwards by means of the hind-feet, seeking the greatest elevation they could attain which afforded a hold for the claws. They were social, though both were males; usually hanging side by side, or sometimes with the leg of one crossing the leg of the other, or even one upon the other. Sometimes they brought their faces together, and licked each other's open mouths in a singular manner; and this appeared grateful to them. I did not hear either of them click or squeak.

"Pressed by numerous engagements, I was prevented from again visiting the tree until about ten days after. I then went thither in the afternoon, wishing to see the bats emerge for the night; but though I waited till after sunset, not one appeared. The next morning I smoked the cavity again, using the fumes of burning nitre and sulphur, but entirely without success. I hence inferred that they had deserted the tree as a dwelling on the first molestation. After some months, however, I again found it tenanted by the same species, if not the same individuals, and succeeded in obtaining another spe-

cimen, whose manners in captivity were identical with those recorded above.

"I have never seen the species abroad (so as to identify it), but my intelligent negro lad, Sam, observed two about noon on the 16th of April, the sun shining vertically. It was at a provision-ground at Belmont, where they were clinging to the limb of a young Avoçada Pear (*Persea*). A Banana-bird (*Icterus leucopteryx*) was flying towards them, apparently with the intention of pecking them, on whose approach they flew away in different directions. The lad did not perceive them until the very moment of separation and flight, but he noticed that they were in actual contact, though he could not tell their position. No hole or hollow tree was near. Could they have been *in copulâ*?"

I conjecture that it is the present species to which reference is made in the following paragraph, which appeared in the Salisbury Journal of February 6th, 1847:—'Mr. Thomas Dickon, an eminent farmer in Lincolnshire, had been induced to go to Jamaica, as manager of some extensive estates there, with the intention of introducing the best systems of farming where they had been hitherto unknown. Accounts have been received, that there is already every probability of a considerable increase of sugar being produced by applying a new guano as tillage. It is the dung of large bats. The bats are said to amount to myriads; and Mr. D. having observed many of these singular animals entering the crevices of one of the numerous rocks, caused an opening to be made and the place explored. The cave was found to be 250 feet long, 20 feet broad, and from 20 to 30 feet high. The interior contained thousands of these animals, and appeared to have been their dwelling for ages. At the bottom of the cave, bats' dung, at least four feet in thickness, and amounting to about 600 tons in weight, was discovered, and found to be equal to the best Ichaboe guano.'

I sent a copy of the above notice to my esteemed friend Richard Hill, Esq., of Spanish Town, who thus replied: 'I know Mr. Dickon, to whom your newspaper paragraph relates. He details his experience in the parish of Westmoreland [the same part of Jamaica as that in which my own observations were made.—P.H.G.]; I will however endeavour to ascertain the precise locality in which he had discovered his extraordinary colony of bats. The Council of the Royal Agricultural Society of Jamaica, of which I am a member, had had its attention called to the manure to be obtained from fæcal deposits in caves frequented by bats, and they had analysed the material, but found it so largely charged with the comminuted wing-cases of insects, and so little acted upon by decomposition, that the azotized ingredients combined but slowly as a fertilizer. Several similar accounts were given to us of cave-deposits, to that furnished by Mr. Dickon. His discovery however being made in an unopened cavern, into which the bats had penetrated through crevices in the rock, has special recommendations to notice.

'My attention was some time ago drawn to a similar harbouring-

place of our *Cheiroptera*. One evening, as I was crossing the marshes between Spanish Town and Kingston, by the high-road, I was surprised at sundown at the sudden rushing out of a stream of bats from the face of a cliffy hill that rises precipitously from the swamp. They continued pouring out for some quarter of an hour or twenty minutes; they stretched like a string for some hundred yards, in consequence of the one-by-one file in which they came forth from the crevice, and then dispersed themselves up and down and all about, covering the whole expanse of the contiguous marsh. The long highway perspective across the swamp; the level bed of rushes bending in wavelets to the evening wind; the distant mountains with beetling summits and broken declivities, lighted in angular patches by the setting sun, exhibited a wide, dilated and diversified scene, in which no object rose to interrupt the line made by the flitting swarms as they streamed out from the face of the cliff, and spread their myriad numbers over the plain. I have myself noticed the great depth of the rejectamenta of bats in these caverned recesses, but a great deal of it consisted of *undecayed down*, as well as fæcal mutings, and undevoured fragments of insects.'

In a subsequent communication my friend favoured me with a sample of the excremental deposits from a bat-cavern on Swansea estate in the Vale of Luidas; and I forward it, with this paper, to the Zoological Society.

I close this article with a few particulars of description, some of which are better observed on the living animal than on specimens dried or in spirit. A male measured as follows:—"Muzzle to insertion of tail, $4\frac{1}{10}$ inches; expanse of volar membranes, $24\frac{3}{4}$; ear, from posterior base of tragus to tip, $1\frac{3}{20}$; ditto, from anterior base to tip, 1; tragus, longest side, $\frac{3}{10}$; shortest, $\frac{3}{20}$; nose to front angle of eye, $\frac{5}{10}$; nose to front of tragus, $\frac{19}{20}$. Colour varying; upper parts yellow-brown, more or less bright; a well-defined narrow line of pale fulvous runs medially down the back from the head to the tail; under parts pale fawn, bright fulvous or orange; face purplish; the muzzle and chin are much corrugated; face warty; the ears fall into elegant curves. The volar membranes are delicately thin, transparent and glossy; studded with minute, white, papillary glands, which for the most part follow the course of the blood-vessels, but are largest and most numerous in the vicinity of the trunk. The membranes being attached along each side of the spine, with an interval in the middle of the back of but $\frac{7}{10}$ths of an inch, the body is, to a great extent, free. The wing, when at rest, has but a single fold, the ultimate joint of the second and third fingers being brought back upon the penultimate. The reproductive organs are large and prominent. At the base of the penis are two follicles, secreting a dark brown substance, dry and lumpy, but friable between the fingers, most insufferably musky, the odour from which is strongly diffused by the animal during life."

From the width of the gape, the length of the teeth, and the power of the jaws in this species, together with the ferocious eagerness with which my captive specimens snatched at large cockroaches, I

conjecture that its insect-prey is large; probably nocturnal beetles and the larger moths and sphinges.

July 13, 1847.

William Yarrell, Esq., Vice-President, in the Chair.

The following papers were read:—

1. Observations on the distinction between the Cervical and Dorsal Vertebræ in the Class Mammalia. By H. N. Turner, Jun.

Doubtless it will be remembered that in many Mammalia the last cervical vertebra has a transverse process of simple form, wanting the perforation for the passage of the vertebral artery, so characteristic of the remaining vertebræ in this region of the spine, and which, together with the absence of articulated ribs, has been considered as the definite character by which such a vertebra may be distinguished. However, it is now well known that the existence of this foramen in the transverse process of the seventh cervical vertebra is rather the exception than the rule among the mammalian class, since it is wanting in most of the lower Quadrumana, as the Cebi and Lemurs*, in nearly all the Carnivora and the Rodentia (except the Hares), in the Ruminantia, and several of the Pachydermata and Edentata; but as its presence or absence has but little importance either in a zoological or physiological point of view, it is needless to enter minutely into that question.

It is perhaps scarcely necessary to add, that in the six upper cervicals this foramen is formed by the existence of two exogenous processes, the diapophysis and parapophysis, and the junction of their extremities through the intervention of a small autogenous element, a pleurapophysis or vertebral rib, which becomes anchylosed to them, in the warm-blooded animals, at an early period of existence. One of the cervical vertebræ of a whale, described by Mr. Gray in a paper recently read, affords a very interesting example of the existence of

* As some of the exceptions to this generalization possess some interest, it is perhaps as well to notice them. We need not descend lower than the Chimpanzee to witness the disappearance of the foramen, as in this animal its existence is only indicated by a minute process thrown out from the transverse process, and another from the body of the vertebra, but they do not meet; this would render it most probable that the stylet enclosing the foramen beneath is exogenous. In the skeleton of a half-grown *Cynocephalus leucophæus* in my own collection, the foramen is wanting on one side; on the other it is very small, and the stylet enclosing it shows no trace of separation from the other parts. But the most remarkable peculiarity is that occurring in the Orang-Utan, whose neck is short, and usually hangs forward. In the skeleton of this species presented by Sir Stamford Raffles to the College of Surgeons, not only does the transverse process of the seventh cervical vertebra show no foramen, but even that of the sixth has it very small on one side and quite obliterated on the other. On the other hand, in the *Indri brevicaudatus*, a rather long-necked Lemur, the foramen is very distinct in the seventh.

both the processes, but without the little element which would unite their extremities.

In the seventh cervical vertebra the upper transverse process only exists, and the small rib is generally also absent. When the foramen is present in this vertebra, it appears to be enclosed beneath simply by the extension of a little osseous stylet from the under side of the diapophysis to the body of the vertebra, just as the neck of one of the true ribs extends between the points where its head and tubercle are articulated; but whether this stylet be autogenous or exogenous, that is, developed from a separate point of ossification or not, I have at present no means of ascertaining.

I was led to remark on this subject through the accidental discovery in the skeleton of a Polecat (*Mustela putorius*) of a pair of rudimental ribs, or rather portions of ribs, moveably articulated to the extremities of the transverse processes of the seventh cervical vertebra; their length is exactly one-fourth of an inch of true bone, besides a little cartilaginous appendage at the tip. In a second specimen I searched for a similar peculiarity, but was unable to perceive its existence. The two specimens were both males, of mature age and robust dimensions, resembling each other in every particular. This circumstance naturally led me to observe with considerable minuteness the skeleton of the Three-toed Sloth (*Bradypus tridactylus*), in which the existence of nine vertebræ anterior to those forming part of the thorax has long been known; and the discovery by Professor Bell of rudimental ribs articulated to the eighth and ninth of the series renders that exceptional instance additionally interesting. I therefore attentively perused the paper contributed by that learned naturalist to the first volume of the Society's Transactions.

It may indeed appear presumptuous on my part to dissent from the conclusions which so eminent a professor has drawn from his discovery, but my observations led me irresistibly to the conclusion, that if there is any essential distinction between the vertebræ of the cervical and dorsal regions, the eighth and ninth vertebræ of the *Bradypus tridactylus* must be classed among the former.

The skeleton upon which my notes have been made is that contained in the Museum of the Royal College of Surgeons; it must be perfectly mature, although the epiphyses at the distal extremities of the ulna and radius still remain distinct, for *every* other epiphysis has lost all trace of separation from the bone to which it belongs, and the characteristic anchylosis which unites most of the bones of the foot is completely effected. The sternal ribs are all perfectly ossified; the first four of them are anchylosed to their corresponding vertebral ribs, and the first one also to the manubrium sterni;—so small, comparatively, is the amount of respiratory action required by this slow-moving quadruped.

The differences existing between the eighth and ninth vertebræ and those immediately above them are most clearly and accurately described by Professor Bell; surely it can hardly be necessary here to quote his words; but on comparing either the description that he has given, or the skeleton itself, with the cervical vertebræ of almost

any other mammiferous quadruped, it is most easy to perceive that the *eighth* and *ninth* vertebræ of the Sloth differ from the other cervical vertebræ in precisely the same manner as do the *sixth* and *seventh* vertebræ of other Mammalia from those preceding them in the series. He observes, in describing the *eighth* vertebra, "In the first dorsal each transverse is completely divided into an anterior flattened process, which is turned forwards, and a true lateral or transverse one, which supports the little articulated rib. The transverse process is smaller, but considerably longer, than those of the true cervical, and stands more in a lateral or transverse direction." These characters are precisely the same, excepting that the little articulated rib is wanting, in the *sixth* vertebra of nearly all Mammalia, and in most of them still more distinctly and strikingly manifested. But in the excellent description given by the learned professor, one point at least has been omitted, and that is the existence of the foramen for the vertebral artery in the *eighth* vertebra of the Sloth: no doubt the coexistence of the same foramen in the upper vertebræ will account for its not being mentioned, but its presence tells strongly in favour of the cervical nature of the vertebra.

The transverse process of the *seventh* cervical of the Sloth, also so carefully described by Professor Bell, accords exactly with that of the *fifth* of other Mammalia, in presenting a character intermediate between that which precedes and that which follows it. In speaking of the *ninth* vertebra of the Sloth, he proceeds, "In the second dorsal vertebra the anterior processes do not exist, and the body assumes the form of the succeeding ones. The transverse processes are simple and obtuse, and the articular surface is slightly excavated." I have already pointed out the character presented by the seventh cervical in most Mammalia, which will be seen to agree well with that just cited of the ninth in the Sloth.

In the skeleton examined by myself, the upper pair of rudimental ribs, that is, those attached to the *eighth* vertebra, are wanting—no doubt accidentally lost, and therefore in no way influencing the present argument; but the second pair, attached to the *ninth* vertebra in a manner just similar to that which I have noticed as occurring abnormally in the Polecat, have contracted a complete anchylosis with the extremities of the transverse processes to which they are connected, thus showing, what it seems that Professor Bell's specimen did not exhibit, that this rib is not permanently moveable, but at some period of life becomes a fixture. The figure given by Professor Bell in illustration of his most valuable paper does not show any indication of the existence in the transverse process of the *ninth* vertebra of the foramen for the passage of the vertebral artery; but as this foramen is but small, and the position in which the figure is taken not a very favourable one for exhibiting it, it may nevertheless have existed in his specimen; the minute foramen which he mentions, "for the passage of intercostal vessels," must be one pierced in the rib itself. In the specimen which I examined however, we have the *ninth* vertebra presenting the foramen for the vertebral artery, enclosed, as I have already shown in the *seventh* of other Mammalia,

by a little osseous stylet extending between the under side of the transverse process and the body of the vertebra, imitating the neck of a true rib; and as this is coexisting with the rudiment discovered by Professor Bell, but here anchylosed with the end of the transverse process, it really presents the appearance of the upper portion of a true rib, merely having the neck a little thinner than usual. This circumstance may perhaps seem to weaken my position; but when I consider that this vertebra presents the same general characters as the *seventh* cervical of most Mammalia, where, although the rib be wanting, the foramen is generally wanting also; and also the existence of the rib together with the absence of the foramen in the Polecat, I think the balance of evidence will still be in my favour. And Professor Owen has shown to me, in the College of Surgeons' Museum, a preparation from the human subject, showing a pair of ribs articulated to the *seventh* cervical vertebra by head and tubercle, just as are those of the true dorsal series.

But it yet remains for me to notice one point of resemblance between the *ninth* vertebra of the Sloth and the *seventh* of other Mammalia, which seems to have escaped the scrutiny of Professor Bell: that is, that the body of the vertebra is not rounded beneath, as are those of the true dorsal series, but flat and square; this flatness resulting from the presence of a longitudinal ridge along each side of its under surface, and seeming to represent in a rudimental form the anterior flattened processes of the preceding vertebræ of the series, and whose absence, noticed by Professor Bell in the *ninth* vertebra of the Sloth, is equally characteristic of the *seventh* throughout the rest of the class.

At all events I think I have adduced, from the consideration of the mammalian class alone, proofs of that truth which other departments of Comparative Anatomy have before so well established, that Nature does not rigorously confine herself to those precise rules which we lay down to account for her phænomena; and also, that if we do find it necessary to subdivide the spine into distinct regions for convenience of description, we cannot do so by simply defining characters taken from the peculiarities of a single species, but must compare the characters which the vertebræ present throughout the scale of beings, to ascertain which of them are the most constant and most truly essential in their nature. We may at the same time perceive, that the same artificial subdivision of the spine which answers our convenience so nicely in one class, may be only partially, or not at all, applicable in another; since in Birds there are no lumbar vertebræ, and one vertebra partakes both of the dorsal and sacral character, while in Fishes we find no cervicals, and as ribs are appended to all those of the abdominal series, neither lumbar nor sacral vertebræ can be said to exist.

However, with regard to the distinction between cervical and dorsal vertebræ, as we see them in the class Mammalia, it follows, from the remarks which I have made, that we can define it neither by specifying any particular number as constituting the cervical series, nor by the presence or absence of articulated ribs, nor of a foramen in

the transverse process for the passage of the vertebral artery, but must diligently compare them with those of others of the class, to ascertain with which they really correspond in their essential characters; and then we may draw the line of demarcation wherever suits us best, only remembering that under whichever series we place a vertebra in one species, the corresponding one in another must be reckoned under the same category. This is the view I have endeavoured to carry out in my examination of the Sloth; and being of opinion that the *eighth* and *ninth* vertebræ of that animal correspond as essentially to the *sixth* and *seventh* in the rest of the class, as do the atlas and the axis to those of other animals, and knowing that the intervening vertebræ differ in number by two, I feel bound to believe, notwithstanding the interesting fact which Professor Bell has discovered, that the cervical vertebræ of the *Bradypus tridactylus* are nine in number.

Fig. 2.

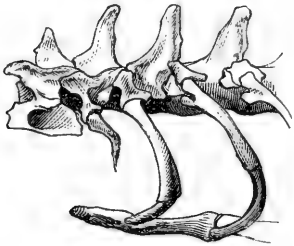


Fig. 1.

Fig. 4.

Fig. 3.

Fig. 1. A view from behind of the seventh cervical vertebra of an Opossum (*Didelphys Virginiana*), as an example of the existence of the foramen for the passage of the vertebral artery, and showing the manner of its enclosure beneath.

Fig. 2. The sixth and seventh cervical, and the first two dorsal vertebræ of a Polecat, showing the rudimental rib attached to the last cervical.

Fig. 3. The series of seven cervical vertebræ of a second specimen of the Polecat, showing the absence of the rib, and the *difference of form in the transverse processes.*

Fig. 4. A perspective view (from behind) of the last cervical vertebra of the same animal, showing the absence of the foramen for the vertebral artery, and the *flattened* form of the under surface of the vertebra.

2. Description of a new species of Bat. By Charles Lucien Bonaparte, Prince of Canino and Musignano, etc.

Arctibius Floresii.

Sp. Ch.—Grey brown; beneath paler, with pale tips to the hair; two broad streaks on the face, and a narrow streak on the centre of the back, white. Arm-bone rather foliated, one inch four lines in length. Heel-bone very short. Second thumb-joint elongate, slender. Nose-leaf with a distinct central rib.

This new species inhabits the unexplored region of the Republic of Equatoria, which borders on the wilds of Brazil. It was collected there in company with *Anoura Geoffroyi*, *Phyllostoma nigrum*, and *Molossus ater*, by the intrepid traveller M. Delattre, from whom I received it through M. Bourcier, the eminent Trochilidist.

I dedicate it to our common friend the high-minded General Flores, the companion of Bolivar, and once the worthy President of the Republic, to whose civilization his thoughts are still constantly directed, and where he still occupies a distinguished place in the hearts of his fellow-citizens.

3. On a new genus of Suidæ and a new species of Taxidea. By B. H. Hodgson, Esq., Corr. Memb. etc.

Genus Porcula, mihi.

Gen. Ch.—Teeth $\frac{6}{6} \cdot \frac{1.1}{1.1} \cdot \frac{6.6}{6.6} = 40$. Canines small, straight, severely cutting, but not exserted from the lips. Fourth toe on all the feet small and unequal. Tail very short, but distinct. Type,

Porcula Salvania, mihi.

Sp. Ch.—Pigmy Hog of a brown-black colour, slightly and irregularly shaded with sordid amber. Iris hazel. Nude skin dirty flesh-colour. Hoofs glossy-brown. Length from snout to vent 18 to 20 inches; height 8 to 10 in.; head 6 in.; tail $\frac{7}{8}$ or less than 1 in. Weight 8 to 10, rarely 12lbs.

Hab. Saul Forest.

Remark.—The Pigmy Hog of the Saul Forest is almost equally allied to the true Hogs and the Peccaries, agreeing with the former in the absence of any peculiar organs, such as the gular flaps of *larvatus* and the pelvic sac of *torquatus* and *labiatus*; also in the number and form of the incisor teeth, and in having a perfect tail and four toes to each foot; but differing from the true Hogs and agreeing with the Peccaries in the number of the molar teeth, in the style of the laniaries, in the diminished elongation of the jaws, and in the absence of the nasal cartilage, and showing yet further leaning towards the same type (*Dicotyles*) by the extreme smallness of the tail, and by the tendency of the fourth toe to disappearance.

Our proposed genus should have a place in a natural system between *Sus* and *Dicotyles*; its positive characters being the presence of a tail and of a fourth toe, the limited number of molar teeth, and

the straightness of the unexserted laniaries. The species is most rare; its flesh excellent; its manners resemble those of *Sus* in general, but with some marked differences.

Genus Taxidea, Waterh.

Taxidea Leucurus, mihi. Tibetan Badger.—Head laterally and above whitish, divided by a blackish line through the eye. Body above and laterally yellowish grey, paling towards the flanks. Below, from chin to vent exclusive, black; and limbs the same. Tail unmixed yellowish white. Ears black basally, white apically. Snout to vent 27 in.; head $5\frac{1}{2}$ in.; tail 10 in.; palma and nails $3\frac{1}{8}$ in.; planta and nails 4 in.; ear, with tuft, 2 in.

Hab. Plains of Tibet.

July 27, 1847.

William Yarrell, Esq., Vice-President, in the Chair.

The following papers were read:—

1. Note of the Circulation of Crocodilus lucius. By Edward Fry.

In a recent dissection of a specimen of the *Crocodilus lucius*, measuring about five feet four inches, I discovered an arrangement of the arterial system which is, as far as I am aware, anomalous, and which may perhaps be therefore worth recording.

In all the drawings of the Saurian circulation with which I have met, the left ventricle is represented as giving off, in addition to the right aortic arch, a common trunk, which divides into two arteries for the supply of the fore-part of the body, which for a short course are to be considered as arteriæ innominatæ, when they give origin to the subclavian arteries and pass upwards, one on either side, as carotids, for the supply of the head and face. In the individual in question, however, the arrangement was this: beside the right aortic arch, two trunks are given off from the bulbus of the left ventricle; of which, one passes immediately to the supply of the right fore-limb, and the other proceeds upwards, shortly gives off a considerable branch as a left subclavian, and then continues its upward course on the mesial line lying immediately on the under side of the bodies of the vertebræ, in a channel between the longitudinal muscles of either side, and above the trachea, until it almost reaches the posterior nares, where it subdivides, its branches passing over the under side of the temporal muscles, and going to feed the lower jaw, as well as supplying the sides of the head.

The parts which this singular artery supplies prove it to be the

analogue of the carotids, whilst the consideration of its origin, course and termination induces me to believe that its homological relation is with the inferior pharyngeal.

The absence of any such arrangement in the whole subkingdom of the Vertebrata is to be remarked; and in conjunction with the fact that the figure of the Saurian circulation given in Müller's 'Physiology' (by Baly, vol. i. p. 174) is stated to be from an individual of the same species, viz. *Crocodilus lucius*, induces me to suppose the anomaly above recorded to have been an individual peculiarity.

2. Additional Observations on the Cetacea of the British Islands. By J. E. Gray, Esq., F.R.S. etc.

1. Since my former paper was read, I have been enabled, by the kindness of Professor Goodsir, to examine the specimens of Cetacea which were prepared by Dr. Knox, and which now form part of the anatomical collection of the Edinburgh University.

The large male whale which came ashore on the 5th of October 1831, and was seventy-eight feet long, which Dr. Knox in his Catalogue calls *Balæna maximus borealis*, and of which he made many most interesting preparations of the soft parts, is one of the most beautiful and perfect skeletons I have yet seen. The latter is for the present exhibited in the elephant-house at the Zoological Gardens of Edinburgh, but unfortunately it is suspended so high that I could not take any measurements. It is a *Physalus*, very nearly allied to what I have called *Physalus antiquorum*; but it differs from the specimen taken at Plymouth in the lateral processes of the cervical vertebræ being higher compared with their length, and more truncated at the end; in the third and fourth cervical vertebræ not being so much expanded beyond the aperture; in the fifth being still thinner; and in the sixth, instead of a complete ring, having only an elongated, arched, upper lateral process, and a very short, rather depressed lower one; and the seventh only an upper one. Should this species prove distinct, it might be distinguished as *Physalus borealis*.

Dr. Spittal, who saw it when first cast ashore, informs me it was slate or grey, and the tail white (probably beneath). The baleen appeared at the distance black.

2. In the anatomical museum there is the skeleton and soft part of a Dolphin or Bottle-nose, which was sent to Dr. Knox from Orkney in May 1825. It was a female and weighed fourteen stone. It is described in Dr. Knox's 'Catalogue of the Anatomical Preparations of Whales,' Edinburgh 1838, as No. 84, *Delphinus Tursio*.

It is a nearly adult specimen of *Delphinus leucopleurus*, lately described by Rasch, Mag. Zool. 1843, p. 369, from a specimen taken at Christiania in Norway, figured by me from a Norwegian specimen in the 'Zoology of H.M.S. Erebus and Terror,' under the name of *Lagenorhynchus leucopleurus*.

Dr. Knox gives the following measurements: entire length 9 ft. 6 in.; circumference 3 ft. 2 in. Pectoral 10 inches long; tail 1 ft. 2 in. wide; and the gape 9 inches.

It is a most interesting addition to the British fauna, being the second of this genus added within the last year.

3. I may remark, that *Balæna minor borealis* of Dr. Knox in the same collection is the *Balænoptera rostrata* of my papers.

4. In the same collection there is a stuffed skin of a fœtus of a Northern or Right Whale (*Balæna Mysticetus*), two feet four inches long, showing the large flap near the edge of the lower lip, "destined to cover in the baleen," and a most beautiful skeleton of the same specimen. The bones of the head are distinctly ossified, but the rest of the skeleton is only cartilaginous. There are also (No. 36) "the teeth of the fœtal *Mysticete* preserved in alcohol;" and Dr. Knox observes, "they never cut the gums, but become gradually reabsorbed," which agrees with Professor Eschricht's account of the teeth of *Megapteron*; and further, Dr. Knox remarks, "The integumentary system furnish the baleen, which is evidently a modified form of hair and cuticle." (p. 22.)

5. I may here add, as determining the synonyma, that the *Phoca Leopardina* of Professor Jameson in Weddel's 'Voyage,' from the specimen preserved in the museum of the Edinburgh University, is the same animal as I described under the name of *Leptonyx Weddelii*, figured in the 'Zool. Ereb. and Terror.'

A fœtus extracted from a specimen of the Pilot Whale (*Globiocephalus Svieval*) was six feet long.

In *Lagenorhynchus leucopleurus* the first, second and third cervical vertebræ are united by their spinous process, the rest free.

In *Globiocephalus Svieval* the second and third cervical vertebræ are united, the rest free.

In *Monodon monoceros* the second and third cervical vertebræ are united by the spinous process, not by the body, and the rest are free.

In *Delphinus Tursio* the atlas and the second cervical vertebra are united by the body, the spinous and lateral processes, and the rest are free and thin.

There is a perfect specimen of *Hyperoodon latifrons*, brought from Greenland by Capt. Wareham, in the museum at Newcastle, rather smaller (seven feet long) than the one from Orkney in the British Museum. There is the skeleton of an adult *Hyperoodon* from the Firth of Forth in the anatomical museum of Edinburgh University with the skull sixty inches long; the crests are very thick, but quite separate, and with flat perpendicular walls on the inner side.

There is another skull of the same species, from a specimen stranded on the coast of Lancashire, in a garden near Newly Bridge.

3. Descriptions of new or little-known Crustacea in the Collection at the British Museum. By Adam White, F.L.S., Member of the Ent. Soc. of Stettin, and Assistant in the Zool. Dept. Brit. Museum.

Family Maiadæ.

Xenocarcinus, White, Appendix to Jukes's Voyage of H.M.S. Fly.

Carapace long, narrow, knobbed above, with a very long thick beak; beak cylindrical, horizontal, forming an elongated cone, truncated at the end, with two small spines at the very extremity, one on each side. Inner antennæ thickish, inserted in a deep groove, which is triangular in front. Eyes with a short thick pedicel. Outer antennæ springing from the under side of beak just in front of the eyes, eight- or nine-jointed; the first joint elongated, somewhat bent, the second not half its length; both furnished at the end with two or three longish setæ; the other joints forming a bristle. The outer pedipalps together occupying a square space; first joint very narrow at the base, the inner edge finely serrated; second joint very long, sides almost parallel, the end gradually pointed; third joint somewhat pyriform, with a tooth at the tip.

Legs cylindrical, some of the joints slightly curved; claws long, slightly curved, the inner edge with many closely-placed minute teeth.

Tail (of female) trapezoidal, hollowed in the middle; the segments, excepting the terminal, joined in one piece.

A genus closely allied to *Acanthonyx*, Latr.

Xenocarcinus tuberculatus, White.

Carapace with nine tubercles above, placed in three transverse lines, the centre one of the first line double, one placed before the other; the centre one of the third line also double; the two placed transversely; the greater part of the beak covered with minute closely-placed hairs and scales; two short lines of longer hairs on the upper side above and before the eyes; two or three waved longitudinal red lines on the posterior half of carapace, the inner one continued to before the eye.

First pair of legs (in female) short, not reaching to the end of the beak; the claws small, equal, and minutely toothed.

Hab. Long Island, Cumberland Group, Australia. Caught in a seine. Presented to the Museum by J. B. Jukes, Esq., geologist attached to the survey of H.M.S. Fly.

This very interesting form is described in the Appendix to his Narrative of the Voyage. It will be figured in the forthcoming Crustacea of the South Seas, in connexion with Sir J. C. Ross's Voyage.

Chorinus acanthonotus, Adams and White, List of Crust. in Brit. Mus., Appendix, p. 123.

Carapace armed with four long spines, the two front ones rather close together at their bases, and directed a little forwards; the two hinder bifid; the forks of the anterior hinder spine diverging laterally, and those of the posterior divaricating longitudinally; three spines on each branchial region, the *anterior* pointed forward, flattened horizontally; the *middle* slender, curved backwards, upwards and outwards, with two sharp-pointed tubercles at its base directed downwards; the posterior with two divaricating slender spines directed backwards, outwards and upwards. Horns of the rostrum

long, flattened, close together at the base, gradually diverging, and curved downwards. Orbital margin armed at its superior part with a long bifid spine; on the *anterior* part having a short bifid spine, and on the *posterior* part bounded by a short spine curved forwards. Inferior margin of the orbit nearly wanting, and its external angle ending in a short sharp tooth-like process. The first pair of legs armed both above and below with a trenchant denticulated crest; the other legs cylindrical, and furnished with two long sharp-pointed spines, situated one on each side of the upper part of the extremity of the *third joints*, and diverging upwards and outwards. Tarsi long, curved, and smooth below. Body covered with long thin hairs.

This species differs from *Chorinus aculeatus* (Edwards, Hist. Nat. des Crust. i. p. 316, and De Haan, Fauna Japonica, pl. 23. fig. 2) in the length and position of the spines, which are not tipped with a knob, but sharp-pointed, and in the thin joints of the posterior pairs of legs being armed with two spines. The peculiarity of the long bifid spine above the orbit must also be regarded as a singular characteristic; the front legs are more slender, the horns of the rostrum are longer and less divaricating than in *C. aculeatus*.

Inhabits Eastern Seas; Borneo (Unsang).

The above description was drawn up by Mr. Arthur Adams, Assistant-Surgeon to H.M.S. Samarang. A figure will be published in the forthcoming illustrated work on the zoological results of that voyage, which in the orders Mollusca and Crustacea are particularly striking.

I may remark that the above species enters into *Chorinus* of Prof. Edwards and Dr. De Haan, but seems to me to be very different from *Chorinus* of Leach, founded on a West Indian and South American type.

Zebrida, White.

Carapace flattened, and about as broad as long. Front horizontal, slightly bent down, and formed of two flattened spines, conical, directed forwards, and slightly diverging at their tips. The orbits circular; the peduncle of the eyes very large and thick, broader from side to side than from above downwards; the cornea of the eyes projecting beyond the outer margin of the front, nearly filling up the orbital cavities, the upper margins of which are salient. The latero-anterior borders of the carapace armed with a single, strong, flattened process; conical, trenchant, broad at the base, their outer edges slightly elevated, with their points curving forwards. The first joint of the external antennæ is very large, long, cylindrical, and the antennæ are covered by the rostrum. The epistome is very nearly similar to that of *Acanthonyx*. The chelæ, shorter than in that genus, are armed with flattened, conical, slightly obtuse spines. The second joint triangular, with an external and internal conical spine, the external very long and directed upwards and forwards; the *third* joint armed with three spines; one superior posterior, and directed forwards; two anterior lateral, and directed outwards and rounded at their extremities; the fourth joint is crested with a sharp flattened

spine. The legs are short, thick, very much compressed; the third joint has two large, flattened, conical spines on the front, directed forwards; the fourth joint has but one flat spinous process on its anterior part, and the fifth joint enlarged and furnished posteriorly with a sharp, flat, curved spine directed backwards.

This beautiful genus is very apathetic when alive; in that respect, according to Mr. Adams's observations, resembling *Lambrus*. In the system it is not far removed from *Acanthonyx* and *Huenia*. *The description is from a female.*

ZEBRIDA ADAMSII, White, List of Crust. in Brit. Mus. p. 124.

In colour this species is of a light delicate pink, with dark liver-coloured markings. There is a central line bifurcated anteriorly, where it is lost on the inner bases of the horns of the rostrum, and reaching posteriorly to the last joint of the abdomen, and having external to it a fine, double, somewhat waved line. Extending from the apex of the rostral spines, and meeting at the last abdominal segment, are two broad lines, narrowed in the middle of the carapace; external to this is a fine double line, and on the outside of this is a broad somewhat curved stripe, ending abruptly at the postero-external angle of the carapace; and at the base of the antero-lateral spines is another rather broad linear mark, of the same dark liver-colour.

The third joint of all the legs has two broad, dark, red-brown bands, directed somewhat diagonally across the joint; the fourth and fifth joints have one broad mark of the same colour. The under surface is of a somewhat darker colour. On the outer part of the abdominal segments is a round dark spot. The entire surface of the animal is smooth, hairless, hard, polished and porcellanous. Eyes black.

A very distinct variety, from about twelve fathoms, in the Sooloo Seas, had the carapace of a light green, with deep red-brown stripes, and the legs and chelæ of a pearly semi-opake white, and very distinctly banded with deep red-brown.

The specimen from which the foregoing description is taken was dredged from a sandy bottom at about six fathoms water, near the mouth of the Pantsi River, on the coast of Borneo. The description, it ought to have been remarked, was derived by Mr. Adams from a living specimen; but even the dried individual in the Museum collection is very distinctly marked.

Family PAGURIDÆ.

PAGURUS STRIGIMANUS, White.

Red, irregularly spotted with yellow. Eye-peduncles longish, not the length of the anterior margin of the carapace. Carapace with the front part irregularly pitted above, very smooth in the middle, the sides with tufts of long yellow hairs. First pair of legs not much thickened; on the outside covered with thickly-set tubercles, many of which end in a spine; the base of these tubercles in front furnished

with a tuft of longish yellow hairs; inside of the hand and of the moveable claw with several slightly raised patches, covered with regular parallel deepish grooves; the claws black, and slightly hollowed at the end; the second and third legs with the two last joints furnished with many small black spines and tufts of long yellowish hairs.

Hab. Van Diemen's Land. From Mr. Gunn's collection.

A species somewhat allied to *Pagurus guttatus*, Oliv.

PAGURUS COMPTUS, White.

Whitish, the antennæ ringed with red; the legs with three or four broad red bands. Carapace smooth, with a few punctures on the side, between which and the middle is an impressed somewhat curved line; the front edge with a very wide tooth in the middle.

First pair of legs irregular; the left hand much smaller than the other; the palmar portion of the larger hand somewhat flattened on the outside, and covered with small depressed warts; the claws short and thick, the edges of the claws sharp; the second and third pairs of legs thin, smooth, slightly punctured with a few short bristles; the fourth and fifth legs very smooth.

Hab. Falkland Islands (Antarctic expedition).

PAGURUS CAVIPES, White, List of Specimens of Crustacea in Brit. Mus. p. 60.

Eye-peduncles short and thick; eye very large; scale at the base large and serrated at the end. Carapace with two widish teeth in the front edge, between the outer antennæ and eyes; a transverse groove near the front edge, the anterior angle with a few short spines; anterior legs with the left the larger; the wrist tubercled; the hand behind the moveable claw tubercled; the outer edge of the moveable claw and lower edge of hand serrato-dentate; outside of hand smooth, inside with a few tufts of shortish hairs; the smaller claw with several rows of hairs in tufts. The second and third pairs of legs somewhat serrated on the upper edge; the third leg on the left side with the penultimate joint longitudinally grooved on the outside; the next joint angled and somewhat excavated above, near the upper edge, which is sharpish and somewhat serrated.

Hab. Bramble Key, Australia. Presented by J. B. Jukes, Esq.

Family THALASSINIDÆ.

GEBIA HIRTIFRONS, White.

Beak above depressed, with six or seven longitudinal rows of small tubercles, furnished at the tip with tufts of hairs; stomachal region smooth; false natatory appendage large and ciliated.

Hab. South Seas (Antarctic expedition).

The only specimen which I have seen appears to be very young, as the crust seems hardly formed. It is closely allied to the *Gebia stellata*.

Family Astacidæ.

Astacus Zealandicus, White.

Carapace smoothish; beak as long as the peduncle of the outer antennæ, wide, depressed, with a slight keel near the base; the edges thickened, and with five or six small denticulations. Hands somewhat compressed, the outer and inner edges spined, the spines of the inner edge the longer; the hand with many longitudinal rows of hairs in tufts; wrist with three spines on the inner edge, and a deepish groove above; the caudal plates all of a crustaceous substance; the upper side with many small tufts of depressed hairs.

Hab. New Zealand.

Found by the late Mr. Percy Earl, who collected this and many other objects of natural history now in the British Museum. The *Dendroblax Earlii*, White, a very interesting Lamellicorn Beetle, allied to *Ryssonotus* and *Lamprima*, but with much of the aspect of an *Oryctes*, was named in compliment to him in the "Insect Fauna of New Zealand," published in one of the numbers of the 'Zoology of H.M.SS. Erebus and Terror.' Much was expected from him; but he was drowned in a lamentable shipwreck off the Australian coast.

It is distinct from any species described by Prof. Milne Edwards, Dr. Erichson of Berlin, or Mr. Gray in the 'Appendix to Eyre's Central Australia,' published in 1845.

Family Alpheidæ.

Alope, White.

Carapace very wide, dilated on the sides behind, and sinuated in the middle. Beak short, serrated above, buried in a deep groove, which has a spine on each side in front, almost reaching to the tip of the beak. Eyes with a thick short peduncle, situated in a hollow spine on each side, the outer spine shorter than the inner, which, as has been said, is on the side of the beak.

Inner antennæ thick and elongated; second joint much longer than the third, which is slightly cloven at the end and has two terminal styles, the one very long and cylindrical, the other short and compressed.

Outer antennæ situated outside the inner; the lamellated appendage elongated, longer than the thickened basal joints, the last of which has a tuft of hairs at the end; the terminal fillet very long, half as long again as the whole body. Outer pedipalps very large, nearly equal in breadth throughout; from the base nearly as long as the body; first joint the longest, nearly reaching to the end of the lamellated appendage of the outer antennæ; third joint more than twice the length of the second, compressed, blunted at the end.

First pair of legs two-clawed, thickish, extending a little beyond the second joint of the outer pedipalps; the second pair of legs filiform didactyle; third, fourth and fifth pairs of legs thicker than the second, monodactyle; claws large, serrated below.

Abdomen largish, middle plate of tail with two pairs of small spines, the first pair beyond the middle.

This genus is allied to *Pontonia*, Latreille, but may be distinguished at once by the foregoing characters.

ALOPE PALPALIS, White, List of Crust. in Brit. Mus. p. 75.

The tail has a pinkish hue.

Hab. New Zealand. From the collection of Mr. Earl.

Family ERICHTHIDÆ.

ALIMA APHRODITE, White.

Carapace somewhat narrowed in front, deeply sinuated behind; the frontal horn not quite the length of the carapace; the posterior angles of carapace not much extended. Abdomen more than twice the length of the carapace, exclusive of frontal horn; penultimate joint of abdomen with two spines in the middle behind; middle lobe of tail notched in the middle with a gentle sinuation between the notch and the posterior angle, which is very sharp; the posterior edge is furnished with many short regularly placed teeth, giving it a fringed appearance; outer lobes of tail with the middle appendage prolonged into a sharp spine. Anterior pair of legs quite simple.

Hab. South Seas. Antarctic expedition.

Order AMPHIPODA.

Family GAMMARIDÆ.

EPHIPPIPHORA.

Head rather large; antennæ distant from each other, the upper pair with the basal joints very thick and corneous, inserted in a deep notch in front of head; two setæ at the end of each, the outer the thicker. Lower pair of antennæ with the basal joint somewhat elongated and furnished with hairs.

Body much compressed, the lateral appendages on the first eight joints very large, and nearly concealing the legs; the appendage of the fourth joint much dilated behind at the end; eighth to eleventh joints slightly keeled on the back; appendages of the three last joints of the abdomen longish, with short spines on the edge behind.

A genus allied to *Orchestia* and *Talitrus*.

EPHIPPIPHORA KROYERI, White, List, p. 130.

The body is very highly polished, the edges of the segments behind somewhat tinged with yellow; the legs and caudal appendages slightly brownish.

Hab. Van Diemen's Land.

Named as a small compliment to the very eminent Danish naturalist, whose researches among the less studied orders of Crustaceæ are so well developed in his published but not easily accessible works. I regret that, excepting a few foliated plates of the large 'Voyage

en Islanda,' &c., I had not seen any part of them when I prepared the 'List of Crustacea in the British Museum.'

APTERA?

Family Pycnogonidæ.

Nymphon Johnstonianum, White.

Head with a distinct neck thicker than the articulations between the leg. Eyes two, situated above the insertion of the chelicera, on a rather elevated tubercle, which is pointed at the end. Beak springing from the under side of the head, rounded but not knobbed at the extremity, rather thicker in the middle, with two scales on each side at the base, the extreme apex with a triangular depression.

Chelicera longer than the beak; the two basal joints longer than the third, which is slightly thicker and covered with short hairs; the end with two sharp claws meeting nearly throughout their entire length.

Palpi filiform, 10-jointed; four basal joints small, fifth twice the length of the fourth, and thicker than the sixth, which is equal to it in length; sixth to tenth short, the three last somewhat hairy at the end.

Thorax very narrow, smooth.

Legs eight, slightly hirsute; second and third pairs rather longer than the first; the fourth the shortest; each of the joints with some points at the end.

Tarsi with the first joint very short, the under-side of the second with many spines; claws two, one smaller than the other.

Abdomen somewhat elongate, most slender about the middle, extending to beyond the middle of the second joint of the leg from the base.

In size and general appearance at first sight resembling *Decolopoda australis*, Eights. Boston Journ. Nat. Hist. i. 204. t. 7, but differing from it in the number of the legs, structure of the head and claws, &c.

Hab. South Seas. Capt. Sir E. Belcher, R.N.

This herculean species is named after Dr. George Johnston, of Berwick-upon-Tweed, who among his many valuable works has monographed the British *Pycnogonidæ*. I am aware that Mr. Goodsir has named a *Nymphon Johnstonii* after him, but most probably the present species will be found to form the type of a new genus.

Nymphon Phasma, White.

Head with a longish neck, the greater part of which is as thin as or thinner than the articulations between the legs, thickened in front.

Beak thick, blunt, and somewhat knobbed at the end.

Eyes two, situated on a sharp-pointed tubercle, placed between the first pair of legs, somewhat in front of insertion.

Chelicera somewhat longer than the beak, thick, two-jointed; second joint rounded, furnished with two claws which meet throughout.

Palpi elongated, filiform, 10-jointed; three basal joints small; fourth joint very long; fifth joint shorter than the fourth, with a slight hook at the end; sixth joint about the same length as the fifth, but without hook at the end; four last joints short, somewhat curved.

Legs eight, somewhat hirsute, the third leg perhaps shorter than the others.

Tarsi with one claw, the under-side furnished with many small spines.

Hab. South Seas. Capt. Sir Edw. Belcher, R.N.

This may possibly be the other sex of the preceding. Neither of them have any trace of oviferous legs.

Additional Observations on Chitones. By J. E. Gray, Esq., F.R.S. etc.

Since the publication of my former paper I have continued my researches on these animals, and now propose to add four groups to those which I then described: three of these genera were proposed as sections of the genus *Chiton* in my former paper, but I have since found that they each present peculiar modifications in the structure of the plate of insertion of the valves; and the other is a genus which I had overlooked, though founded on two of the English species of the family. On re-examination I think that the genus *Chiton* should be confined to the species which have a single notch on the plate of insertion of the central valves, and the edge of the plate of insertion pectinately lobed, which is the case with the species marked as belonging to the section * and ** p. 66, except *Chiton Barnesii* and *Ch. evanidus*.

1. Radsia.

Posterior valve entire; margin covered with regularly disposed imbricated smooth scales; margin of insertion of the central valves pectinately divided, and each furnished with two notches.

Radsia Barnesii. Chiton Barnesii, *Gray*.

2. Callochiton.

The valves keeled, the hinder valve entire; the plates of insertion rather short, thick, of the terminal valves divided into many, and of the central valves into four bifid lobes. Margin with imbricate scales.

* *Margin with lanceolate, elongate, erect, closely-pressed scales.*

Callochiton lævis. Chiton lævis, *Mont.*, *Lowe*, *Z. Jour.* v. t. 5, f. 1. Ch. discors, *Maton & Racket*. Ch. punctulatus, *Maton*. Ch. septemvalvis, *Mont*. Ch. corallinus, *Risso*.

** *Margin with ovate imbricate scales.*

Callochiton evanidus. Chiton evanidus, *Sow. Ill.* f. 139.

3. Ischnochiton.

Valves thin; posterior valve entire; the plates of insertion very thin, smooth-edged, of the central valves each with a single notch; margin covered with very small imbricate scales.

* *Scales of mantle transversely grooved.*

Ischnochiton textilis. Chiton textilis, *Gray* = Ch. longicymba, *Blainv.*

Ischnochiton limaciformis. Chiton limaciformis. West Indies.

Ischnochiton Magdaliensis. Chiton Magdaliensis, *Hinds.*

Ischnochiton alatus. Chiton alatus, *Sow.* Philippines.

** *Scales of mantle minute, granule-like.*

Ischnochiton marginatus. Chiton marginatus, *Mont.* Ch. cinereus, *Lowe, Z. J.*

7. LEPTOCHITON.

The valves rounded, thin; posterior valve entire; the plates of insertion rudimentary, without any notches on either the terminal or central valves. Mantle covered with granular scales.

Leptochiton cinereus. Chiton cinereus, *Montague* = Ch. asellus, *Lowe, Zool. Jour.* var. white, Chiton albus.

Leptochiton Hanleyi. Chiton Hanleyi, *Bean.*

Leptochiton cajetanus. Chiton cajetanus, *Poli.* Lepidopleurus cajetanus, *Risso.*

Should the form of the plates of insertion of any specimen not be sufficiently seen, they may be easily made visible through the inner side of the mantle by their being soaked a few hours in a weak solution of caustic potash, but care should be taken that they are not left too long in soak, nor the solution be too strong, otherwise the margin will be dissolved. But should the valves be wished to be kept separate, this is the best way of separating them, as the plates of insertion are cleaned, and not broken, as they are likely to be if taken from the mantle. I may remark that the number of notches in the plates of insertion is sometimes, but as far as I have observed, very rarely, liable to variation; in one specimen of *Chiton Bowenii* I have observed that the plate of insertion of the last valve but one has two notches on one side, but the normal single one of the genus on the other.

The Meetings of the Society were then adjourned to November 9th.

Nov. 9, 1847.

W. Yarrell, Esq., Vice-President, in the Chair.

A communication was read from M. Dolmatoff, Master of the Imperial Forests in the Government of Grodno, which gave an account of the capture and partial domestication of the young Aurochs recently presented to the Society by His Majesty the Emperor of Russia.

The Secretary informed the meeting that this paper had been transmitted through Sir Roderick I. Murchison, to whose influence and exertions the Society were chiefly indebted in the acquisition of this most important addition to the collection. The first letter addressed to the Council by Sir Roderick, announcing the intention of His Majesty, bore date Feb. 10, 1846, and from that period to the present he had been in communication with His Excellency Count Kisselef on this subject. The Secretary regretted, in common with his colleagues, and he believed the whole of the Society, that the absence of Sir Roderick on the Continent had hitherto prevented him from witnessing the successful result of his good offices, or even of receiving an official communication of the thanks of the President and Council, which, it was almost needless to say, awaited his return in the most cordial and expressive form.

The other papers read were:

1. Additional Note on a paper on Porcupines (*supra*, p. 102). By J. E. Gray, Esq., F.R.S. etc. etc.

In my former paper I was unable to give the country of *Acanthion Cuvieri*. Mr. Frazer has since brought a skull and two living specimens of this species from Algiers; the latter are now in the Gardens of the Society, and Mr. Whitfield has brought others from the Gambia. In the number of the Journal of the Asiatic Society of Calcutta for August 1847 just arrived (p. 772. t. 32), I observe that Mr. Hodgson has described a new species of Indian Porcupine under the name of *Hystrix alopœus*, called *Ancholia* by the natives, which is certainly an *Acanthion*, and most probably my *A. Hodgsonii*; if so, the latter name will have the priority, as having been published in July.

2. A List of the Genera of Recent Mollusca, their Synonyma and Types. By J. E. Gray, Esq., F.R.S. etc.

The generic names which have been used in Mollusca have become so numerous that I have long thought it desirable that they should be submitted to a rigid examination, for the purpose of reducing those which are only synonyms of genera already established; and for the purpose of doing so with justice to previous writers, it is necessary that attention should be paid to the dates of their original publication, which have been too much neglected by several writers in this branch of zoology.

I have therefore sent to the Society the following list, which, though I have paid great attention to the subject, I am aware is yet very imperfect, as a commencement in what I consider the right direction, and I hope that it may be the means of drawing the attention of other students of this class of animals to the subject. I have been induced to send it in its present state, as I am constantly requested by both English and continental conchologists to supply them with copies of the Synopsis of the British Museum for 1838, 1840, 1842, and 1844, which contains a list of the genera of Mollusca, and which is now out of print, and also often to give them information with regard to the authorities for the several genera contained in that list, which shows that there is an evident want of some recent information on this subject.

It is needless for me now to dilate on the importance of attending to the law of priority, which I have always advocated, for that is now almost universally allowed; yet I am quite prepared for hearing several conchologists complain of the changes which the observance of this just law will force them to make: thus *Cyclostoma* and *Helicina*, instead of being applied to land-shells, must be the names of the *Delphinula* and *Rotella* of Lamarck's 'Histoire'; *Terebellum* that of *Turritella* of the same author; so that though these generic names are still used, they will have a different signification to their present one. Other names in very general use, as *Oliva*, &c., will have to be erased from the system, for this genus was established and well-characterized under the name of *Strephona*, by Browne (along with several other genera), between the publication of the tenth and twelfth editions of Linnæus's 'Systema Naturæ,' though it has been overlooked by Lamarck and other authors.

I may here observe that the change with respect to *Cyclostoma* and *Helicina* is produced by Lamarck having used the same names with very different significations in his 'Système' and 'Histoire.' In the latter of these works he has in one or two instances altered the names which he had previously given to a genus; and in like manner allowed the names before used, such as *Meretrix* and *Donacilla*, to drop out of the system, no notice being taken of the change or its cause.

The method I have followed is to observe the first name given to the genus and the type on which it was founded, and then to accumulate the synonyma around the genus. Where a succeeding author has referred to a different species as the type of the genus, I have

given the name in a new line, as at some future period that type may be proved really to belong to a different genus; and when any succeeding author has established a genus on any species which appears to belong to the before-established genus, it is in a similar manner placed under the proper head, with the synonyma belonging to that type. The type on which the genus or subgenus, as it may hereafter prove, was founded, is also given, so that if such type at some future period prove to be distinct from the one under which I have placed it, the synonyma of the genus will be at once seen. But the names which occur under each head are, according to my present views, to be regarded as synonyma of the genus under which they are arranged.

In respect to Lamarck's 'Système,' De Montfort's 'Conchology,' Megerle's 'Essay,' Schumacher's 'New System,' Blainville's 'Manuel,' and other works which only give the genera, and simply mention one or two examples as the types of their genus, the species they give as types are here cited; but in works like Linnæus's 'Systema Naturæ,' and Lamarck's 'Histoire,' which give the species of Mollusca, it is not so easy to determine which species the author intended for the type of his genus. In these cases I have chosen either the best known species, or, if the author has given figures, the species which he has figured; the latter is the course that I have adopted with respect to Risso's work, whose genera are so difficult to understand.

In the Linnæan genera in which there is room for doubt, from the miscellaneous character of the species referred to by the author, I have considered the name as restricted to the type which the earliest author after Linnæus has quoted for it: thus as Montfort quotes *Trochus niloticus* as the type of *Trochus*, and Lamarck *Chiton gigas* as the type of *Chiton*, I have regarded these species as the types of the Linnæan genera. This has not been done without consideration, as I was at first inclined to regard the species figured in the plates of the *Fundamenta Testaceologiæ* (Amœn. Acad. viii. 1785, 107) of *Linnæus* which are given as illustrative of the greater number of his genera, and of the terms used in describing them, as the types; but I do not think that he had any idea of so considering them, for he gives two species of *Arca*, four of *Patella*, three of *Cypræa*, four of *Murex*, five of *Trochus*, three of *Strombus*, and two of *Anomia*; while the genera *Conus*, *Mytilus* and *Pinna* are not illustrated. Should these figures have been regarded as the types of his genera, then *Ostrea pallium* would be the type of *Ostrea*, *Donax scripta* of *Donax*, *Chama gigas* of *Chama*, *Buccinum Harpa* of *Buccinum*, *Mya pictorum* of *Mya*, *Solen strigillatus* of *Solen*, and *Nautilus Beccaria* of *Nautilus*; species which certainly are not the best that could be chosen to agree with his characters, and to have adopted which would have greatly confused the science.

There is a series of works which appeared between the time of Linnæus and Lamarck which added much to the progress of conchology, but which have been overlooked by the conchologists of the Lamarckian school, as for example 'Meuschen Museum Geverianum,'

8vo, 1787; 'Humphrey's Catalogue of the Calonne Collection,' 8vo, 1797; and the 'Museum Boltenianum,' 12mo, 1798 (which was reprinted at Hamburg in 1819, but neither edition has occurred to me). These catalogues foreshadow the genera which have been since formed and generally adopted, but as they are mostly without characters, or with only very slight ones, I have not adopted the generic names they have given, except where their groups exactly corresponded with those which are now used, and to which new names have been applied, as for example *Neritella* for *Neritina*, &c.; or where the name used by the more modern author was necessary to be changed, because it had previously been used for some other genus of Mollusca.

I have been as careful as I could to give the proper dates of the various genera, especially where there was any doubt about the priority of a name; but where there was no doubt, as for example in the genera named by Lamarck between the publication of his 'Système' and his 'Histoire,' I have been satisfied with giving the dates of the volume of the latter work, without searching out the exact date of the publication in Lamarck's various papers; and I have followed the same course with regard to De Blainville's genera which appeared before the date of his 'Manuel' in the different volumes of the 'Dictionnaire des Sciences Naturelles'; but there are certain works the dates of which it is very difficult to ascertain, such for example as Ferussac's, which have no date marked on them. Others, such as D'Orbigny's 'South America,' the publication of which was spread over eleven years, from 1835 to 1846, and some other works of this author, are in the same predicament, the plates often appearing irregularly, and the text sometimes not till near the completion of the work. The same difficulty occurs in some of our English works, as Sowerby's 'Genera' for example; in these cases the dates assigned can only be regarded as approximative.

I have nearly confined the list to the genera which occur in the recent state: first, because, though I have paid considerable attention to fossil shells, I am not so well acquainted with them as with the recent ones; secondly, because the genera of fossil shells, which must depend on the study and organization of the recent ones, are not so well understood as those which now occur. And the increase in the knowledge of the animal gives us more and more reason to distrust our conclusions with regard to arrangements founded on the study of the shell alone, for it is impossible amongst the recent shells to distinguish the following genera:—

Tectura (*Lottia*)	from	.....	*Patella*;
Ancylus	,,	.....	*Siphonaria*;
Scutella	,,	.....	*Patella*;
Philippia	,,	.....	*Solarium*;
Vermetus	,,	.....	*Serpula*;
Dentalium	,,	.....	*Ditrupa*;

though the four first each belong to different families of Mollusca, and the two latter are Mollusca, and their resemblances Annelides. The knowledge of the animals of *Nautilus* and *Spirula* now renders it

doubtful if *Orthocera* and other allied fossil genera are Decapodous, or Dibranchiate Cephalopods.

The arrangement followed is that which was proposed in the Synopsis of the Contents of the British Museum for 1838, and which has been gradually modified in the different editions, as I have become better acquainted with the animals of the different genera; and one or two alterations have been made for the same reason in this edition of the list. It is founded on the examination of the animals of all the molluscans contained in the London and Paris collections, as well as of all the drawings or engravings of the animals which I have been enabled to see, exceeding more than five thousand species, being at least one hundred times as many animals as were known when Lamarck proposed his system, and fifty times as many as were known to Cuvier when he published his system in the 'Animal Kingdom.'

Fam. I. STROMBIDÆ.

1. Strombus, *Linn.* 1754, *Lam.* 1801, *Montf.* 1810; not Strombus, *Browne*, 1756. Alatæ, *Gevers.* 1787. Alatus, *Humph.* 1797. Lambis, *Bolten*, 1798. Strombus pugilis, *Linn.*
   Conchilium, *Browne*, 1756. Strombus gigas.
   Canarium, *Schum.* 1817. Strombidea, *Swains.* 1840. St. urceus.
   Pterocera *α*, *Schum.* 1817. St. latissimus.
   Strombus *β*, *Schum.* 1817. St. epidromis and St. auris Dianæ.

2. Pterocera, *Lam.* 1801. Strombus Pterocere, *Blainv.* Lambis, sp. *Bolten*, 1798. Pteroceras, *Sow.*, *Swains.* 1840. Aporrhais, *Rondel.* Strombus, *Humph.* 1797. St. lambis.
   Pteroceres, *Montf.* 1810. Pterocera *β*, *Schum.* 1817. St. scorpius.
   Harpago, *Klein*, 1783. St. Chiragra.

3. Fusus, *Humph.* 1797. Rostellaria, *Lam.* 1801, *Schum.* 1817. Rostellum, *Montf.* St. clavus.
   Strombus fissurellus, *Linn.*
   Hippochrenes, *Montf.* 1810. Hippocrena, *Schweig.* 1820. Hippocrenes, *Brown*, 1824. Hippocrene, *Latr.* 1825. Rostellaria *β*, *Blainv.* 1825. St. amplus, *Brander.*

4. Seraphys, *Montf.* 1810. Terebellum, sp. *Lamk.* Voluta, sp. *Oken*, 1815. Bulla sopita, B. volutata, *Brander.*
   Terebellum, *Lam.* 1801, *Montf.* 1810, p. 379 (not 11), not *Browne*, 1756. Bulla Terebellum.

Fam. II. MURICIDÆ.

a. Tritonina.

5. Apollon, *Montf.* 1810. Ranella granifera, *Lamk.*
   Ranella, *Lam.* 1812. Rana, *Humph.* 1797. Bufo, *Montf.* 1810, not *Daud.* Murex gyrinus, *Linn.*
   Buffonaria, *Schum.* 1817. M. spinosus.
   Gyrina, *Schum.* 1817. Apollon, *Blainv.* Murex reticularis, *Linn.*

Columbaria, *Schum.* 1817. M. conditus, *Gmel.*
Triton, sp. *Quoy.* Tr. leucostoma.
Biplex, *Perry*, 1811. Bip. perca.

6. Triton, *Montf.* 1810, *Lam.* 1812. Tritonium, *Cuv.* 1817. Buccinum, sp. *Browne*, 1756; *Humph.* 1797. Lampusia, sp. *Schum.* 1817. M. tritonis, *Gm.*
Lampusia, *Schum.* 1817. M. pileare.
Lotorium, *Montf.* 1810. Buccinum, sp. *Browne.* M. lotorium.
Aquillus, *Montf.* 1810. M. cutaceus.
Lampas, *Schum.* 1817. M. lampas.
Ranularia, *Schum.* 1817. M. clavator.
Cumia, *Bivon*, 1838. Ran. lanceolata, *Menke.*
Monoplex, *Perry*, 1811. M. olearium.

7. Persona, *Montf.* 1810. Distortio α, *Bolten*, 1798. Distorta, *Schum.* 1817. M. anus.

8. Pisania, *Bivon*, 1832. Pollia, sp. *Gray*, 1839. Tritonidea, sp. *Swains.* 1840. Pusio, *Gray*, 1834. Bucc. maculosum, *Lam.*
Mitrella, sp. *Risso*, 1826, f. 64. Pisania, sp. *Bivon.* Bucc. D'Orbignyi, *Payr.* t. 8. f. 4, 6.
Tritonidea, *Swains.* 1840. Triton, sp. *Lam. E. M.* Bucc. undosum, *Linn.*
Rapana β, *Schum.* 1817. Pollia, sp. *Gray*, 1839. Bucc. tranquebaricum.
? Lachesis, *Risso*, 1826, f. 65, young shell. Lechesis, *Kiener.*
? Nesea, *Risso*, 1826, f. 67, young; f. 69, adult.
Columbella, sp. (triumphalis), *Duclos.* Pollia, sp. *Gray*, 1839.
Fusus (articulatus), *Lam.* Pollia, sp. *Gray*, 1839. Pusio, sp. *Gray*, 1834. Bucc. plumatum.
Pusio, *Gray*, 1834. Pusio elegans.

9. Enzina (zonata), *Gray*, 1839.
Columbella, sp. pyrostoma, *Sow.*

10. Murex, *Linn.*
Murex, *Lam.* 1801. Brontes, *Montf.* 1810. Haustellum, *Schum.* 1817. Haustellaria, *Swains.* 1833. M. haustellum.
Murex, *Montf.* 1810, *Swains.* 1833. Haustellum γ, *Schum.* 1817. Aranea, *Perry*, 1811. M. tribulus.
Haustellum δ, *Schum.* 1817. M. Brandaris.
Pyrella, *Swains.* 1840. Haustellum α, *Schum.* 1817. Turbinellus, sp. *Swains.* 1833. Pyrula, sp. *Brug. E. M.* M. spirillus.
Ocenebra, *Leach MSS.* 1818. Tritonalia, *Flem.* 1828. Triton, sp. *Thomp.* M. erinaceus.
Iaton, *Pusch*, 1837. Iaton, *Adans.* M. lingua.
Centronotus, *Swains.* 1833. Muricanthus, *Swains.* 1840. M. radix.
Pteronotus, *Swains.* 1840. M. pinnatus.
Chicoreus, *Montf.* 1810. Phyllonotus, sp. *Swains.* 1840. Purpura, sp. *Browne*, 1756; *Martyn*, 1764?; *Schum.* 1817 (not *Lam.*).
Triplex, *Humph.* 1797. M. ramosus.
Phyllonotus, *Swains.* 1833. M. imperialis.

Purpura, *Humph.* 1797. M. trunculus.
Cerastoma, *Conrad,* 1837. Cerostoma and Ceratostoma, *Herrm.* 1846. M. monodon, *Sow.*
Vitularia, *Swains.* 1840. M. miliaris, *Gmel.*
Typhis, *Montf.* 1810. M. pungens.

11. Trophon, *Montf.* 1810. Muricidea, *Swains.* 1840. Murex *α*, *Schum.* 1817. M. magellanicus.
Tritonium *b*, *Loven,* 1846. M. lyratus.

b. Conina.

12. Turris, *Humph.* 1797. Pleurotoma, *Lam. E. M.* and 1801, *Schum.* 1817, *Swains.* 1840. Pleurotomus, *Montf.* 1810. Murex babylonicus.
Pleurotoma, *Sw.* 1841. M. virgo.
Turricula, *Schum.* 1817. M. Javanus.
Perrona, *Schum.* 1817. M. Perron, *Gmel.* 167.
Tomella, *Swains.* 1810. Clavatula, sp. (lineata), *Lam.* 10.
Melatoma, *Swains.* 1840 (not *Anthony*), 342. f. 104.
Genot, *Adans.* 1757. Pleurotoma mitreformis, *Gray, Wood's Supp.* t. 5. f. 5.

13. Clavatula, *Lam.* 1801. Brachystoma (castanea), *Swains.* 1840. M. clavatulus, *Gmel., Chem.* xi. f. 1831, 1832. Clavicantha, *Swains.* 1840. Clav. imperialis, *Lam.*
Clavus, *Montf.* 1810. Clavatula, *Blainv.* 1826. Clavicantha, sp. *Swains.* 1840. Strombus lividus, *Gmel.*
Clavatula (sulcata), *Swains.* 1840, *Chem.* xi. f. 1829. "Pl. flavidula, var.," *Kiener.*
Pleurotoma, *Flem.* 1828. M. sinuosus, *Montag.*
Drillia (umbilicata), *Gray,* 1838, *Ann. N. H.*
Crassispira (fasciata), *Swains.* 1840, 152. f. 17 *d.* 313.
Brachystoma, *Swains.* 1840, 314. Pleur. strombiformis, *Sow.*
Conopleura (striata), *Hinds,* 1844.
Daphnella (marmorata), *Hinds,* 1844.

14. Bela, *Leach,* 1817. Mangilia, *Loven,* 1846. Murex nebula, *Montf.*
Defrancia, *Moller,* not *Millet.* Tritonium * * *b*, *Loven.* Mur. turricula, *Montag.*
? Mangelia, *Risso,* 1826, f. 130. Ishnula, *Clarke.* (See also Mangelia, *Risso,* f. 97, 99.)

15. Mangelia, *Leach,* 1817.
Mangelia (striolata), *Risso,* 1826, f. 101. Pleur. tæniatum, *Desh.*?
? Mangelia, "*Leach,*" *Hinds,* 1844. M. cinnamomea.
N.B. Mangelia, *Risso,* fig. 102, 103, are *Rissoinæ.*

16. Defrancia, *Millet,* 1826 (*Ann. Soc. Linn. Paris*), *Loven,* 1846. Mur. linearis, *Montf.*
Pleurotoma, sp. (purpureum), *Philippi.* Murex purpureus, *Montf.*

17. Anna (Massena), *Risso,* 1826, f. 68. Bucc. Scacchianum, *Philippi,* ii. 188. t. 27. f. 5.

Buccinum (minimum), *Montf.*, *Philip.* ii. 189. Fusus turritellatus, *Desh.*

18. Conus, *Linn.* Voluta, *Brown*, 1756, not *Linn.* Strombus, *Adans.* 1757, not *Linn.*
Conus, *Lam.* 1801. C. marmoreus.
Conus, *Montf.* 1810, *Swains.* 1840. C. generalis.
Coronaxis, *Swains.* 1840. C. bandanus.
Puncticulis, *Swains.* 1840. C. arcuatus.
Rhombus, *Montf.* 1810. C. bandanus.
Rollus, *Montf.* 1810. Utriculus, *Schum.* 1817. C. geographicus.
Tuliparia, *Swains.* 1840. C. Tulipa.
Cylindrella, *Swains.* 1840; not *Pfeiffer*, 1840. C. asper.
Conilithes, *Swains.* 1840. C. antediluvianus.
Dendroconus, *Swains.* 1840. C. betulinus.
Cylinder, *Montf.* 1810. Textilia, *Sw.* 1840. C. textilis.
Hermes, *Montf.* 1810. Theliconus, *Sw.* 1840. C. nusatella.
Leptoconus, *Sw.* C. grandis.
Conorbis, *Sw.* C. dormiter.

19. Colus, *Humph.* 1797. Fusus, *Lam.* 1801, *Montf.* 1810, *Schum.* 1817, not *Humph.* Mur. colus.
Busyeon, sp. *Bolten*, 1798. Murex aruanus.

20. Sycotypus, *Browne*, 1756. Ficus, *Bolten*, 1793; *Humph.* 1797. Pyrula, *Lam. E. M.* and 1801, *Montf.* 1810, *Schum.* 1817. Ficula, *Swains.* 1840. Bulla ficus.

21. Cassidulus, *Humph.* 1797. Melongena, *Schum.* 1817. Pyrula, sp. *Lam.* Myristica, sp. *Swains.* Mur. melongena, *L.*
Pyrula, sp. (spirata), *Lam.* 1822. Bulla pyrum.
Pugilina β, *Schum.* 1817. Ficus, sp. *Humph.* 1797. Fusus, sp. *Lam.* 1822. Mur. morio.
Pugilina α, *Schum.* 1817. Pyrula, sp. *Lam.* M. pyrum.
Hemifusus, *Swains.* 1840. Fusus colosseus, *Lam.*
Myristica, sp. *Swains.* 1840. Mur. hippocastanum, *Born.*

22. Fulgur, *Montf.* 1810. Pyrula, *Swains.* 1840. Pyrula, sp. *Lam.* M. perversus.
Pyrula, sp. (carica), *Lam.* 1822.

23. Rapana α, *Schum.* 1817. Pyrula, sp. *Lam.* Purpura, sp. *Kiener.* Muriciformis, *Gevers.* Bucc. Bezoar, *Linn.*
Murex, sp. (Rapa), *Linn.*
Latiaxis, *Swains.* 1840. Pyrula Mawæ, *Gray.*
Rapella, *Swains.* 1840. Ficula, sp. (caudata), *Swains.* 1840. Bulbus, sp. *Humph.* 1797. Pyrula, sp. *Lam.* Bulla rapa.

24. Cuma, *Swains.* 1840. Cuma, part. *Humph.* C. sulcata, *Swains.* 1840, 87. f. 4.

25. Latirus, *Montf.* 1810 (Lathirus or Lathyrus, *Gray*). Fusus, sp. (filosus), *Lam.* 1822. Mur. gilbulus, *Gmel.*
Polygona, *Schum.* 1817. Turbinellus, sp. *Lam.* 1822. Plicatella,

sp. *Swains.* Fusus, sp. *Lam. E. M.* and *Quoy.* Mur. infundibulum.
Plicatella, *Swains.* 1840. Turbinellus, sp. *Lam.* Fusus, sp. *Quoy.* Mur. polygonus.

26. Fasciolaria, *Lam.* 1801, *Montf.* 1810. Fusus, sp. *Quoy & Gaim.* Pyrula, *Perry,* 1811. Cuma, sp. *Humph.* 1797. Mur. Tulipa, *Linn.*

27. Turbinellus, *Lam.* 1801, *Montf.* 1810. Voluta canaliculata, *Scopoli,* 1777. Turbinella, *Lam. E. M.* and 1822. Rapum, *Humph.* 1797. Voluta pyrum.

28. Cynodonta, *Schum.* 1817. Scolymus, part. *Swains.* 1840. Turbinella, part. *Lam.* Volutella, sp. *Perry,* 1811. Vol. ceramica.
Scolymus, sp. *Swains.* 1840. Vol. turbinellus.

29. Lagena, *Schum.* 1817. Turbinella, sp. *Lam.* Plicatella, sp. *Swains.* Bucc. rusticum.
Leucozonia. Fasciolaria, sp. *Lam. E. M.* Turbinella β, *Blainv.* Mur. nassa.
Monoceros, sp. (cingulatum), *Lam.* 1822, not 1812.

30. Cancellaria, *Lam.* 1801. Cancellarius, *Montf.* 1810. Buccinella, *Perry,* 1811. Murex, *Humph.* 1797. Vol. reticulata.
Trigona, *Perry,* 1811. Trigonostoma, *Blainv.* 1825. Cancellaria, sp. *Desh.* Delphinula trigonostoma, *Lam.* 1818.
Cancellaria abnormis, *Gray.*
Admete (crispa), *Moller,* 1842. Tritonium, sp. (viridula), *O. Fab.* Murex, sp. (costelliferus), *Sow.* Cancellaria, sp. *Gould, Loven.* Admete crispa.
? Macromphalus (reticulatus), *S. Wood,* 1842.

31. Separatista. Turbo, sp. *Gmelin, Chemn.* x. f. 1589, 1590. Turbo helicina, *Gmel.*
? Cornu, *Schum.* 1817, 255, *Chemn.* x. f. 1273. Argonauta Cornu, *O. Fab.*

32. Struthiolaria, *Lam.* 1812. Triton ε, *Blainv.* 1825. Mur. stramineus.

33. Aporrhais, *Aldrov., Da Costa,* 1778. Aporrhis, *Swains.* 1837. Chenopus, *Philippi,* 1836. Rostellaria, sp. *Lam.* 1822. Tritonidium, sp. *Müller.* Strombus Pes-pelecani.

34. Chorus, n. g. Purpura, sp. *Blainv.* Monoceros giganteus, *Lesson.*

35. Gastridia. Pseudoliva, *Swains.* 1840. Pseudodactylus, *Herrm.* 1847. Eburna, sp. *Sow.* Buc. plumbeum.
Struthiolaria? monoceros, *Gray.*
Monoceros, *J. Lea,* 1833, not *Lam.* Mon. fusiformis, *Lea.*
Fusus, sp. *J. Lea.* ? Monoceros, sp. *J. Lea,* 1833, not *Lam.* Fusus Taitii, *J. Lea,* young? Monoceros pyruloides, *Lea.*

36. Leiotomus, *Swains.* 1840. Fusus, sp. *Lam.* M. Bulbus, *Brand.*

37. Clavella, *Swains.* 1837. Clavellithes, *Swains.* 1840. Fusus, sp. *Lam.* M. longævus, *Brand.*

38. Cyrtulus serotinus, *Hinds, Zool. Sulph.* 1844.

39. Chrysodomus, *Swains.* 1840. Murex β, *Schum.* Tritonium, *Müller, Loven,* 1846, not *Cuvier,* 1817. Mur. antiquus.
Atractus, *Agassiz,* 1840. M. corneus.

40. Pusionella, *Gray.* Terebra (Nifat), *Adans.* 1757. Fusus, sp. *Lam.* Mur. Pusio, *Born.*
Tritonidea (sp.), *Swains.* 1840. Fusus aculeiformis, *Lam.*

41. ? Atractodon, *Charlesworth, Mag. N. H.*

Fam. III. BUCCINIDÆ.

Cassidina.

42. Cassis, *Browne,* 1756 ; *Scopoli,* 1777 ; *Lam.* 1801 ; *Montf.* 1810. Cassidea, *Brug.* Cassida, *Humph.*, not *Linn.* Buc. flammeum.
Cassidea β, *Schum.* 1817. Buc. cornutum.
Cassidea α, *Schum.* 1817. Buc. rufum.
Cypræcassis, *Stutchbury, Swains.* 1840. Bucc. Testiculum.

43. Bezoardica α, *Schum.* 1817. Cassidea β, *Swains.* 1840. Cassis, sp. *Scopoli.* Cassidea, sp. *Brug.* Bucc. glaucum.
Bezoardica β, *Schum.* Bucc. areolatum.

44. Levenia, *Gray,* 1847. Cassis coarctatum, *Gray.*

44*. Morio, *Montf.* 1810. Cassis, sp. *Martini.* Cassidaria, *Lam.* 1812, 1822. Echinora, *Schum.* 1817. Cassidarea, *Swains.* 1840. Cassidea, sp. *Brug.* Bucc. echinophorum.

45. Sconsia, *Gray,* 1847. Oniscia (Alicia), *Risso,* 1826. Cassidaria striata, *Lam.* 1822.

46. Oniscia, *Sow.* 183 ? Oniscidia, *Swains.* 1840. Cassidaria, sp. *Kiener.* O. cancellata, *Sow.*

47. Morum, *Bolten,* 1798. Hystrix, *Humph.* 1797. Ersina, *Gray,* 1840. Cassidaria, sp. *Lam.* 1822. Cassidea γ, *Schum.* 1817. Oniscia, sp. *Sow.* Conus, sp. *Scopoli,* 1777. Cassidea, sp. *Brug.* Strombus oniscus, *Linn.*

48. Cythara, *Schum.* 1817. Cancellaria, sp. *Lam.* 1822. Strombus jun., *Deshayes.* Cancellaria citharella, *Lam.*

49. ? Mingeria bicolor, *Gray, B.M.*

50. Dolium, *Browne,* 1756 ; *Humph.* 1797 ; *Montf.* 1817. Cadus, *Bolten,* 1798. Purpura (Mingac), *Adans.* Bucc. galea.
Perdix, *Montf.* 1817, not *Linn.* Purpura Tesan, *Adans.* Dolium, sp. *Browne,* 1756. Bucc. Perdix.

51. Malea, *Valenc.* 1833. Cassidea, sp. *Swains.* Dolium, sp. *Menke.* D. ringens, *Swains.* D. personatum, *Menke.*
Cassis labrosa, *Martini.* Dolium, sp. *Lam.* Bucc. pomum.

52. Harpa, *Humph.* 1797, *Lamk.* 1801, *Montf.* 1810. Sistrum, sp. *Oken*, 1815. Buccinum, sp. *Lam.* Bucc. Harpa.
Buccinum, sp. (stromboides), *Lamk.* Scaphella, sp. *Swains.* 1840, 122. f. 12. *a, b.*

53. Columbella, *Lam.* 1801, *Schum.* 1817, *Swains.* 1840. Columbus, *Montf.* 1810. Voluta subemarginata, *Scopoli*, 1777. Buccinum (barnet), *Adans.* 1757. Voluta mercatoria.
Cionella (picata), *Swains.* 1840, 312. 151. 153. 220.
Conidea (semipunctata), *Swains.* 1840, 312. 151. f. 17. *b.* Voluta discors.
Pusiostoma (punctata), *Swains.* 1840, 313. 151. 153.
Nitidella, *Swains.* 1840, 313. 151. f. 17. *e.* Col. nitida, *Lam.*
Pisania, sp. *Bivon*, 1832. Mitrella, sp. (flammea), *Risso*, 1826, f. 144. Fusus glaber, *Risso*, 1826, f. 129. Purpura, sp. *Risso*, f. 88. Bucc. corniculatum, *Lam.*

53*. Sinusigera, *D'Orb. Amér. Mér.* 429, not described.

54. ? Cominia, *Brown*, 1844 (Ill. Conch.). Jaminia, sp. *Brown*, 1827. Voluta hyalina, *Montf.*

PURPURINA.

55. Purpura, *Lamk.* 1801, *Blainv.* Buccinum, *Schum.* 1817. Systrium, sp. *Oken*, 1819. Bucc. persicum.
Purpura, *Swains.* 1840. P. coronata, *Lam.*
Stamonita, *Schum.* 1817. ? Sistrium, *Oken.* Bucc. hæmastoma.
Microstoma, *Swains.* 1840. Bucc. patulum.
Vexillum, *Swains.* 1840. Strombus vexillum, *Linn.*
Trochia, *Swains.* 1840. Triton, sp. *Lam. E. M.* Bucc. scala.
Polytropa, *Swains.* 1840. Bucc. lapillus.
Ricinella $\beta\,\beta$, *Schum.* 1817. Purpura Histrix, *Lam.*
Nassa and Lagena, sp. *Bolten*, 1798.

56. Pedicularia (sicula), *Swains.* 1840, 357. f. 44; *Gray*, 1846 (*Ann. N. H.*). Thyreus (paradoxus), *Philippi*, 1844.

56*. Concholepas, *Favan.*; *Lam.* 1801, *Montf.* 1810. Buccinus, sp. *Brug.* Purpura, sp. *Blainv.* Patella Lepas, *Gm.*

57. Acanthiza, *Fischer*, 1807 (Mus. Demid.). Monoceros, *Lam.* 1812, 1822, not *Flem.* Unicornus, *Montf.* 1810. Rudolphia, *Schum.* 1817. Rudolphus, *Chemn.* Purpura *a*, *Blainv.* Thais, sp. *Bolten*, 1798. Bucc. monoceros.

58. Planaxis, *Lam.* 1822, not *Risso*, 1826; *Blainv.* 1828. Bucc. sulcatum.
Hinea, *Leach MSS.* 1817. Plan. mollis, *Sow.*

59. Quoyia, *Desh. MSS.* 1830; *Gray*, 1839. Leucostoma, *Swains.* 1840, 172. f. 24. Fissilabria, *T. Brown*, 1836 (*Edinb. Jour. N. H.*). Quoya, *Desh.* 1843. Planaxis decollata, *Quoy and Desh.*

60. Sistrum, *Montf.* 1810. ? Mur. ricinus.
Ricinula, *Lamk.* 1812, 1822; *Blainv.* 1823. Ricinella, *Schum.* 1817. Purpura, sp. *Kiener.* Murex neritoideus.
Morula, *Schum.* 1817, 227. Ricin. morus, *Lam.*
Ricinella β, *Schum.* 1817. Ricin. digitata, *Lam.*

61. Campulotus. Campulote, *Guet.* 1759. Magillus, *Montf.* 1810, *Blainv.* Tubulites, *Davilla.* Spirobranchus, *Blainv.* M. antiquus, *Montf.*
Leptoconchus, *Rüpp.* 1835. M. Peronii, *Lam.*

BUCCININA.

62. Buccinum, *Linn.* ?, *Lam.* 1801, *Montf.* 1810. Tritonium, *O.Fab.*, *Schum.* 1817. Tritonium * *, *Loven*, 1846. Bucc. undatum.

63. Latrunculus. Nassa, *Schum.* 1817. Eburna, sp. *Lam.* 1822, not 1801. Eburna, *Swains.* 1840. Bucc. spiratum.
Eburna zetlandica, *Lam.*

64. Trichotropis, *Brod. & Sow.* 1829. Trichopodus, *Swains.* 1840, 211. Trichotropus, *Lesson.* Trocophore, *Desh. E. M.* 1830. Turbo carinatus, *Sow.*
Trichotropis *, *Sow.* Murex carinatus, *Laskey.*

65. Acus, *Humph.* 1797. Terebra, *Lam.* 1801. Subula, *Schum.* 1817, *Blainv.* 1825. Bucc. maculatum.
Terebrum, *Montf.* 1810. Bucc. subulatum.
Subula β, *Schum.* 1817. Bucc. dimidiatum.
Eburna β, *Schum.* 1817. Leiodomus, sp. *Swains.* Bucc. vittatum.

66. Dorsanum. Bucc. politum, *Lam.*
Bucc. lineolatum, *Wood, Supp.*

NASSINA.

67. Bullia, *Gray*, 1834 (A. King). "Bulliana, *Gray.*" Buccinum, sp. *Lam.* 1822. Bucc. semiplicatum, *Wood.*
Leiodomus, sp. *Swains.* 1840. Buccinum *a* Eburnes, *Blainv.* Terebra (arvan), *Adanson.* Bucc. digitale.
Buccianops, *D'Orb. A. M.* Bucc. Cochlidium.

68. Nassa, *Lam.* (1799), 1801; *Montf.* 1810, not *Schum.* Bucc. arcularia.
Monoceros, *Flem.*, not *Lam.* Bucc. hepaticum, *Montf.*
Planaxis, *Risso*, 1826, f. 136, not *Lam.* Tritia, *Risso MSS.* Hinia, *Leach MSS.* 1817. Nasa, *Flem.* Bucc. reticulatum.
Alectrion, *Montf.* 1810. Nassa β, *Schum.* 1817. Bucc. papillosum.
Tritonia, *Turton.* Ranella pygmea, *Lam.*
Eione, *Risso*, 1826, f. 50. Bucc. gibbosulum.
Cyclops, *Montf.* 1810. Cyclope, *Risso.* Nana β, *Schum.* Nanina, *Risso* (Nannia, *Philippi*). Cyclonassa, *Swains.* 1840. Bucc. Neriteum.

69. Desmoulea, *Gray*, 1838, *Ann. N. H.* D. pulchra, *Gray*.

70. Northia. Nassa, sp. (Northiæ), *Gray*. Bucc. sp. (pristis), *Desh.* N. pristis.

71. Ringicula, *Desh.* 1838 (*Lam.* viii. 343), *S. Wood.* Marginella, *Risso*, 1826, not *Lam.* Auricula, sp. *Lam.* Voluta, sp. *Brocchi, Eichw.* Marginella, sp. *Menard*, &c. Nassa, sp. *Féruss.* Auricula ringens.

72. Phos, *Montf.* 1810. Rhinodomus, *Swains.* 1840. Murex (Phos), *Blainv.* Cancellaria, sp. *Lam.* Buccinum, sp. *Brug.* Mur. senticosus.

73. Cyllene, *Gray*, 1839, *Swains.* 1840. C. Owenii, *Gray*.

OLIVINA.

74. Strephona, *Brown*, 1756. Oliva, *Lam.* 1801, *Montf.* 1810; *D'Orb. Cuba*, 109. Porcellana, sp. (Girol), *Adans.* Cylindri, sp. *Gevers.* 1787. Vol. porphyria.
Ancillaria, *Risso*, 1826, not *Lam.* Anc. fluminea, *Risso*.
Ispidula. Vol. Ispidula.
Cylindrus, *Meusch*, not *Schum.* Vol. tigrina, *Schroet.*

75. Olivella, *Swains. Elem.* 1837, 1840 (322. t. 87. f. *e*). Olivina, *D'Orb. A. M.* 417, 184 ? Olives ancylloides, *Duclos.* Oliva, sp. *Lam.* Vol. jaspidea, *Gm.*
Olivella (biplicata), *Swains.* 1840.
? Lamprodoma, *Swains.* 1840. Oliva volutella, *Lam.*

76. Scaphula, *Swains.* 1840, 132. f. 87. *b*, not *Benson.* ? Olives volutes, *Duclos.* Oliva auricularia, *Lam.*
Utriculina. Vol. Utriculus.
Olivancillaria, *D'Orb.* 1846. Oliva, sp. (brasiliensis), *Chemn.*, *Lam.* Vol. pinguis.

77. Agaronia, *Gray*, 1839 (Beechey's Voy.). Porcellana, sp. (Agaron), *Adans.* 1757. Ancilla, *Schum.* 1817, not *Lam.* Hiatula, *Swains. Z. I.* ii. t. 76. Oliva, sp. *Lam.* Vol. hiatula.

78. Ancilla, *Lam.* 1801, *Schum.* 1817. Ancillaria, *Lam. Ann. M.* & 1822. Anaulax, *Roissy.* Voluta, sp. *Gmelin.* Bulla cypræa.
Ancillus, *Mont.* 1810. A. Buccinoidea, *Lam.*
"Anolax (obsoleta), *Bronn*," *Philippi.* Bucc. obsoletum, *Brocchi.*
Oliva (striata), *Swains. Z. Ill.* ii. t. 40. Oliva & Ancil. canalifera, *Lam.*

80. Eburna, *Lam.* 1801. Eburna, sp. *Lam.* 1822. Ancillaria, sp. *Sow.* Eburna α, *Schum.* 1817. Eburnus, *Montf.* Bucc. glabratum, *L.*

81. ? Monoptygma, sp. *J. Lea*, 1833. Monop. alabamensis, *J. Lea.*
? Monoptygma, sp. *Lea.* Monotigma or Monotygma, *G. Sowerby.* Mon. elegans, *Lea.*

Fam. IV. VOLUTIDÆ.

a. Yetina.

82. Yetus, *Adans.* 1757. Cymba, sp. *Brod.* Vol. Neptuni.
Cymbium, *Martini*; *Gray*, 1840. Cymbium *a*, *Schum.* 1817. Cymbium, sp. *Menke*, 1830. Voluta (1), *Swains.* 1840. Cymba, *Brod.*, *Sow.* Melo, sp. *Humph.* 1797. Vol. olla, *Linn.*

Volutina.

83. Cymbium, *Adanson*, 1757; *Montf.* 1810; *Menke*, 1830. Cymbium *β*, *Schum.* 1817. Melo, sp. *Humph.* 1797. Voluta (1), *Swains.* 1840. Melo, *Brod.*, *Sow.* Vol. æthiopica.
Melo indicus, *Brod.* Vol. Melo.

84. Volutella, *D'Orb. A. M.* 423, not *Swains.* Voluta (1), *Swains.* 1840, 317. Vol. angulata.

85. Voluta, *Linn.*? *Scopoli*, 1777; *Lam.* 1801; *Montf.* 1810. Voluta *γ*, *Schum.* 1817, 238. Musica, *Humph.* 1797, *Gray*, 1840, *S.B.M.* Harpula (2), *Swains.* 1840, 317. Vol. musica.

86. Cymbiola, *Swains.* 1840, 317. Vol. ancilla.
Cymbiola (4), *Swains.* Vol. colocynthis.

87. Scapha. Voluta *a.* & *β*, *Schum.* 1817, 237. Cymbiola (2). Vol. vespertilio.
Voluta (5), *Swains.* 1840. Vol. magnifica.
Aulica. Vol. aulica.

88. Fulgoraria, *Schum.* 1817, 242. Harpula (3), *Swains.* Vol. rupestris.

89. Harpula (1), *Swains.* 1840, 317. f. 82. Vol. vexillum.

90. Scaphella (1), *Swains.* 1840, 318. Vol. fusiformis.
Scaphella, sp. *Swains.* Vol. Junonia.

91. Volutilithes, *Swains.* 1840, 318. Vol. spinosa.

92. Lyria. Harpula (4), *Swains.* Vol. nucleus.

93. Callipara Harpula (4), *Swains.* Vol. bullata.

Mitrina.

94. Mitra, *Lam.* 1801, *Montf.* 1810. Vol. episcopalis.
Thiarella, *Sw.* 1840, 319. Vol. papalis.
Scabicola, *Sw.* 1840. M. serpentina.
Nebularia, *Sw.* 1840. M. contracta.
Strigatella, *Sw.* 1840. M. zebra.
Mitrella, sp. *Sw.* 1840, not *Risso*, 1826. M. fissurata.
Columbella, sp. *Kiener*. Vol. tringa.

95. Zierliana. Buccinum, sp. (strombiformis), *Burrows.* Cancellaria, sp. *Lam.* Mitra, sp. *Kiener*. Voluta ziervogelii.

96. Turris, *Montf.* 1810; *Gray*, 1840. Vulpecula, *Gray*, 1840 (Syn. B. M.). Vol. vulpecula.

Tiara, *Swains.* 1840, f. 84. *c, g.* M. corrugata.
Costellaria, *Sw.* 1840, f. 84. *d.* M. rigida.
Cancella, *Sw.* 1840, f. 84. *b.* M. Isabella.
Pusia, *Sw.* 1840, 320. M. microzonalis.
Mitrella (costulata), *Risso,* 1826, f. 56, not *Swains.* Mitreola, *Swains.* 1833, *Z. I.* M. monodon.

97. Volvaria, *Lam.* 1801. Volvaria, sp. *Lam.* 1822, not *Conrad.* Volvarius, *Montf.* 1810. V. bulloides, *Lam.*

98. Cylindra, *Schum.* 1817, 236. Voluta crenulata, *Lam.* Mitrella, sp. *Swains.* 1837, 1840, not *Risso,* 1826. Vol. dactylus.

99. Imbricaria, *Schum.* 1817, 236. t. 21. f. 5; *Gray,* 1840. Conœlix, *Swains.* 1840, 321. Conohelix, *Swains.* 1833, 1840, 318. Conoelix, *Sow.* Conalex, *Jay.* Vol. conus.

MARGINELLINA.

100. Porcellana, *Adans.* 1757. Dactylus, *Humph.* 1797. Marginella, *Lam.* 1801. Marginellus, *Montf.* 1810. Cymbium, sp. and Pterygia, sp. *Bolten,* 1798. Vol. glabella.
Glabella, *Swains.* 1840, 324. f. 91. Porcellana Narel, *Adans.* Vol. faba.
Volutella, *Swains.* 1840, not *D'Orb.* Vol. bullata.
Marginella, *Swains.* 1840. Vol. marginata.
Phænospira (noduta), *Hinds,* 1844.
Cryptospira (tricincta), *Hinds,* 1844.

101. Hyalina, *Schum.* 1817, 234. Volvaria, sp. *Lam.* 1822, not 1801. Bulla, sp. *Linn.* Porcellana (Talier), *Adans.* Voluta pallida.

102. Persicula, *Schum.* 1817, 235; *Martini*; *Gray.* Porcellana (Bobi and Duchon), *Adans.* Persicola, *Swains.* 1840, 323. f. 90. Marginella, sp. *Lam.* 1822. Vol. persicula.
Voluta, *Flem.* Vol. catenata, *Mont.*
Gibberula, *Swains.* 1840. Volvaria, *Risso,* 1826. Volvaria, sp. *Lam.* 1822. Vol. miliaria.

Fam. V. CYPRÆADÆ.

103. Cypræa, *Linn.*; *Browne,* 1756. Porcellanæ, *Gevers,* 1797. Cypræa evidentes, *Scopoli,* 1777. Cypræa (Maget), *Adanson,* 1757. Cypræa stercoraria, *junior.* Bulla, sp. *Linn.*
Cypræa, *Lam.* 1801, *Montf.* 1810. Cypræa *β*, *Schum.* 1817. C. exanthema.
Cypræa *α*, *Schum.* 1817. C. Tigris.
Pustularia, *Swains.* 1840, 324. C. cicercula.
Peribolus (Potan), *Adans.* 1757, *Blainv.* 1825. Bulla, sp. (ovata), *Gmelin.* C. Mauritiana, *Junior.*

104. Trivia, *Gray,* 1832, ~~*Z. Jour.*~~ Trivea, *Swains.* 1840, 325, *junior.* Bulla, sp. *Mont.* ? Cypræa (Acton), *Adans.* Cyp. europea.

105. Cyprovula, *Gray,* 1832, *Z. J.* Cypræova, sp. *Swains.* 1840. Cyp. capensis.

Conch. Illus. 1832. (Gray & Sow)

106. Luponia, *Gray*, 1832, *Z. J.* Cypræova, sp. *Swains.* 1840. Cyp. algoensis.
Cypræda, *Swains.* 1840, 325. Cyp. elegans, *Lam.*

107. Erato, *Risso*, 1826; *Gray*. Cypræa, sp. *Montag.* 1803. Marginella, sp. *Leach*; *Flem.* 1828; *Philippi*. Voluta, sp. *Don.* Vol. lævis, *Don.*

108. Amphiceras, *Gronov.* 1781. Cyprea, sp. *Browne*, 1756. Ovula, *Brug.* 1789; *Lam.* 1801. Ovulus, *Montf.* 1810. Ovulum, *Sow.* Licium, sp. *Humph.* 1797. Cyphonia, sp. *Bolten*, 1798. Cypræa obscura, sp. *Scopoli*, 1777. Bulla ovum.
Ultimus, *Montf.* 1810. Carinea, *Swains.* 1840. Bulla gibbosa.
Calpurnus, *Montf.* 1810. Cyprella, *Swains.* 1840. Bulla verrucosa.
Radius, *Montf.* 1810. Birostra, *Swains.* 1840. Bulla volva.
Radius, *Schum.* 1817. Bulla birostris.
Simnia, "*Leach*;" *Risso*, 1826. S. nicæensis, *Risso*.
Simia, *Leach*, 1819. Volva, *Flem.* Bulla patula.
Calpurna, *Flem.* 1828. Ovula Leathesii, *Sow.*

109. Lamellaria α, *Montag.* 1815. Lamellaria, *Menke*, 1830; not *Lamouroux*. Marsenia, *Leach MSS.* 1819; *Oken Isis*, 1823; *S. Wood*, 1844. Bulla, sp. *Montag.* 1804. Sigaretus, *Blainv.* 1825, t. 42. f. 2; *Flem.* 1828.; *Risso*, 1826. Vitrina, sp. *Jans. & Christ.* Coriocella, sp. *Philippi*, 1836, 1844. Helix perspicua.
Sigaretus?, *Moller*. S. groenlandicus, *M.*
Oxinoë, *Couthouy*, 1839. O. glabra, *Couth.*
Sigaretus, *Cuv. Bull. Sci. & Anat. Moll.* 1817. Sigaret (animal, not shell), *Lam. Syn.* 1801. Cryptothyra, *Menke*, 1830. Coriocella, *Blainv. D.S.N.* 1824; *Gray*; *Menke*, 1830; *Swains.* 1840, 355. Sigaret (de tonga), *Quoy & Gaim.* Chelinotus, *Swains.* 1840, 355. Coriocella nigra, *Bl.**

Order II. PHYTOPHAGA.

Sect. I. PODOPHTHALMI.

Fam. I. TURBINIDÆ.

Turbini.

110. Turbo, *Linn.*; *Lam.* 1801. T. marmoratus.
Turbo, *Montf.* 1810. Cidaris, sp. *Swains.* 1840. T. petholatus.
Senectus, *Swains.* 1840. Turbo β, *Schum.* 1817. T. Spengleri.
Lanatica, *Bolten*, 1798. T. olearius.

111. Sarmaticus, *Gray*, 1840. Turbo β β, *Schum.* 1817. Cidaris, sp. *Swains.* 1840, not *Lam.* T. sarmaticus.

112. Batillus α, *Schum.* 1817, 197. Senectus, sp. *Swains.* T. cornutus.

* All from the same species. The specimens of *Coriocella nigra* in the British Museum, presented by Cuvier and described by Blainville, has a distinct shell. This genus has nothing to do with *Montagua*, Fleming.

113. Marmorostoma, *Swains. Z. I.* & 1840. Batillus β, *Schum.* 1817, 197. T. versicolor.

114. ? Tuba, *J. Lea*, 1833, t. 4. f. 117, 119. Delphinula, sp. *Lam.* D. marginata, *Lam.* Tuba striata, *Lea.*

IMPERATORINA.

115. Imperator, *Montf.* 1810, 199. Sol, sp. *Humph.* 1797. Canthorbis, *Swains.* 1840, 349. Turbo, sp. *Adans.* Trochus imperialis.

Calcar α, *Schum.* 1817, 193. Tr. solaris.

Calcar, *Montf.* 1810. Calcar β, *Schum.* 1817, 194. Cyclocantha, sp. *Swains.* 1840, 349. Turbo, sp. *Quoy.* Delphinula, *Flem.* 1828. Tr. stellaris.

Bolma, *Risso*, 1826. Tubicanthus, *Swains.* 1840. Turbo rugosus.

Tubicanthus, *Swains.* 1840, 349. Trochus β, *Schum.* 1817. T. Cookii.

EUTROPINA.

116. Eutropia, *Humph.* 1797. Phasianella, *Lam. E. M.* & 1812. Phasianella, sp. *Lam.* 1822. Phasianus, *Montf.* 1810, 254. Bucc. australe, *Gmel.*

Tricolea, *Risso*, 1826. Thicolea, *Leach MSS.* 1819; *Gray*, 1840. Eutropia, sp. *Humph.* Phasianella, sp. *Payr.* Turbo pullus.

Fam. TROCHIDÆ.

PYRAMIDINA.

117. Pyramis, *Chemn.*; *Schum.* 1817, 232; *Gray*, 1840. Tectus, *Montf.* 1810. Pyramidea, sp. *Swains.* 1840, 350. Tr. obeliscus, *Lam.*

118. Tegula (elegans), *Lesson*, 1834. Tr. Emma, *Gray.*

119. Cardinalia, *Gray*, 1840, 56. Pyramidea, *Swains.* 1840, 350. Tr. virgatus.

TROCHINA.

120. Trochus, *Linn.*; *Lam.* 1801; *Montf.* 1810, 179. Pyramidea, *Swains.* 1820. Tr. Niloticus.

121. Infundibulum, *Montf.* 1810, 167. Carinidea, *Swains.* 1840, 350. Tr. concavus.

122. Polydonta α, *Schum.* 1817, 237. Lamprostoma, *Swains.* 1840, 350. Tr. maculatus.

Phorcus, *Risso*, 1826, f. 47. Omphalius, *Philippi*, 1847. Tr. cinereus, *Dacosta.* Tr. rusticus.

123. Clanculus, *Montf.* 1810, 191 (Clangulus, *Gray*, misprint). Turbo vasel, *Adans.* Polydonta β, *Schum.* 1817. Fragella, *Swains.* 1840, 332. Apiculum, sp. *Humph.* 1797, 26. Monodonta, sp. *Lam.*; *Brown*, 1830. Tr. pharonis.

Otavia, *Risso*, 1826. O. corallina, *Risso*, f. 54.

ZIZIPHINA.

124. Ziziphinus, *Leach MSS.* 1819; *Gray*, 1840. Calliostoma, *Swains.* 1840. Labio, sp. *Oken*, 1815. Tr. Ziziphinus.
Trochilus, sp. *Humph.* 1797. T. annulatus.

125. Canthiridus, *Montf.* 1810, 251. Elenchus, sp. *Humph.* 1797, 25. Elenchus, *Swains.* 1840. Eleuchus (misprint). Phasianella *c*, *Menke*, 1830, 51. Monodonta, sp. *Lam.* 1822. Tr. Iris.
Phasianella *d*, *Menke*, 1830. P. fasciata, *Menke*. Tr. badius.

126. Thalotia, *Gray*, *Syn.* 1840. Elenchus, sp. *Humph.* 1797? Helenchus, *Herrm.* Tr. pictus, *Gray*; *Wood*, *Sup.* t. 5. f. 28.

127. Monodonta, *Lam.* 1801. Monodon, *Schweiger*, 1820; *Sow.*; not *Linn.* 1735. Monodontes, *Montf.* 1810. Odontis, *Sow.* 1825. Trochidon, *Swains.* 1840, 357. Trochulus, sp. *Humph.* 1797, 26. Tr. labeo.
Trochidon, *Swains.* 1840, 351. Mon. canaliferus, *Lam.*
Diloma, *Philippi*, 1845. Troch. nigerrimus.

128. Labio, *Oken*, 1815. Osilinus, *Philippi*, 1847. Turbo osilin, *Adans.* 1757. Mon. constrictus, *Lam.*
Trochius, *Leach MSS.* 1819. Gibbium, *Gray*, *Syn.* 1844. Monodonta, sp. *Lam.* 1822. Tr. crassus, *Montf.*
Melagraphia, *Stentz*, 1836. Tr. æthiops.

129. Chlorostoma, *Swains.* 1840, 350. Tr. argyrostoma, *Lam.* 23.

130. Helicina, *Lamk.* 1801 (fide syn. and character); not 1813 nor 1822. Globulus, *Schum.* 1817. Rotella, *Lamk.* 1822. Trochus *d*, *Blainv.* Umbonicum, *Mus. Berlin.* 1818. Rot. lineolata.
Helicena (dubia), *Lamk.* 1822. Rotella (Defrancii), *Basterot.*

131. Otavia, *Cantraine*, 1837; not *Risso*, 1826. Monodonta, sp. limbata, *Philippi*, 1844, t. 25. f. 19. O. otaviana, *Cant.*

132. Livona, *Gray*, 1841. Turbo (Livon), *Adans.* 1757. Meleagris, *Montf.* 1810, not *Linn.* Turbo *α*, *Schum.* 1817. Trochus, *Swains.* 1840. Apiculum, sp. *Humph.* 1797, 26. Tigris, *Klein*, 1753? Trocus, sp. *Browne*, 1756. Turbo Pica.
Chrysostoma, *Sw.* 1840, 35. Turbo Nicobaricus.

133. Monilea, *Swains.* 1840. Talopia, *Gray*, *Syn.* 1842. Troch. calliferum.

134. Camitia, *Gray*, *Syn.* 1840. Tr. pulcherrima, *Gray*.

135. Cyclostoma, *Lam.* 1802; not 1812 nor 1822. Delphinula, *Roissy*, 1805; *Schum.* 1817; *Lam.* 1822; *Swains.* 1840. Dauphinule, *Lam.* 1812. Delphinus, *Montf.* 1810. Turbo Delphinus.

136. Liotia, *Gray*, *Syn.* 1840. Delphinula, sp. *Gray*, *Sow.* Del. cancellata, *Gray*.

137. Gibbula, *Leach MSS.* 1819; *Risso*, 1826; *Gray*, 1840. Trochus, sp. *Linn.* Tr. magus.

Steromphala, *Leach MSS.* 1819. Tr. cinereus.
Monodonta, sp. *Lam.* 1822. Tr. declivis, *Forsk.*

138. Trochiscus, *Sow.* 1838. T. Norrisii, *Sow.*

139. Margarita, *Leach*, 1819, *Ross Voy.* (not *Zol. Misc.* 1814); *Gray, Syn.* 1840. Margarites, *Leach MSS.* 1819. Helix margarita.

140. Adeorbis, *S. Wood*, 1842. Trochus, sp. *Gray, Reclus.* Natica?, sp. *Philippi.* Cingula, sp. *Flem.* Helix subcarinata, *Montag.*

141. ? Solariella, *S. Wood*, 1842. Sol. maculata, *Wood.*

142. Philippia, *Gray*, 1840 (*Phil. Sicil.* i. 174). Solarium luteum, *Lamk.*

STOMATELLINA.

143. Stomatella, *Lam.* 1822. Stomatelle, *Lam.* 1812. Stomatella α, *Blainv.* Stom. imbricata, *Lam.*

Fam. HALIOTIDÆ.

HALIOTINA.

144. Broderipia, *Gray*, 1847. Scutella, sp. *Brod.* 1834, not *Lamk.* Scutella rosea.

145. Gena, *Gray*, 1840, 1844, 57. Stomatella β, *Blainv.* 1825. Stomatella, sp. *Lam.* 1822. Haliotis, sp. *Burrows.* Patella lutea.

146. Stomax, *Montf.* 1810, 110. Stomatia, *Helblin*, 1879?; *Lamk.* 1801; not *Browne*, 1756. Haliotoidea, *Humph.* 1797, 20. Sigaretus?, *Schum.* 1817, 188. Haliotis *d*, *Blainv.* 1825. Haliotis, sp. *Chemn., Dillw.* Stom. phymotis, *Hel.*

147. Haliotis, *Linn.*; *Adanson*, 1757; *Lamk.* 1801. Auriformes, sp. *Gevers*, 1787. Hal. tuberculata.
Haliotis, *Montf.* 1810. H. assininus.
? Haliotis *c*, *Blainv.* 1825. H. dubia, *Blainv.* Probably a monstrosity without pores: there is one in the cabinet of Mr. Alder.

148. Padollus, *Montf.* 1810, 115. Padola, *Flem.* 1828. Padolla, *Oken*, 1815. Hal. tricostalis, *Lam.*
Haliotis *c*, *Blainv.* 1825. H. parva.

DERIDOBRANCHINA.

149. Deridobranchus, *Ehrenb.* 1831. Derid. argus, *Ehr.*

SCISSURELLINA.

150. Scissurella, *D'Orb.* 1823; *Flem.* Trochus jun., *Montag.* Haliotis vel Fissurella jun., *Sow.* Sciss. lævigata, *D'Orb.*

151. ? Anatomus, *Montf.* 1810, 279. Anat. Indicus, *Montf.*

Fam. FISSURELLIDÆ.

152. Scutus, *Montf.* 1810. Parmophorus, *Blainv.* 1825; *Swains.*

1840, 356. Patella α, *Schum.* 1817, 179. Emarginula, sp. *Sow.* Pat. Unguis.

152*. ? Palmarium, *Montf.* 1810, 70. Pal. clypeatum, *Montf.*

153. Emarginula, *Lam.* 1801; *Schum.* 1817, 181. Emarginulus, *Montf.* 1810. Patella, sp. *Linn.* Patella fissura.
Subemarginula, *Blainv.* 1825. Hemitoma, *Swains.* 1840, 356. Pat. octoradiata, *Gmel.*
Clypidina *Gray*, 1847. Pat. notata.

154. Rimularia, *Defrance.* Rimula, "*Defrance,*" *Blainv.* 1825. Emarginula *d*, *Blainv.* 1825. Rim. Blainvillii.
? Rimula, *D'Orb.* R. conica, *D'Orb.*
This genus is quite distinct from the following; and we have a recent species in the Brit. Mus.

155. Diadora, "*Gray*, 1821;" *Blainv.* 1825 (*Man.* 501). Cemoria, *Leach*, 1819; not *Risso*, 1826 (Cremoria, *error of press*). Sypho, *Brown*, 1827; *Reclus.* Siphon, *Brown*, 1844. Puncturella, *Lowe*, 1828. Fissurella, sp. *Flem.* Fissurella β, *Schum.* 1817. Rimula, *Couthouy*; *Loven*; not *Defrance.* Patella, sp. *Müller*, *Linn.* &c. Diodora, *Gray*, 1840. Pat. Noachina.

156. Fissurella, *Lam.* 1801, *Swains.* 356. Lepas (Dasan), *Adans.* Larva, *Humph.* 1797, 4. Fissurellus, *Montf.* 1810. Pat. picta?
Fissurella α, *Schum.* 1817, 181. Pat. Barbadensis.
Fissurella *c*, *Blainv.* 1825. Pat. græca. Young shell.
Diadora, sp. *Gray*, 1821. Cemoria, sp. *Leach*, 1819; not *Risso.* Sipho, sp. *Brown*, 1827 & 1844. Pat. apertura.
Fissurillea, *Swains.* 1840, 356. Fiss. pileus, *Swains.*
Clypsidella, *Swains.* 1840, 356. Pat. pustula.

157. Macroschisma. Macrochisma, *Swains.* 1840, 356; *Gray*, 1840. Larva, sp. *Humph.* 1897, 4. Fissurella, sp. *Sow.* Pat. macroschisma.

158. Fissurellidæa, *D'Orbigny*, 184 ? Fissurella, sp. *Lam.* 1822. Fiss. hiatula, *Lam.*

159. Pupillia, *Gray*, 1840, 114; 1844, 58. Fissurella, sp. *Sow.* "Pupillaca, *Gray*," *Philippi*, ii. 90. Pat. apertura, *Born.*

160. Lucapina, *Gray*, 1840; 1844, 58. Fissurella aperta, *Sow.* Lucap. elegans, *Gray.*

Fam. NERITIDÆ.

Neritina.

161. Nerita, *Linn.*; *Adans.* 1757; *Lam.* 1801. Peloronta, *Oken*, 1815. N. exuvia.
Nerita, *Montf.* 1810. Peloronta, sp. *Oken.* N. peloronta.

162. Velates, *Montf.* 1810, 354. Nerita, *Blainv.* 1825. Nerita, sp. *Chemn.* Neritina perversa, *Lam.*

163. Pileolus, *J. Sow.*, 183 ? *Desh.* Nerita H, *Blainv.* 1825. Pileolus plicatus.
Calana, *Gray*, 1844. Pileolus, sp. *Desh.* Pileol. altevelensis.

NERITELLINA.

164. Neritella, *Humph.* 1797. Neritina, *Lam.* 1822. Neritine, *Lam.* 1812. Nerita pulligera.
Neritina, *Swains.* 1840. Neritella, sp. *Humph.* N. Meleagris.
Theodoxus, *Montf.* 1810. Nereina, *Christ. & Jans.* 1832; not *Defrance.* Neritella, sp. *Humph.* Neritina, sp. *Lam.* Ner. fluviatilis.
Neripteron, *Lesson*, 1830. Neripterum, *Herrm.* 1847. Neritina auriculata, *Lam.*
Clithon, *Montf.* 1810, 326; *Swains.* 347, 1840. Nerita β, *Schum.* 1817. Neritella, sp. *Humph.* Cliton, *Lesson.* Ner. corona.
Dostia, *Gray, Syn.* 1840; 1844, 58. Cliton, sp. *Lesson.* N. crepidularia.

165. Catillus, *Humph.* 1797, 57. Cimber, *Montf.* 1810, 82. Navicella, *Lam.* 1822. Navicelle, *Lam.* 1812. Septaria, *Feruss.*, *Blainv.* 1825. Nerita porcellana.

Fam. AMPULLARIADÆ.

166. Ampullaria, *Lam.* 1801. Pomus, *Humph.* sp. 1779, 58. Pomacea, sp. *Perry.* Bulimus, sp. *Brug.* Nerita, sp. *Müller.* Ampullarius, *Montf.* 1810. Pachylabra, *Swains.* 1840. Pachystoma, *Guild.* 1828; not *Swains.* Nerita urceus.

167. Marisa, *Gray*, 1824. Ceratodes, *Guilding*, 1828. Planorbis, sp. *Müller*; *Lamk.* 1822. Marissa, *Menke.* Helix cornu arietis.

168. Pomus, *Humph.* 1779, 58. Ampullaria, *Guild.* 1828; *Swains.* 1840. Hel. ampullacea.

169. Lanistes, *Montf.* 1810, 122. Helix, sp. *Linn.* Cyclostoma, sp. *Olivier.* Helix Bolteniana.
Lanites, *Swains.* 1840. Helix guinaica.

170. ? Meladomus, *Swains.* 1840. Lanistes, sp. *Troschel*, 1847. Paludina, sp. *Sow.* Pal. olivacea, *Sow.*

171. Pomella ? Ampullaria, sp. *D'Orb.* Amp. neritoides, *D'Orb.*

172. Asolene, *D'Orb.* 1837; *Gray*, 1840. Ampullaroides, *D'Orb.* 1838, 379. Helix platæ, *Maton.*

Fam. IANTHINIDÆ.

173. Ianthina, *Bolten*, 1798; *Lam.* 1801. Neritoidea, *Humph.* 1797, 20. Ianthinus, *Montf.* 1810. Iodes, *Leach MSS.* 1819. Helix Ianthina.

Fam. ATLANTIDÆ.

174. Oxygyrus, *Benson*, 1835. Ladas, *Cantraine*, 1839; *Philippi.*

Helicophlegma, *D'Orbigny*, 1839. Atlanta, sp. *Rang*. Atlanta Keraudrenii, *Rang*.
Brownia, *D'Orb*. 1841. Helicophlegma, sp. *D'Orb*. Hel. Candei, *D'Orb*.

175. Atlanta, *Lesueur* (*Journ. Phys.*); *Blainv*. 1825; *D'Orb*. Corne d'Ammon, *Lamon*. Atlanta Peronii, *Les*.

176. Steira (Lamanoni), *Eschsch.*; *Isis*, 1825, 734. t. 5. f. 3.

177. Heterofusus, *Flem*. 1833. Limacina, sp. *Benson*. Fusus, sp. *Flem*. Helicophora, *Gray*, 1840; 1844, 59. Atlanta Heliconoides, sp. *D'Orb*. 184 ? Peracle, *Forbes*, 1843. Scaea, *Philippi*, 1844. Fusus retroversus, *Flem*.

178. ? Heliconoides, sp. *D'Orb*.

179. ? Campylonaus, *Benson*, 1835. Atlanta (reticula), *D'Orb*.

Sect. II. ERIOPHTHALMA.

Fam. NATICIDÆ.

NATICINA, *operc. shelly*.

180. Natica, *Lam*. 1801. Naticus, *Montf*. 1810; *Megerle*, 1811. Natica α, *Schum*. 1817. Neritiformes, sp. *Gevers*, 1787. Lunatus, sp. *Humph*. 1797. Nerita canrena.
Nacca, *Risso*, 1826; *Gray*, 1844, 60. Natica (gochet), *Adans*. 1757. N. fulminea.
Natica (Natice), *Adans*. 1757. N. ——?
Natica, *Swains*. 1840. N. lineata.
Natica, *Leach*, 1819. N. fragilis, *Leach*.

181. Deshayesia, *Raulin*, 1844. Nat. mutabilis, *Desh*.

POLINICINA, *operc. horny*.

182. Neverita, *Risso*, 1826, f. 43. Natica, sp. *Lam*. 1822. Nat. glaucina, *Lam*.

183. Lunatia. Natica, sp. *Lam*. 1822. Lunatus, sp. *Humph*. N. ampullaria, *Lam*.
Natica, *Risso*, 1826 (not *Lam*. 1801); *Gray*, 1844, 60. N. glaucina, *Risso*.

184. Cepatia, *Gray*, 1840; 1844, 60. N. cepacea, *Lam*.

185. Polinices, *Montf*. 1810. Natica, sp. *Scopoli*, 1777; *Lam*. 1822. Uber, sp. *Humph*. 1797, 21. Mammilla, *Gray*, 1840. Nerita, sp. *Browne*, 1756. Ner. mammilla.
Naticella, *Guild*., *Swains*. 1840. N. aurantia.
Natica β, *Schum*. 1817. N. albumen.
Naticina, *Guild*. Mammillaria, *Swains*. 1840. Nat. lactea, *Guild*.

186. Mammilla, *Schum*. 1817; not *Gray*, 1840. Ruma, *Chemn*. Naticaria, sp. *Swains*. 1840; *Gray*, *Syn*. 1844, 60. N. melanastoma.
Ruma, sp. *Chemn*. Uber, sp. *Humph*. Nat. Maura.

187. Cernina, *Gray, Syn.* 1840; 1844, 60. Globularia, sp. *Swains.* 1840. Oper. ——? Nat. fluctuata, *Sow.*

188. Globulus, *J. Sowerby,* 18 ? Globularia, sp. *Swains.* 1840. Ampullaria, *Flem.* Nat. Sigaretina.

189. ? Laguncula, *Benson,* 1842. Bensonia, *Cantor MSS.* Oper. ——? L. pulchella, *Benson.*

190. Naticina, *Gray, Syn.* 1840, 90. Naticaria, sp. *Swains.* 1840, 346; *Gray,* 1840, 60. Nat. papilla.

191. Stomatia, *Browne,* 1756; *Hill,* 17 ? not *Lamk.* Sigaretus, *Lam.* 1801 (shell only); *Montf.* 1810. Haliotis (Sigaret), *Adans.* 1757. Auriformes * *, *Gevers,* 1789. Sigaretus *b*, *Blainv.* Cryptostoma, *Blainv.* 1825. Auris Veneris, *Humph.* 1797, 20. Velutina, sp. *Flem.* Helix Haliotoides.
Oxinoë, *Rafin.*; *Blainv.*; not *Couthouy.* Oxinoë olivacea.

Fam. ? NERITOPSIDÆ.

192. Neritopsis, *Grateloup,* 18 ?; *Gray,* 1839; *Swains.* 1840. Nerilopsis, *D'Orb.* (misprint?). Nerita radula.
Radula, *Gray, Syn.* 1844, 60. Nerita granulata.
Animal of this family not yet known.

Fam. LITTORINIDÆ.

193. Assiminea, *Leach,* 1819; *Fleming,* 1828; *Berkeley, Benson.* Syncera, *Gray,* 1821. Lymnea, *Jeffreys.* Assaminea, *Gray,* 1839, 141. A. Grayiana, *Leach.*

194. Littorina, *Feruss.* Trochus, *Adans.* 1757; not *Linn.* Litorina, *Loven.* Turbo, *Philippi.* Turbo, sp. *Linn.* ? Lunella, *Bolten,* 1798. T. littoreus.
Neritoides, *Brown,* 1837. Nerita littoralis.
Phasianella, sp. *Lam.* 1822. Turbo γ, *Schum.* Helix scabra.
Trochus, *Adans.* 1757; not *Linn.* Turbo punctatus.
Melaraphis, *Stentz,* 1836. Melarapha, *Megerle,* 1832. Paludina, sp. *Stentz.* Rissoa, sp. *Risso,* 1826. Turbo petrea.

195. Risella, *Gray,* 1840, 1844. Littorina §, *Gray,* 1839. Bembicium, *Philippi,* 1846. Tr. melanastomus.

196. Pagodus, *Gray,* 1839. Pagodella, *Swains.* 1840, 351. Littorina, sp. *Desh.*; *Philippi,* 1846. Monodonta, sp. *Lam.* 1822. Turbo Pagodus.
Echinella, *Swains.* 1840, 35. Monodonta coronaria, *Lam.*

197. Modulus, *Gray,* 1840, 1844. Turbo, sp. (Lonier), *Adans.* Monodonta, sp. *Lam.* 1822. Trochus modulus.
Monodonta, *Swains.* 1840; not *Lam.* 1801. Tr. tectum.

198. Lithoglyphus, "*Megerle,*" *Hartm.* 1821; *Zeigler.* Lithoclyptus, *Christ. & Jans.* 1832. Paludina, sp. *Menke.* Paludina fusca, *Pfeiffer.*
Neritina, sp. *Feruss.* Paludina, sp. *Menke.* Palud. Naticoides.

Paludina, sp. *Say*. Paludestina, sp. *D'Orb*. Amnicola, sp. *Anthony*. Pal. lapidaria.

199. Hydrobia, *Hartmann*, 1821. Paludestina, sp. *D'Orb*. 1838; *Gray*, 1840. Paludina, sp. *Drap*. Litorinella, *Braun*, 1843; *Thomas*, 1845. Cyclostoma, sp. *Drap*. Paludina acuta.
Leachia, sp. *Risso*, 1826. Paludina, sp. *Menke*, 1830. Turbo, sp. *Martens*. Cyclostoma vitreum, *Drap*.
Paludina, *Guild*. 1828; not *Lam*. 1801; *Swains*. 1840. Palud. parvula, *Guild*.
Amnicola, sp. *Anthony*. Melania, sp. *Say*. Paludina, sp. *Lea*. Melan. isogona.
Sabinea, *Leach MSS*. 1819, *Sow*. 1842. Paludinella, *Pfeiffer*, 184 ?; *Loven*, 1846; not *Gervais*. Paludina, sp. *Flem*., *Drap*.? Cingula, sp. *Flem*. Littorina, sp. *Hanley*. Rissoa?, sp. *Alder*. Turbo Ulva.
Paludinella, *Beck*; *Moller*, 1842. Trochus saxatilis, *O. Fab*.
? Rissoa, *Berkeley* (not *Risso*?). Turbo subumbilicatus, *Montag*.

200. Architectoma, *Bolten*, 1798. Solarium, *Lam*. 1801, *Montf*. 1810, *Swains*. 1840. Physeter, *Humph*. 1797; not *Linn*. Trochus perspectivus.
Solarium, sp. *Lam*. Sol. patulum.

201. Torinia, *Gray*, 1840, 1842. Heliacus, *D'Orb*. 1842. Physeter, sp. *Humph*. Solarium, sp. *Lam*. 1822. Solarium β, *Schum*. 1817. Trochus cylindraceus.

202. ? Omalaxis, *Desh*. 1830. Bifrontia, *Desh*. 1833?, *Gray*, 1840. Omolaxon *or* Omalaxon, *Agassiz*. Solarium, sp. *Lamk*. Solarium disgunetum, *Lam*.
Bifrontia, sp. *Desh*. Sol. bifrons.
Schizostoma, *Bronn*, 1841? Euomphalus, sp. *J. Sow*. Bifrontia Catillus, *Desh*.

203. ? Orbis (rotella), *Lea*, 1833.
Orbis (foliaceus), *Philippi*, 1844, t. 24. f. 26.
Bifrontia? (zanclosa), *Philippi*, 1844, t. 28. f. 11. Pteropodes??

204. ? Cyclogyra multiplex, *S. Wood*, 1842. An annelide?

205. ? Planaria, *T. Brown*, 1827; not *Linn*. P. pellucida.
Planaria, *J. Lea*, 1833. Pl. nitens. —— Pteropodes?

206. Forsar, *Gray*, *Syn*. 1840. Natica (fosar), *Adans*. 1757. Forsarus, *Philippi*, 1841, 1844. Maravignia, *Aradas*, & *Mag*. 184 ? Natica (animal, not shell), *Lam*. 1801, *Rang*. Delphinula, sp. *Philippi*, 1836. Rissoa, sp. *Scacchi*. Nerita, sp. *Brocchi*. Purpura, sp. *Sow*. Sigaretus, sp. *Serres*. ? Naticella, *Munster*, 1841. Turbo, sp. *Michaud*. Helix ambigua, *Linn*.
Pharianema (sulcata), *S. Wood*, 1842.

207. Nematura, *Benson*, 1836. N. Deltæ.

208. Lacuna, *Turton*, 1828. Temana, *Leach MSS*. 1819. Lutea, *T. Brown*, 1827. Natica, sp. *Flem*. Nerita pallidula, *M*.

Epheria, *Leach MSS.* 1819. Lacuna, sp. *Turton.* Phasianella, sp. *T. Brown,* 1827. Turbo vincta.
Medoria, *Leach MSS.* 1819; *Gray,* 1819. Lacuna, sp. *Turt.* Turbo crassior.

Fam. MELANIADÆ.

Rissoaina.

209. Rissoa, *Fremenville,* 1814; *Risso,* 1826. Alvania, sp. *Risso,* 1826 (not *S. Wood*). Loxostoma, *Bivon.* Cingula, sp. *Flem.* 1828. Helix labiosa.
Acme (acicula), *Hartm.* 1821; *Christ. & Jans.* 1822. Rissoa, sp. (acuta), *Desm.* Turbo auriscalpium.
Alvania, sp. *Risso,* 1826. Rissoa, sp. *Desm.* Turbonella, sp. *Leach,* 1819. Turbo Callathriscus.
Cyclostrema, *Flem.* 1828, not *Marryat.* Turboella, sp. *Leach,* 1819. Alvania ?, sp. *Leach,* 1817. Rissoa, sp. (clathrata), *Philippi.* Turbo Zetlandica.
Turboella, sp. *Leach,* 1819. Rissoa, sp. *Desm.* Turbo parvus, *Montag.*
Turbona, *Leach,* 1819. Turbo reticulatus, *Montag.*
Turbonilla, *Leach MSS.* 1819. Turbo striatus, *Montag.*

210. Cingula, sp. *Flem.* 1824, 1828. Rissoa *b, Philippi,* 1844. Sabanea, sp. *Leach MSS.* 1819. Turbo cingillus, *Montag.*

211. Alvania, *S. Wood,* 1842; *Leach MSS.* 1819. Alvania, sp. ? *Risso,* 1826. Anclis, *Loven,* 1844. Alv. supranitida.

212. Rissoina, *D'Orb.* 184 ? Rissoina Inca, *D'Orb.*
Mangelia, sp. *Risso,* 1826 (f. 102, 103). Strombus, sp. *Megerle.* Mang. reticulata.
Rissoa *c.* (Bruguieri), *Philippi.* Nassa, sp. *Brown.* Cingula, sp. *Flem.* Turbo Bryerii, *Montag.*

213. Skenea, *Flem.* 1824, 1828. Delphinoidea, *T. Brown,* 1827. Truncatella, sp. (? atomus), *Philippi* ?. Helix Serpuloides, *Montag.*

Melaniaina.

214. Thiara, *Megerle,* 18 ?; *Menke,* 1830; *Gray.* Melanella, *Swains.* 1840, 341. Melania Holandri, *Feruss.*

215. Melania, *Lam.* 1801; *Schum.* 1817, 201. Melas, *Montf.* 1810. Melacanthus, *Swains.* 1840, 341. Amarula, *G. B. Sow.* 1842. Tiara, sp. *Bolten,* 1798; *Gray,* 1846; not *Swains.* Vesica, sp. *Humph.* 1797. Spirilla, *Humph. MSS.* Buccinum, sp. *Müller.* Bulimus, sp. *Brug.* Helix amarula.
Potadoma, *Swains.* 1840, 341. Melania Freethi, *Gray.*
Melanoides, *Olivier,* 1807. Strombus, sp. *Schroet.* Nerita, sp. *Müller.* Mel. fasciolata.

216. Pachystoma, *Gray,* 1840; 1844, 61. Mel. marginata, *Lam.*

217. Pyrgula (annulata), *Crist. & Jans.* 1832. Melania, sp. *Desh.* Mel. helvetica, *Mich.*

218. ? Tricula, *Benson*, 1842. Tri. montana, *Benson.*

219. ? Tanalia, *Gray.* Paludomus, sp. *Reeve.* Nerita, sp. *Gmel., Chemn.* Nerita aculeata. Oper. ——?

220. Hemisinus, *Swains.* 1840, 341. Tania, *Gray*, 1840; 1844, 60. Mel. lineolata, *Gray.*
Melania, sp. *Pfeiffer.* M. Ferussacii.

221. Vibex, *Oken*, 1815; *Gray*, 1840. Ligula, sp. *Humph.* 1797. Pirena, sp. *Lam.* 1822. Strombus, sp. *Gmelin.* Nerita, sp. *Müller.* Melania, sp. *Feruss., Desh.* Bulimus, sp. *Brug.* Nerita aurita.
Melania, *Swains.* 1840. Mel. quadriseriata.

222. Melanatria, *Bowdich*, 1822? Pyrena, sp. *Lam.* Melanopsis, sp. *Desh.* Helix, sp. *Dillw.* Buccinum flumineum.

223. Lampania, *Gray*, 1840; 1844, 60. Batillaria, *Benson*, 1842. Cerithium zonale, *Lam.*

224. Anculotus, *Say*, 1825. Anculosa, *Swains.* 1840, not *Conrad.* Anc. præmorsa, *Say.*
Melanopsis, sp. *Moricand.* M. Crenocarina.
Anculosa, *Conrad*, 1834. Omphemis, sp. *Chenu.* Melania, sp. *Say.* Anc. dissimilis.
Anculosa, sp. *Anthony.* Anc. rubiginosa.
Melania, sp. *Say.* Melan. obovata.

225. Melatoma, *Anthony*, 184 ?; not *Swains.* 1840. Melat. altilis, *Anth.*

226. Io, *J. Lea*, 1832. Fusus, sp. *Say*, 1825. Melafusus, *Swains.* 1840, 341. Fusus fluviatilis, *Say.*
Melania, sp. *Say.* Mel. armigera, *Say.*

227. Ceriphasia, *Swains.* 1840; *Gray, Syn.* 1844. Melania, sp.? *Say.* Ceriphasis sulcatus, *Sw.*
? Telescopella. Melania, sp. *Say.* Mel. undulata, *Say.*

228. Melanopsis, *Lam.* 1822. Melanopside, *Lam.* 1812. Nana, *Schum.* 1817, 225. Buccinum, sp. *Clarke.* Canthidomus, *Swains.* 1840, 342. Faunus, *Megerle*, 18 ? Melanithes, *Swains.* 1840, 341. Plotia, sp. *Bolten*, 1798. Melania, sp. *Olivier.* Melan. costata.
Melanopsis, *Swains.* 1840, 341; M. sp. *Lam.* Bulimus, sp. *Lam.* Bucc. prærosum.

229. Faunus, *Montf.* 1810 (Junior). Pirena, *Lam.* 1822; *Swains.* 1840. Pyrene, *Lam.* 1812. Ligula, sp. *Humph.* 1797, not *Montag.* Melanamona, *Bowdich*, 1820. Ebena, *Schum.* 1817. Melanopsis, sp. *Ferus.* Nerita, sp. *Müller.* Cerithium, sp. *Brug.* Buccinum, sp. *Solander.* Strombus ater.

230. Clionella. Pleurotoma, sp. *Lam.* Buccinum, sp. *Gmel.* Bucc. sinuatum.

231. ? Potamidis, 18 ? Potamide, *Brong.* (*Geol. Paris, Ann. Mus.* xv. t. 22. f. 3). Cerithium, sp. *Desh.* P. Lamarckii, *Brong.*

232. ? Potamidum, *Flem.* 1828 (*Sow. M. C.* t. 341. f. 1 & 2). P. acutum.

233. Cerithium, *Adans.* 1757 ; *Brug.*; *Lam.* 1822. C. (Popel), *Adans.* Murex radula.
Cerithium, *Montf.* 1810, 511. Rhinoclavis, sp. *Swains.* 1840, 315. Mur. vertagus.
Cerithium γ, *Schum.* 1817. Rhinoclavis, sp. *Swains.* 1840, 315. Mur. aluco.
Cerithium, *Lam.* 1801, *Swains.* 1840, 316. Cerithium β, *Schum.* 1817. C. nodulosum, *Brug.*

234. Bittium, *Leach MSS.* 1819. Terebra, sp. *Flem.* Strombiformis, sp. *Da Costa.* Nassa, sp. *Say.* Mur. reticulatus, *Mont.*

235. Pirenella. Cerithium, sp. *Risso,* 1826 ; *Philippi.* Pyrena, sp. (nigra), *Ch. & Jans.* Cerithium mammillatum, *Philippi.*
? Cerithium, sp. *Lam., Sow.* Cer. tuberculatum, *Sow.*

Cerithium torulosum, *Brug., Lam.* ii. 27, is only a monstrosity of *Cerithium vulgatum.*

236. Cerithidea, *Swains.* 1840. Potamides, *Gray,* 1840. Cerithium (sp. 16), *Lam.* 1822. Turbo, sp. *Dillw.* Murex decollatus.
Cerithium, *Flem.* 1828. Strombiformis, sp. *Da Costa.* Strombus costatus.

237. Tympanotomos, *Klein,* 1753 ; *Schum.* 1817, 211. Tympanotomus, *Gray,* 1840. Potomis, *Swains.* 1840. Nerita, sp. *Müller.* Ligula, sp. *Humph.* 1797. Potamis or Potamides, *Sow. Man.* 236. Murex fuscatus, *Linn.*

238. Telescopium, *Chemn.* ; *Montf.* 1810, 439 ; *Schum.* 1817, 233. Terebralia, sp. *Swains.* 1840, 315. Cerithium, sp. *Brug.* Trochus Telescopium.

239. Glottella. Melania armigera, *Say.*

240. Pyrazus, *Montf.* 1810, 459. Terebralia, sp. *Swains.* 1840, 315. Cerithium *a, Schum.* 1817, 224. C. (potamide), *Blainv.* 1825. Potamides, *Cuvier,* 1817. Strombus palustre.

Triphorina.

241. Triphoris, *Desh.* "1824," 1830. Triphore, *Desh.* Triphorus, *Swains.* 1840, 342. Triphora, *G. Sow.* Triph. plicatus, *Desh.*
Tristoma, *Blainv.* (not *Desh.* ; see *E. M.* 1053) ; not *Cuvier.* Triphoris, sp. *Desh.* Cerith. tristoma, *Blainv.*
Bittium, sp. *Leach,* 1819. Mastonia, sp. *Loven.* Terebra, sp. *Flem.* Cerithium, sp. *Lam.* Mur. adversum, *Montag.*
Mastonia, *Hinds,* 1842. Tri. vulpinus.
Sychar, *Hinds,* 1844. Triph. vitreus.
Ino, *Hinds,* 1844. Triph. gigas.

242. Terebellum, *Browne*, 1756, not *Lam.* Haustator, *Montf.* 1810, 182. Turbo imbricatus.
Turritella, *Lam.* 1801; *Montf.* 1810, 211. Monocerotes, sp. *Gevers*, 1787. Terebra, sp. *Humph.* Turbo Terebra, *Linn.*
Turritella β, *Schum.* 1817. Tur. striata, *Schum.*

243. Torcula. Haustator, *Gray*, 1840; 1844, 60; not *Montf.* Turritella, sp. (biangulata), *Lam.* Turbo exoletus, *Linn.*

244. Zaria, *Gray*, 1840; 1844, 60. Turritella *a*, *Schum.* 1817, 199. Turbo duplicatus.

245. Mesalia, *Gray*, 1840; 1844, 60. Cerithium Mesal, *Adans.* 1757. Turritella Mesal, *Desh.*
Turritella, sp. *Lam.* Tur. sulcata, *Lam.*

246. Proto, *Defrance*, 183 ? Turritella, sp. *Basterot*, 1825. Proto cathedralis.

247. Eglisia, *Gray*, 1840; 1844, 60. Turritella, sp. *Sow.* Turbo suturalis, *Gray*.

SCALARINA.

248. Scalaria, *Lam.* 1801. Scalarus, *Montf.* 1810, 295. Acione, *Leach*, 1815. Acionæa, *Desh.* Aciona, *Bowd.* Scala, sp. *Humph.* 1797. Trocus, sp. *Browne*, 1756. Turbo scalaris.
Clathrus, *Oken*, 1815. Cyclostoma, *Schum.* 1817, 196; not *Lam.* Turbo clathrus.
Clathrus, *Gray*, 1840. Scal. australis.
Cyclostrema, *Leach*?; *Maryatt*, *Linn. Trans.* Cycl. cancellata.
Lippistes, *Montf.* 1810, 127 (copied from *Fichtel*, t. 1), perhaps the young of the former. Argonauta cornu, *Ficht.*

249. ? Anatola, *Audouin*, 1827. Pteropode?? from *Savigny*, *Egypt. Moll.* t. 5. f. 1.

? LITIOPINA.

250. Litiopa, *Rang*, 1829. Bombyxinus, *Lesson*, 1834. Litiopa bombix, *Kiener*.

Fam. VIVIPARIDÆ.

251. Viviparus. Vivipare, *Cuvier*, 1808; *Lamk.* 1809. Viviparus, *Montf.* 1810. Paludine, *Lam.* 1812. Paludina, *Lamk.* 1822. Neritina, sp. *Müller*. Cyclostoma, sp. *Drap.* Bulimus, sp. *Brug.* Lymnea, sp. *Flem.* Helix vivipara.
Paludina, sp. *Menke*. Helix fluviatilis.

252. ? Paludomus, *Swains.* 1840, 340. Melania, sp. *Gray*. Melania conica.
? Hemimitra, *Swains.* 1840. Hem. retusa, *Swains.*

253. Bithinia, *Prideaux MSS.*; *Gray*, 1824; *Risso*, 1826; *Benson*. Nerita, sp. *Müller*. Cyclostoma, sp. *Drap.* Paludina, sp. *Lam.* 1822. Lymnea, sp. *Flem.* Bulimus, sp. *Poiret*. Helix tentaculata.

Fam. VALVATIDÆ.

254. Valvata, *Müller*, 1774; *Lam.* 1822. Valvée, *Lam.* 1812. Gyrorbis, *Fitz.* 1838. Valvata cristata.
Cyclostoma, sp. *Drap.* Nerita, sp. *Müller.* Valvata, sp. *Lam.* Helix piscinalis.

Fam. VELUTINIDÆ.

255. Velutina, *Flem.* 1822; *Blainv.* 1825. Galericulum, *Brown*, 1827, 1844. Helix, sp. *Fab.* Bulla, sp. *Müller.* Helix lævigata.
Velutella. Bulla, sp. *Laskey.* Sigaretus?, sp. *Flem.* Velutina, sp. *Lovèn.* Bulla flexilis.
Otina. Velutina, sp. *Flem.* Helix Otis.
Oxinoë?, *Couthouy*, 1839, not *Rafin.* O. glabra, *Couth.*

Fam. VANICOROIDÆ.

256. Vanicoro, *Quoy & Gaim.* 18 ? Velutina, sp. *Quoy & Gaim.* 18 ? Merria, *Gray*, 1839; 1841, 124. Narica, *Reclus*, 1844; *D'Orb.* 1836 (name only). Leucotis, *Swains.* 1840. Leucotus, *G. B. Sow.* Sigaretus, sp. *Lam.* 1822. Nerita, sp. *Chemn.* Nioma, *Gray*, 1840, 124. Neritopsis, sp. *Sow. Gen.* Nerita cancellata, *Chem.*

Reclus' claims to this genus are not borne out by the examination of D'Orbigny, who in 1841 (Cuba, ii. 39) states, M. Reclus "has the intention" to form a genus; M. Quoy has the undoubted priority.

Fam. VERMETIDÆ.

257. Vermetus (Vermet), *Adans.* 1757, *Lam.* 1812. Vermicularia, *Lam.* 1801. Serpula, *Scopoli*, 1777; not *Linn.* ? Siphonium, sp. *Browne*, 1756. Vermicularius, *Montf.* 1810. Serpula lumbricalis.
Vermetus, *Gray*, 1844, 62. Serpula, sp. *Sow.* Serpula maxima, *Sow.*

258. Bivonia, *Gray*, 1840; 1844, 62, 90 (Bivinæ, *error*). Vermicularia β, *Schum.* 1817? Vermet. glomeratus, *Bivon.*

259. Serpulorbis, *Sassi*, 1827. Serpula, sp. *Lam.* Vermetus, sp. *Bivon & Philippi.* Serpula arenaria.
Hatina, *Gray*, 1844, 62. Verm. inoperculatus.

260. Lemintina or Lementina, *Risso*, 1826. Lem. Cuvieri.

261. Siliquaria, *Lam.* 1801. Siliquarius, *Montf.* 1810. Anguinaria, *Schum.* 1817. Serpula anguina.
Anguinaria β, *Schum.* 1817. Ang. sulcata.

262. Spiroglyphus, *Daud.* 1800; *Gray*, 1839. Vermetus, sp. *D'Orb.* Spirog. ——?

Fam. CAPULIDÆ.

263. Capulus, *Montf.* 1810, *Sow.* Le Cabochon, *Lam.* 1812. Pileopsis *a*, *Lam.* 1822, *D'Orb.*, *Swains.* 357. Ancilla, sp. *Gevers*, 1787. Amalthea *β*, *Schum.* 1817, 183. Patella ungarica.
Spiricella, *Rang*, 1829. Spir. unguiculus, *Rang*.

264. Hipponix (Hipponice), *Defrance*, 1819, *Desh.* Patella, sp. *Lam.* Pileopsis *b*, *Lam.* 1822. Pat. cornucopia.
Hipponix, sp. *Defrance*. Pileopsis *a*, sp. *Lam.* 1822. Patella, sp. *Gmel.* Pat. mitrula.

265. Amalthea *a*, *Schum.* 1817, t. 21. f. 4. Sabia, *Gray*, 1833; 1844, 63. Hipponix, sp. *Quoy & Gaim.*, *Desh.* Patella, sp. *Lam.* Amalthea conica.

266. Brocchia, *Bronn*, *Philippi*, *Gray*. Pileopsis, sp. *Kœnig*. Patella, sp. *Brocchi*. Patella sinuosa.

267. Amathina, *Gray*, *Syn.* 1840; 1844, 63. Pileopsis, sp. *Desh.* 1830. Patella tricarinata.

Fam. CALYPTRADÆ.

268. Crypta, *Humph.* 1797. Crepidula, *Lam.* 1801. Crepidulus, *Montf.* 1810. Sandalium, *Schum.* 1817, 183. Ancilla, sp. *Gevers*, 1787. Lepas, sp. (garnot and sulin), *Adans*. Patella fornicata.
Crepidula, *Lesson*, 1830. Crep. navicella.
Crepipatella, *Lesson*, 1830. Calyp. Adolphei.
Crepipatella, *Brod.* 1834. Calyp. foliacea.

269. Galerus, *Humph.* 1797. Trochita *α*, *Schum.* 1817, 184. Ancilla, sp. *Gevers*, 1778. Mitrula, *Gray*, 1821. Calyptræa, sp. *Lam.* 1822. Trochilea, *Swains.* 1837. Trochilla, sp. *Swains.* 1840, 355. Patella chinensis.
? Sigapatella, *Lesson*, 1830. Calyp. Novæ Zelandiæ.
Bicatillus, *Swains.* 1840, 35. Calyp. extinctorium, *Sow.*; not *Lam.*

270. Crucibulum, *Schum.* 1817. Dispotea, *Say*, 18 ? Calypeopsis, *D'Orb.* 184 ? Calyptra, sp. *Humph.* 1779. Calyptrea, sp. *Lam.*, *Sow.*, *Menke*. Biconia, *Swains.* 1840, 355. Bicatillus, sp. *Swains.* 354. Patella auriculata.
Calypeopsis, *Lesson*, 1830. Calyp. tubifera.
Calypeopsis, *Brod.* 1824. Calyp. spinosa.
Calyptræa *α*, *Brod.* 1834. Calyp. rudis.

271. Calyptra, sp. *Humph.* 1797. Calyptræa, *Lam.* 1801, *D'Orb.*, *Swains.* Calyptrus, *Montf.* 1810. Calyptria, *Lesson*, 1830. Mitrularia, *Schum.* 1817. Cemoria, *Risso*, 1826; not *Leach*, 1819, nor *Swains.* Litholepas, *Owen*, *P. Z. S.* Ancilla, sp. *Gevers*, 1787. Pat. equestris.
Calyptra, sp. *Humph.* P. tectum chinensis.
Calyptræa *β*, *Brod.* 1834. Calyp. corrugata.

272. Trochita, *Schum.* 1817, 184. Infundibulum, *D'Orb.* 1846; not *Montf.* 1810. Trochus, sp. *Lam.* 1822. Trochatella, *Lesson,* 1830. Calyptrea, sp. *Sow. Gen.* Lepas concamerata, *Martini.* Patella Trochoides.
Infundibulum, *J. Sow.*; not *Montf.* Calyptrea, sp. *Desh.* Trochus apertus.
Trochilla, sp. *Swains.* 1840, 354. Trochus pileus.
Haliotoidea, *Swains.* 1840, 354. Calyptrea, sp. *Sow.* Calyp. dilatata, *Sow.*
Trochatella, *Lesson,* 1830. Calyp. araucaria.
Syphopatella, *Lesson,* 1830. ———?
Syphopatella, *Brod.* 1834. Calyp. sordida.

Fam. PHORIDÆ.

273. Phorus, *Montf.* 1810, *D'Orb.* Xenophora, *Fischer,* 18 ? Onustus, sp. *Humph.* 1797, 28. Xenophoris, *Philippi,* 1844. Trochus, sp. *Linn., Lam.* Trochus *b, Blainv.* 1825. Trochus conchyliophorus.

274. Onustus, sp. *Humph.* 1797; *Gray,* 1840; *Swains.* 1840, 353. Trochus, sp. *Lam.* Trochus indicus.
Onustus, sp. *Swains.* Trochus solaris.

Fam. TECTURIDÆ.

275. Tectura. Tecture, *Aud. & Edw. Ann. Sci. Nat.* 1830. Lottia, sp. *Forbes.* Patelloidea, sp. *Cantraine,* 1835. Patella parva.
Lottia, *Gray,* 1833; *Sow.* Acmæa, *Eschsch.* 1833; not Acme, nor Acmea, *Hartm.* Helcion, *D'Orb.* 1846; not *Montf.* Acme Scutum, *Eschsch.*
Patelloida, *Quoy & Gaim.* 1834; *Desh.* 1836. Pat. rugosa, *Quoy.*
Patella **, *Lovèn.* Lottia, sp. *Forbes.* Pat. testudinalis, *Müller.*
Patelloidea, *Cantraine,* 1835. Ancylus, sp. *Costa.* Ancy. Gussonii, *Costa.*

276. ? Scurria. Acmea, sp. *Eschsch.* 1833. Helcion, sp. *D'Orb.* 1846. Patella, sp. *Lesson,* 1830. Patella Scurra, *Lesson.*

Cantraine refers *Patella pectinata* (Helcion, *Mont.*) to the genus *Patelloidea,* and D'Orbigny has more lately considered *Helcion* as synonymous with *Acmea*; but the animal of *Patella pectinata* which I examined in Paris in 1820 had gills on the lower edge of its mantle, and is a true *Patellida. Scurria* appears by D'Orbigny's description to have the same; do some *Patella*-like animals have gills in both situations?

Fam. DENTALIADÆ.

277. Dentalium, *Linn.*; *Lam.* 1801; *Montf.* 1810. D. elephantinum.

278. Entalis, *Gray, Syn.* 1844, 58; not *Defrance.* Dentalium *e, Desh.* 1825.

279. The Entalis (duplicatus), *Defrance & Blainville,* and the Dentalium labiatum, *Turton,* are described from specimens with the tip broken, and with the internal part reproduced.

280. Gadila. Dentalium, sp. *Mont.* Dentalium §§, *Desh.* Cresis, *Rang.* Gadus, "*Montag.*"; *Rang*; not *Linn.* Dent. Gadus, *Montag.*

281. ? Artolon, *Montf.* 1810. Art. dactylus, *Montf.*

Dentalium strangulatum, D. subulatum, *Desh.*, belongs to Ditrupe, *Berkeley,* and is an *Annelide.*

Sect. III. INIOPHTHALMA.

Fam. TRUNCATELLIDÆ.

282. Truncatella, *Risso,* 1813, 1826; *Cantraine,* 1835. Choristoma, *Christ. & Jans.* 1832. Cyclostoma, sp. *Drap.*; *Flem.* Rissoa, sp. *Desm.*, *Menke.* Paludina, sp. *Payr.* Turbo, sp. *Montag.* Turritella, sp. *Flem.* Fidelis, *Risso.* Turbo truncatus and subtruncatus, *Montag.* (young shell).

Fam. PYRAMIDELLIDÆ.

283. Obeliscus, *Humph.* 1797. Pyramidella, *Lam.* 1801. Pyramidellus, *Montf.* 1810. Bulimus, sp. *Brug.* Helix, sp. *Müller.* Auricula, sp. *Lam.* 1809. Trochus dolabratus.

284. Pyramidella, sp. *Lam.* 1822. Voluta auris-cati, *Chemn.*

285. Monotygma, *Gray, in Sow. Man.* 183; not *Lea.* Monot. striata, *Gray, Sow.* f. 371.

Auricula, sp. *Lam.* Auricula acicula.

I do not know Monoptigma melanoides, *Lea,* 185, from Calcutta.

286. Odostomia, sp. *Flem.* 1824. Turbonilla *β a, Lovèn.* Jaminea, sp. *Brown,* 1827, 1844; not *Risso,* 1826. Pyramidella, *Risso,* 1826; not *Lam.* Ovatella, sp. *Bivon,* 1832. Auricula, sp. *Lam.*, *Philippi.* Sabanea, sp. *Leach,* 1819. Rissoa, sp. *Scacchi.* Voluta, sp. *Dillw.* Turbo plicatus, *Montag.*

Acteon, sp. *J. Lea.* Turbonilla, sp. *Risso,* 1826. Turbo gracilis, *Brocchi.*

Parthenia, *Lowe,* 1840. Odostomia, sp. *Flem.* Chemnitzia, sp. *Philippi.* Turbonella *β b, Lovèn.* Pyramis, sp. *Brown.* Turbo spiralis, *Montag.*

Jaminea, sp. *Brown,* 1827. Turbo interstinctus, *Montag.*

Turbonilla, sp. *Risso,* 1826, f. 63; *Lovèn,* 1846. Parthenia, sp. *Lowe.* Tornatella, sp. *Michaud, Philippi.* Chemnitzia, sp. *Philippi.* Turbonilla Humboldtii.

? Acteon, sp. *Lea,* 1833; not *Montf.* 1810. Acteon elevatus, *Lea.*

Auriculina. Turbonilla *a* **, *Lovèn.* Odostomia obliqua, *Alder.*

Rissoella. Rissoa, sp. *Brown.* Rissoa? glaber, *Alder.*

Jaminea, sp. *Adams.* Jaminea seminuda, *Adams.*

Jaminea, sp. *Couthouy.* Jam. exigua, *Couth.*

287. Amoura, *Moller*, 1842. Amoura candida.

288. Turbonilla, sp. *Risso*, 1826; not *Leach MSS.* Turbonilla *a*, *Lovèn*, 1846. Parthenia (sp.), *Lowe*, 1840. Pyrgiscus, *Philippi*, 1841. Orthostelis, *Arad. & May*, 1841. Ebala, *Leach MSS.* 1819. Turritella (sp.), *Leach*, 1819; *Flem.* 1828; *Risso*, 1826; *Totten*. Chemnitzia, sp. *Philippi*, 1844. Melania, sp. *Philippi*. Rissoa, sp. *Scacchi*. Pyramis, sp. *T. Brown*. Turbo elegantissimus.

Chemnitzia, sp. *D'Orb.* 1836?, 1841. Chemn. Turris, *D'Orb.*

Ebala. Turritella, sp. *Leach*, 1819; *Flem.* 1828. Turbo nitidissimus.

Pyramis, *Couthouy*. Pyr. striatulus, *Couth.*

Jaminea, sp. *Adams*; not *Risso*. Turbonilla, sp. *Lovèn*. Jaminea producta.

Eulimella, *Forbes*, 1846. Eulima, sp. *Philippi*, 1844. Melania, sp. *Scacchi*. Turbonilla, sp. *Lovèn*. Melania Scillæ.

Menetho, *Moller*, 1842. Turbo albula, *Fab.*

Note.—Risso's genus *Turbonilla* consists of four species, two of this and two of the former genus; but his character best agrees with his first two species. He notices the peculiarity of the nucleus; it is exactly synonymous with Parthenia, *Lowe*, Chemnitzia, *Philippi*, and Turbonilla, *Lovèn*. D'Orbigny, Voy. 1841, did not know the animal of *Chemnitzia*.

289. Balcis, sp. *Leach MSS.* 1819. Melania, sp. *Payr.* Eulima, sp. *Risso*, 1826; *Philippi*. Phasianella, sp. *Flem.* Helix, sp. *Brocchi*. Turbo, sp. *Renieri & Donovan*. Helix subulata.

290. Eulima, *Risso*, 1826; *Cantraine*. Balcis, sp. *Leach*, 1819. Parithea, *J. Lea*, 1833. Melania, sp. *Lam.*, *Blainv.* Melania *, *Philippi*. Phasianella, sp. *Flem.* Helix, sp. *Montag.*, *Brocchi*. ? Polyphemopsis, *Portlock*. Helix polita.

291. Niso, *Risso*, 1826; *Philippi* (Nisso, *error*). Bonellia, *Desh.* 1838; not *Rolando* nor *Cuvier*. Janella, *Gratel.* 1830. Bulimus, sp. *Lam.* Helix, sp. *Brocchi*. Turbo terebellum.

Pasithea, sp. *J. Lea*, 1833. Pasithea claibornensis, *Lea*.

Fam. ACTEONIDÆ.

292. Acteon, *Montf.* 1810. Tornatelle, *Lam.* 1812. Tornatella, *Lam.* 1822. Speo, *Risso*, 1826. Auris-mustela, *Humph.* 1797. Myosota, *Humph. MSS.* Pedipes, *A. Blainv.* Bulimus, sp. *Brug.* Turbo, sp. *Da Costa*. Voluta tornatilis.

293. Dactylus, *Schum.* 1817. Solidula, *Fischer*. Tornatella, sp. *Lam.* 1822. Auricula, sp. *Martini*. Bulimus, sp. *Brug.* Helix, sp. *Gmelin*. Voluta, sp. *Dillw.* Bulla solidula.

294. ? Acteocina. Acteon, sp. *J. Lea*, 1833. Acteon Wetherellii, *Lea*.

295. Ciuulia, *Gray*, 1840; 1844, 62. Avellana, *D'Orb.* 1846. Avellana globulosa, *D'Orb.*

296. Ringinella, *D'Orb.* 1846. Ring. lacryma, *D'Orb.*
Globioconcha, *D'Orb.* 1826. Glob. rotundata, *D'Orb.*

297. Acteonella, *D'Orb.* 1846? Act. Renauxiana, *D'Orb.*
Acteonella, sp. *D'Orb.* Act. lævis, *D'Orb.*

Order III. PLEUROBRANCHIATA.

Fam. I. BULLIDÆ.

Doridiina.

298. Doridium, *Meckel*, 1809; *Chiaje*; *Swains.* 1840. Acera, *Cuv.* 1817; *Lam.* 1822. Bulla carnosa, *Cuv.*? Doridium membranaceum.
Eidothea, *Risso.* Doridium, sp. *Chiaje, Meckel.* Acera, sp. *Lam.* Dor. coriaceum.

299. Phyline, *Ascanius*, 1772. "Phylina," *Lam.* Lobaria, *Müller*, 1776; *Gmel.*; *Blainv.* Bullæa, *Lam.* 1801, 1822; *Swains.* 1840. Amydala, *Planc.* Bulla aperta.

300. Cryptophthalmus, *Ehrenb.* 1831. Bulla smaragdina, *Leuck.* Bulla, sp. *Sow.* Bulla viridis, *Sow.*

301. Scaphander, *Montf.* 1810; *Leach*, 1819. Assula, *Schum.* 1817. Charta, *Murlini.* Bullæa, *Roissy.* Bulla lignarius.
[Gioenia, *Gioeni, Brug.*; Tricla, *Retzius*; Char, *Bruguière*; is the gizzard of this species.

302. Alicula, *Ehr.* 1831. Alicula cylindrica.
Roxania, *Leach MSS.* 1819. Bulla Cranchii.

Bullina.

303. Akera, *Müller*, 1776, not *Cuvier.* Eucampe, *Leach MSS.* 1819. Vitrella, *Swains.* 1840, 360. Bulla, sp. *Gmel., Lam.* &c. Akera bullata.

304. Bullina, *Risso*, 1826; not *Férussac.* Cylindrella, *Swains.* 1840. Cylichna, *Lovèn*, 1846. Volvaria, *Brown*, 1827 and 1844; not *Lam.* Tornatella, sp. *Kiener.* Bulla cylindrica, *Montag.*

305. Rhizorus, *Montf.* 1810. Rhiz. adelaides, *Montf.*
Utriculus, sp. 1827. Utriculus *β*, *Brown*, 1844. Amphisphyra, *Lovèn*, 1846. Bulla pellucida, *Johnst.*
Diaphana, *Brown*, 1837. Diaph. candida, *Brown.*

306. ? Utriculus *a*, *Brown*, 1844. Retusa, sp. *Brown*, 1817. Bulla obtusa, *Montag.*

307. Bulla, *Lam.* 1801; *Schum.* 1817. Bullus, *Montf.* 1810. Vesica, *Swains.* 1840. ? Cymbium (gosson), *Adans.* 1757. Bulla ampulla.
Haminea, *Leach MSS.* 1819. Bulla hydatis.

308. Atys, *Montf.* 1810. Naucum, *Schum.* 1817. Vesica, sp. *Swains.* 1840. Bulla naucum.

AMPLUSTRINA.

309. Amplustrum, *Schum.* 1817, 209. Amplustra, *Swains.* 1840, 360. Bullina, sp. *Férussac,* 1822; not *Risso.* Bulla amplustre.

310. Hydatina, *Schum.* 1817. Bullina, sp. *Féruss.* 1822; not *Risso.* Bulla Physis.

311. Bullinula, *Beck*; *Swains.* 1840, 360. Bullæa, sp. *Quoy & Gaim.* Bullina, sp. *Féruss.* 1822, Bulla, sp. *Brug.*, *Dillw.* Bulla undata, *Brug.*
Bullina, sp. *Féruss.* Bulla scabra, *Chemn.*

312. ? Sormetus, *Féruss.* 1822, *Blainv.* 1825. Bulla, sp. *Cuv.* Cymbium (Sormet), *Adans.* 1757, not *Brod.* Sorm. Adansonii, *F.*

313. Gasteropteron, *Meckel,* 1813; *Swains.* 1840, 361. Gasteroptera, *Blainv.* 1825. Opiptera, *Rafin.* ? Sarcoptera, *Rafin.* Parthenopia, *Oken,* 1815 (not Parthenope, *Scacchi*). Clio, *Chiaje,* not *Pallas.* Gasteroptera Meckelii, *Blainv.*

314. ? Atlas, *Lesueur,* 1810. Atlas Peronii.

Fam. II. APLYSIADÆ.

315. Dolabella, *Lam.* 1801; *Cuv.* 1817. Doris, sp. *Gmelin.* Aplysia *a*, *Rang.* Operculum callosum, *Rumph.* Dolabella callosa, *Lam.* Doris verrucosa.

316. Dolabrifera. Dolabella, sp. *Cuvier,* 1817; *Féruss.* Aplysia *b*, *Rang.* Dolabella dolabrifera.
? Thallepus, *Swains.* 1840, 357. Th. ornatus, *Sw.*
Petalifera. Aplysia petalifera.

317. Aplysia, *Gmelin,* 1790; *Cuv.* 1817; *Lam.* 1822. Aplysia C *b*, *Rang.* Laplysia, *Linn.* ed. 12; *Lam.* 1801; *Bosc.* Lernea, *Linn.* ed. 5, 6; *Bohadsch.* Tethys or Tethis, *Linn.* ed. 10. Lepus marinus, *Rondel.* Esmia, *Leach MSS.* 1819 (young). Dolabella, sp. *Lam.* 1822, shell. Aplysia depilans.
Dolabella, *Risso,* 1826; not *Lam.* 1801. Aplysia, *Swains.* 1840, 359. Aplysia C *a*, *Rang.* Aplys. fasciatus.

318. Notarchus, *Cuv.* 1817; *Schum.* 1817; *Blainv.* Aclesie, *Rang.* N. Cuvieri, *Blainv.*
Bursiris, *Risso,* 1826. Notarchus, sp. *Philippi,* 1846. Burs. griseus.
Notarchus ocellatus, *Rang.*

319. Bursatella, *Blainv.*; *Audouin*; *Swains.* 1840, 359. Notarchus, *Swains.* 1840, 359; not *Cuv.* Notarchus, sp. *Rang.* B. Savigniana, *Rang.* B. Leachii, *Blainv.*
Aclesie, sp. *Rang.* Aclesie Pleii.

ICARINA.

320. ? Icarus, *Forbes*, 1843. Icarus Gravesii.

LEPHOCERCINA.

321. Lephocercus, *Krohn*, 1847. Lepho. Sieboldii.

322. Lobiger, *Krohn*, 1847. Lobiger Philippi.

Fam. III. PLEUROBRANCHIDÆ.

UMBRELLINA.

323. Umbella, *Chemn.* 1780. Acardo, *Lam.* 1801; *Megerle*, 1811. L'ombrelle, *Lam.* 1812; *Férussac.* Umbrella, *Lam.* 1822. Umbraculum, *Schum.* 1817. Gastroplax, *Blainv.* Ombrella, *Blainv.* Patella, sp. *Humph.*, *Linn.* Patella umbellata.

N.B. Acardo crustularius, *Lam.* 1801, *E. M.* 173. f. 1, 2, is part of the vertebra of a whale: this bone has also been described as *Alcyonium paniceum*, Lam. Hist. ii. 400. n. 31.

TYLODINANA.

324. Tylodina, *Rafinesq.*; *Blainv.* 1825; *Philippi*, 1836, *Joannis.* Tylod. punctata.

PLEUROBRANCHIANA.

325. Pleurobranchus, *Cuvier.* Pl. Peronii.
Lamellaria *b*, sp. *Montag.* Oscanius, *Leach MSS.* 1819. Pleurobranchus, *Flem.* Bulla membranacea, *Montag.*
Discoides, *Renieri.*

326. Berthella, *Blainv.* 1825. Cleanthus, *Leach MSS.* 1819. Lamellaria *b*, sp. *Montag.* Pleurobranchus, sp. *Flem.* "Laminaria, *Gray*," *Desh.* Bulla plumula.
Pleurobranchus, sp. *Cuv.* Pl. luniceps.

327. Pleurobranchæa, *Leve*, 1813; *Cuv.* 1817. Pleurobranchus, *Oken*, 1815. Cyanogaster, *Rudolphi.* Pleurobranchæna, *Swains.* 1830, 361. Pleurobranchidium, *Blainv.* 1825; *Verany.* Pleur. Meckelii.

328. Posteobranchus, *D'Orb.* 1837. Posteriobranchus, *Gray.* Post. maculatus.

329. ? Westernia, *Quoy & Gaim.*; *Rang*, 1829.

330. ? Gervisia, *Quoy & Gaim.*; *Rang*, 1829.

Fam. IV. PTEROTRACHEIDÆ.

331. Anops, *D'Orb.* 1835. Anops Peronii.

332. Pterotrachea, *Forsk.* 1775; *Brug.*, *Cuvier.* Pterot. coronata.
Firola, *Peron & Lesueur*, 1810; *Rang*, *D'Orb.* Fir. Quoyiana.
? Hyptere, *Rafinesque.*
Firoloide, *Lesueur.* Fir. Desmarestiana.

333. Cerophora, *D'Orb.* 1835. Cerop. Lesueurii.

334. Cardiapoda, *D'Orb.* 1835. Card. pedunculata.

335. Carinaria, *Lam.* 1801; *D'Orb.* Carinarius, *Montf.* 1810. Pterotrachea, sp. *Cuv.* Car. vitrea.

336. Argonauta, *Linn.*, *Lam.* 1801. Arg. sulcata.

337. Bellerophon, *Montf.* 1810.

338. Bellerophorina, *D'Orb.*; not *Forbes.*

Fam. V. SAGITADÆ.

339. Sagita, *Quoy & Gaim.* 1829?
Sagita triptera, *D'Orb.*
Sagita diptera, *D'Orb.*
Sagita exaptera, *D'Orb.*

340. Sagitella, *Lesueur.* Pterotrachæa *c*, *Blainv.* 1825. Sagit. æquipinnis.

Order IV. GYMNOBRANCHIATA.

Fam. I. DORIDÆ.

Doridina.

341. Glossodoris, *Ehrenb.* 1831. Glos. xantholeuca.
Doris-digitata, *D'Orb.* 1838? Dor. verrucosa.

342. Actindoris, *Ehrenb.* 1831. Act. sponsa.

343. Pterodoris, *Ehrenb.* 1831. Pter. picturata.

344. Doris, *Linn.*; *Lam.* 1801. Doris Argo.
Dendoris, *Ehrenb.* 1831. Den. lugubris.

345. Brachychlanis, *Ehrenb.* 1831 (Brachychlamys, *misprint*). Bra. pantherina.
Doris-prismatica, *D'Orb.* 1838. D. atromarginata.
Goniodoris, *Forbes*, 1840. Doris nodosa.
Doris *β*. prismatica, *Cuv.* 1817. Dor. cera.

346. Actinocyclus, *Ehrenb.* 1831. Act. verrucosus.

347. Asteronotus, *Ehrenb.* 1831. Ast. Hemprichii.

348. Hexabranchus, *Ehrenb.* 1831. Hex. prætextus.
Doris, sp. *Cuv.* Dor. laciniata.
Doris * *, *Alder & Hanc.* D. muricata.

349. Onchidoris, *Blainv.* 1816. Onchidiorus, *Férus.* Onchidora, *Cuv.*, *D'Orb.* Onchidiodoris, *Agass.* 1847. O. Leachii.
? Peronia, *Lesson*, not *Blainv.* P. ——?
? Plocamophorus, *Leuck.* P. ——?

350. Villiersia, *D'Orb.* 1837. Vill. scutigera.

351. ? Hypobranchiæa, *Adams*, 1847. H. fusca.

Triopina.

352. Triopa, *Johnst.* 1838; *Alder & Hanc.* 1845. Liopa, *Gray,* 1840 (*misprint*). Themisto, sp. *Oken,* 1815. Tritonia, *Lam.* 1810; not *Cuvier,* 1787. Psiloceros, *Menke.* Cladophora, *Gray,* 1840. Euplocamus, sp. *Philippi, Thompson.* Dor. clavigera.

Policerina.

353. Aegires, *Lovèn,* 1846; *Alder & Hanc.* 1845. Polycera, sp. *D'Orb.* 1837. Pol. punctilucens.

354. Thecacera, *Flem.* 1828; *Alder & Hanc.* 1845. Doris pennigera.

355. Polycera, *Cuv.* 1817; *Risso,* 1826; *Alder & Hanc.* Themisto, sp. *Oken,* 1815. Doris quadrilineata.
Triopa, sp. *Johnst.* Triopa Nothus.

356. Idalia, *Leuck.* 1828. Doris, sp. *Mont.* Okenia, *Brown.* Idalia elegans.
Euplocamus, *Philippi,* 1836. Idalia, sp. *Philippi,* 1844. Euplocamus croceus.
Doris, sp. *Cantraine.* Eup. ramosus.

357. Ancula, *Lovèn,* 1846. Idalia, sp. *Alder & Hanc.* Polycera, sp. *Alder.* Polyc. cristata.

358. Dimorpha, *M. Edw.* 1837; *Gray,* 1840.

359. Plocamoceros, *Leuck., Rüppell.* "Placamoceros," *D'Orb.* Ploc. ocellatus.

360. Peplidea, *Lowe,* 1842. Pepl. Maderæ.

Janina.

361. Janus, *Verany* (1844), 1846. J. spinolæ, t. 1. f. 9.

Fam. II. TRITONIADÆ.

Tritoniana.

362. Tritonia, *Cuv.* 1785, 1817, not *Lamk.* Sphærostoma, *Macgilliv.* T. Hombergii.

363. ? Duvaucelia, *Leach*; *Risso,* 1826. D. gracilis.

Melibæina.

364. Dendronotus, *Alder & Hanc.* 1844. Amphitrite, *Ascan.* Tritonia, sp. *Sars, Thomp.,* &c. Doris, sp. *Müller.* Doris arborescens.

365. Doto, *Oken,* 1815 (Dota, *Gray, error of press*). Tritonia, sp. *Cuvier.* Melibæa, sp. *Johnst.* Tergipes, sp. *D'Orb.* Doris maculata.
Melibæa, sp. *Johnst.* Doris fragilis, *Forbes.*

366. Lomanotus, *Verany*, 1846. Lom. Genei.

367. Melibe, *Rang*, 1829. Melibæa, *Forbes*, 1838. Melibea, sp. *Johnst.* Meliboea, *Herrm.* Malybe, *Gray* (*error of press*), 1840. Melibe ——?

368. Scyllæa, *Linn.* S. pelagica.

369. Nerea, *Lesson*, 1830. Nerea punctata.

370. Tethys or Tethis, *Linn.* Tethis, *Lam.* 1801. Fimbria, *Bohadsch*, 1761; not *Megerle*. Tethys fimbriata.

EOLIDINA.

371. Glaucus, *Forster*, 1800; *Cuv.*; *Lam.* 1812; not *Poli*, 1795. Scyllea, sp. *Bosc.* Doris, sp. *Gmelin.* Doris radiata.

372. Laniogerus, *Blainv.* 1825. Glaucus in a bad state? Lan. Elfortii.

373. Eolidia, *Cuv.* 1797; *Lam.* 1812. Æolis, *Oken*, 1815; *Lovèn*, 1846. Limax, sp. *Linn.* Doris, sp. *Müller.* Eolis, sp. *Alder & Hanc.* Æolidia, *Herrm.* 1846. Doris papillosa.
Æolidia, *Ehrenb.* 1831. Æol. habessinica.
Montagua, *Flem.* 1824. Eubranchus, *Forbes.* Doris, sp. *Mont.* Doris cærulea.
Ethalion, *Risso*, 1826. Eolidia, sp. *Otto.* Eol. hystrix.
? Eolidina, *Quatrefages*, 1843. Eol. ——?

374. Calliopæa, *D'Orb.* 1837; *Verany.* Call. bellula.

375. Cavolina, *Brug.* 1792; *Cuv.* 1817; not *Abild.* Eolis *c*, *Alder.* Eolidia, sp. *Cuv.* Doris peregrina.
Montagua, sp. *Flem.* 1824. Doris longicornis.
Eolidia, sp. *Chamisso.* Eol. annulicornis.

376. Flabellina, *Cuv.* 1830. Flabellines, *Cuv.* 1817. Eolis *b*, *Alder.* Doris affinis.

377. Tergipes, *Cuvier*, 1817; *Lovèn*, 1846. Eolis *d*, *Alder.* Limax, sp. *Forsk.* Doris, sp. *Gmel.* Æolis, sp. *Johnst.* Tegipes, *Ald. & Hanc.* (*error of press*). Doris lacinulata.
Doris, sp. *Mont.* Doris maculata.

378. Hermæa, *Lovèn*, 1846. Doris, sp. *Mont.* Doris bifida.

379. Clœlia, *Lovèn*, 1846. Doris, sp. *Vahl.* Doris fimbriata.
Tritonia, sp. *Forsk.* Trit. velata.

380. Alderia, *Allman*, 1844; *Alder & Hanc.* 1844; *Lovèn.* Stilifer, *Lovèn*; not *Ehrenb.* Stilifer modesta.

381. Pterochilus, *Alder & Hanc.* 1844. Pteroc. pulcher.

382. Proctonotus, *Alder & Hanc.* 1844. Proct. mucroniferus.

383. Stilifer, *Ehrenb.* 1831, not *Flem.* Stiliger, *Gray*, 1840 (*error*). Stilifer ornatus.

384. Phyllodesmium, *Ehrenb.* 1831. Phyl. hyalinum.

385. ? Eumenis, *Alder & Hanc.* 1845. Eum. marmorata.

386. ? Dermatobranchus, *Hasselt,* 1824 ; *Blainv.* 1825. D. striatus.

Fam. III. PLACOBRANCHIDÆ.

387. Placobranchus, *Hasselt,* 1824 ; *Blainv.* 1825 ; *Rang.* Plac. ocellatus.

388. Elysia, *Risso,* 1812, 1826 ; *Blainv.* 1825 ; *Philippi,* 1844. E. timida, *Risso.*
Acteon, *Oken,* 1815. Actæon, *Rang* ; not *Montf.* 1810. Aplysiopterus, *Chiaje.* Rhycobranchus, *Cantraine MSS.* 1827. Placobranchus, sp. *Lovèn.* Planaria, sp. *Flem.* Aplysia, sp. *Montag.* Aplysia C, *Blainv.* Elysia, sp. *Philippi, Verany.* Aplysia viridis, *Montag.*

389. ? Fucola, *Quoy & Gaim.* 1832. Fucicola, *Menke,* 184 ? ; *Herrm.* Fucola ——?

Fam. IV. LIMAPONTIADÆ.

390. Limapontia, *Johnst.* 182 ? ; *Alder & Hanc.* 1846. Pelta, sp. *Quatrefages,* 1844. Planaria, sp. *Müller.* Lim. nigra.
Pelta, *Quatrefages,* 1844 ; not *Beck,* 1837. P. coronata.

391. ? Chalidis, *Quatrefages,* 1844. Ch. cærulea.
Chalidis, *Ald. & Hanc.* Ch. nigricans.

392. Ictis, *Alder & Hanc.* 1847. Ictis Cocksii.

393. ? Acteonia, *Quatrefages,* 1844. Act. senestra.
Acteonia, *Alder & Hanc.* 1847. A. corrugata.

394. Zephrina, *Quatrefages,* 1844. Z. pilosa.
Venilia, *Alder & Hanc.* 1847. V. ——?
Proctonotus, *Alder & Hanc.* 1847. P. splendidulus.

395. Amphorina, *Quatrefages,* 1844. Am. Aberti.

Fam. V. PHYLLIRRHOIDÆ.

396. Phyllirrhoë, *Peron* ; *Esch.* (*Isis*) 1825 ; *Philippi.* Phylliroé, *Cuvier,* 1817 ; *Risso, Blainville.* Ph. bucephala.
Eurydice, *Esch.* (*Isis*) 1825. E. Lichtensteinii.

397. ? Appendicularia, *Esch.* (*Isis*) 1825. A. ——?

Tomopterus, *Esch.* (*Isis*) 1825 ; Tomopteris, *Menke,* 1844 ; Briaræa, *Quoy & Gaim.,* 1829 ; Briarea, *Herrm.* 1846 ; Briareus, *Goodsir,* 1845, is a crustaceous animal (*Ann. & Mag. N. H.* 1845).

Fam. VI. PHYLLIDIADÆ.

398. Phyllidia, *Cuvier*; *Lam.* 1801; *Blainv.* 1825. Ph. varicosa.
Phyllidea, *Swains.* 1840. Ph. pustulosa.

399. Diphyllidia, *Cuvier*, 1817; *D'Orb.* Linguella, *Blainv.* Diph. Brugmansii.
Pleurophyllidia, *Meckel.* Diph. lineata.

400. ? Buchanania, *Lesson*, 1830. Buch. onchidioides.

401. ? Arminia, *Rafin.*; *Blainv.* 1825.

Fam. VII. PATELLIDÆ.

402. Patella, *Linn.*; *Lam.* 1801. P. testudinaria.
Patellus, *Montf.* 1810. P. roseus.
Patella β, *Schum.* 1817. P. granularis.
Patella γ, *Schum.* 1817. P. barbara.
Patella, *Swains.* 1840. P. miniata.
Lepas, sp. *Adanson.* P. libot.
Lottia, sp. *Gray*, fide *D'Orb.* Pat. zebrina.
? Goniclis, *Rafinesque.* ———?

403. Nacella, *Schum.* 1817. N. mytiloides.
Patina, *Leach MSS.* 1819. Patella α, *Lovèn.* P. cærulea.

404. Helcion, *Montf.* 1810, not *D'Orb.* 1846. Patelloidea, sp. *Cantraine.* P. pectinatus.

405. Scutellina. Scutella, sp. *Brod.* 1834, not *Lam.* Scut. crenulata.

406. Lepeta, *Gray*, 1844. Patella γ, *Lovèn.* P. cæca.

Fam. VIII. CHITONIDÆ.

407. Lophurus and Lophuriderma, *Poli*, 1795. Lepidopleurus, sp. *Leach MSS.*; *Risso*, 1826. Chiton * & * *, *Gray*, 1847. Chiton, sp. *Lam.* 1822. Chiton A, sp. *Blainv.* Ch. siculus.
Chiton, *Guild.* 1835. Ch. squamosus.

408. Radsia, *Gray*, *Proc. Zool. Soc.* 1847. Chiton *, sp. *Gray*, 1847. Ch. Barnesii.

409. Callochiton, *Gray*, 1847. Chiton, sp. *Montag.* Ch. lævis.

410. Ischnochiton, *Gray*, 1847. Chiton textile.

411. Leptochiton, *Gray*, 1847. Ch. cinereus.
Lepidopleurus, sp. *Risso*, 1826. Ch. Cajetanus.

412. Tonicia, *Gray*, 1847. Chit. elegans.
Tonicia * *, *Gray*, 1847. Ch. disjunctus.

413. Acanthopleura, *Guild.* 1835; *Gray*, 1847. Canthapleura, *Swains.* 1840. Ch. spinosa.

414. Chiton, *Linn.*; *Lam.* 1801; not *Guild.* Acanthopleura, sp. *Gray*, 1847. Ch. gigas.

415. Schizochiton, *Gray*, 1847. Ch. incisus.

416. Corephium, *Browne?*, 1756; *Gray*, 1847. Ch. echinatus.

417. Plaxiphora, *Gray*, 1847. Ch. Carmichaelis.

418. Onythochiton, *Gray*, 1847. Ch. undulatus.

419. Enoplochiton, *Gray*, 1847. Ch. niger.

420. Mopalia, *Gray*, 1847. Ch. Hindsii.

421. Katharina, *Gray*, 1847. Ch. tunicatus.

422. Cryptochiton, *Gray*, 1847. Ch. amiculatus.

423. Cryptoconchus, "*Blainv.*," *Swains.* 1840. Ch. porosus.

424. Amicula, *Gray*, 1842. Ch. vestitus.

425. Acanthochetes, *Leach*, 1819; *Gray*, 1842, 1847. Acanthochites, "*Leach*," *Risso*, 1826. Phakellopleura, *Guild.* 1835; *Swains.* 1840. Acanthochiton, *Herrm.* 1846. Ch. fascicularis.
Chitonellus, sp. *Guild.* 1835. Ch. latus.

426. Chitonellus, *Lam.* 1822; *Gray*, 1847. Chitonella, *Desh.* Cryptoconchus, "*Blainv.*," *Burrows.* Cryptoplax, *Burrows.* Chitoniscus, *Herrm.* 1846. Ch. lævis.

427. Gryphochiton, *Gray*, 1847. Ch. nervicanus.

428. ? Metopoma, *Phillips*, 1844. M. imbricata.

Order V. PULMOBRANCHIATA.

Fam. I. ARIONIDÆ.

429. Arion, *Férus.* 1817. Limacia, *Hartm.* 1821. Shell: Limacella, *Brard.* Limacellus, *Turton.* Limax ater.
Limacellus, *Blainv.*, not *Brard.* L. Elfortiana.

430. Phosphorax, *Webb*, 183 ? P. ——?

431. Helicarion, *Férussac*, 1821. Helicolimax *β*, *Blainv.* Helixarion, *Féruss.* 1819. Vitrina, sp. *Sow.*, *Gray*, &c. Helix Cuvieri.

432. Platycloster, *Hasselt*, 1824. Helicopsis?, sp. *Beck.* 1837. P. corneus.

433. Stenopus, *Guild.* 1828, *Beck.* St. cruentatus.
Ariophanta, *Desmoulin*, 1829. Nanina, sp. *Gray*, *Beck.* Helix lævipes.
Nanina, *Gray*, 1834, not *Risso.* Zonites, *Swains.* 1840, not *Montf.* Vitrina, sp. *Quoy & Gaim.* Hel. citrina.
Macrochlamys, *Benson*, 1832. Tanychlamys, *Benson*, 1834. Nanina, sp. *Benson*, 1834. Helicella, sp. *Beck.* H. vitrinoides.

? Helicopsis, *Beck*. Hel. glandula.
? Microcystis, *Beck*. ? Helicolimax, sp. *Férus*. M. pellicula.
Helicogena, sp. *Férus*. Hel. ligulata.
? Solarium, sp. *Spix*. Helicella, sp. *Beck*. Sol. imperforatum.

Fam. II. HELICIDÆ.

Philomycina.

434. Philomycus, *Rafinesque*; *Férus*. 1829. Tebenophorus, *Binney*, 1843. Helix, sp. *Bosc*. Limax C, *Blainv*. 1825. Helix carolinensis.

435. Meghimatium, *Hasselt*, 1824. M. striatum.

Scutelligera, *Spix*, 1824, (*Isis*) 1825, 588 (S. amerlandia), and Parmula, *Heyden*, (*Isis*) 1823, 1247. t. 18. 1825, 588 (P. cocciformis), is the larva of *Microdon mutabilis*, a dipterous insect.

Limacina.

436. Limax, *Linn.*; *Lam*. 1801. Shell: Limacella, *Brard*. Limacellus, *Turton*. L. rufus.
Parmacella, sp. *Philippi*. P. nigricans.

437. Geomalacus, *Allman*, 1846. G. maculatus.

438. ? Oris, *Risso*, 1826. O. Ferussaci.

Testacellina.

439. Plectrophorus, *Bosc*, 1801; *Férussac*, 1819.

440. Testacella, *Lam*. 1801; *Blainv*. 1825. Testacellus, *Montf*. 1810; *Féruss*. T. haliotoideus.

Vitrinina.

441. Parmacella, *Cuvier*, 17 ?; *Montf*. 1810; *Lam*. 1812. Parmacellus, *Féruss*. P. Olivieri.

442. Cryptella, *Webb*, 1833. Testacellus, sp. *Féruss*. Parmacella, sp. *Sow*. C. ambigua.

443. ? Pectella, ——.

444. Vitrina, *Drap*. Vitrine, *Lam*. 1812. Vitrinus, *Montf*. 1810. Helicolimax, *Férussac*. Limacina, *Hartmann*, 1821. Hyalina, *Studer*. Cobresia, *Hübner*. V. pellucida.
Semilimax, *Férus*. 17 ? Testacella, sp. *Oken*. Hyalina, *Studer*. Limacina, *Hartm*. 1821. V. elongata.

445. Helicolimax, *Férus*. 1819; *Blainv*. 1825. Daudebardia, *Hartm*. 1821. H. rufa.

446. Omalonyx, *D'Orb*. 1836. Cochlohydra, sp. *Férus*. Homalonyx, *Agassiz*. Amphibulima, sp. *Beck*. Helix unguis.

447. Amphibulima, sp. *Beck.* Amphibulima, *Lam.* 1812. Amphibulinus, *Montf.* 1810. Bulimus, sp. *Brug.* A. cucullata.

448. Helisiga, *Lesson,* 1829. Amphibulina, sp. *Blainv.* H. ——.

449. Succinea, *Drap.* 1804; *Risso,* 1826. Cochlohydra, sp. *Férus.* Tapada, *Studer.* Lucina, *Oken,* 1819. Amphibulina, *Hartm.* 1821. Limnea, sp. *Flem.* Bulimus, sp. *Brug.* Amphibina, *Hartm.* Helix putris.

450. Simulopsis, *Beck,* 1837. Cochlohydra, sp. *Férus.* Helix sulcosa.

451. Pelta, *Beck,* 1837, not *Quatrefages.* P. Cumingii.

HELICINA.

452. Helix, *Linn.*, *Brug.*, *Lam.* 1801. Pomatia, *Beck,* 1837; *Gray,* 1840. Helicogena, sp. *Férus.*; *Risso,* 1826. Cœnatoria, sp. *Held.* 1837. Helix Pomatia.
Cantareus, *Risso,* 1826. Lucena, *Hartm.* 1821. Tapada, *Gray,* 1840. Pomatia, *Gesner.* Cœnatoria, sp. *Held.* 1837. Hel. naticoides.

453. Acavus, *Montf.* 1810; *Beck,* 1837. Otala, *Schum.* 1817. Helicogena, sp. *Férus.* Helix hæmastoma.
Helicogena, sp. *Risso,* 1826; *Beck.* Tachea, sp. *Leach MSS.* 1819. Cepæa, *Held.* 1837. Helix nemoralis.
Otala, sp. *Schum.* 1817. Helix lactea.
Helix, *Risso,* 1826. Cœnatoria, sp. *Held.* 1837. Pomatia, sp. *Beck.* Tachea, sp. *Gray,—Monstrosity.* Cornucopia, *Born, Shaw.* Serpula, sp. *Gmelin.* Helix adspersa.

454. Arianta, *Leach MSS.* 1819; *Beck,* 1837; *Gray,* 1840. Helicogena, sp. *Férus.* Cingulifera, *Held.* 1837. Helix arbustorum.
Galaxias, *Beck,* 1837, not *Cuv.* 1817. Helicogena, sp. *Férus.* Helix lucana.
Dorcasia, *Gray.* D. Alexanderi.
Polymita, *Beck,* 1837. Helicogena & Helicella, sp. *Férus.* Helix picta.
Hemitrochus, *Swains.* 1840. ? Polymita, sp. *Beck.* Hem. hæmastoma.
Cochlea, *Adans.* 1757. Otala, *Beck,* 1837; not *Schum.* 1817. Helicogena, sp. *Férus.* Helix pouchet.
Hemicycla, *Swains.* 1840. Otala, sp. *Beck.* H. plicatula.
Helicostyla, *Beck,* 1837. Helicostyla, sp. *Férus.* Helix Galactites.
Eurycratera, *Beck,* 1837. Leiostoma, sp. *Swains.* Helicogena, sp. *Férus.* H. jamaicensis.
Helicophanta, sp. *Gray.* Eurycratera, sp. *Beck.* H. Falconeri.
Carocolla, sp. *Lam.*, *Schum.* Discodoma, *Swains.* Eurycratera, sp. *Beck.* Car. cingulata.
Helicogena, sp. *Férus.* Eurycratera, sp. *Beck.* H. acutangula.

455. Stylodon, *Christ. & Jans.*; *Beck,* 1837. Helicostyla, sp. *Férus.* Helix unidentata.

Helicophanta, *Beck*. Helicophanta β, *Férus*. Leiostoma, sp. *Swains*. Helix Cornu-gigantea.
Geotrochus, *Van Hasselt*, 1824. Geo. obtusus.
Geotrochus, *Swains*. 1840. Geotrochus, sp. *Beck*. Trochus, sp. *Chemn*. Helicogena, sp. *Férus*. Helix pileus.
Helicina, *Spix*, not *Lam*. Geotrochus, sp. *Beck*. Trochus, sp. *Burrows*. Helicogena, sp. *Férus*. Carocolla, sp. *Gray*, *Menke*. Troch. bifasciatus.
Solarium, (sp.) *Spix*, not *Lamk*. Artemon, sp. *Beck*. Sol. candidum.
Dentellaria, *Schum*. 1817; *Beck*, 1837. Helix fuliginea.
Lucidula, *Swains*. 1840. Dentellaria, sp. *Beck*. Helix barbadensis.
Lucernella, *Swains*. 1840. Dentellaria, sp. *Beck*. Helix hippocastanum.
Thelidomus, *Swains*. 1840. Dentellaria, sp.? *Beck*. Helix aspera.

456. Vallonia, *Risso*, 1826. Amplexus, *Brown*, 1827. Lucena, *Hartm*. 1821. Circinaria, *Beck*, 1837. Zurama, *Leach MSS*. 1819. Corneola, sp. *Held*. 1837. Helix pulchella.
Mesomphyx, *Rafinesque*. Circinaria, sp. *Beck*. Helix concava.
Macrocyclis, *Beck*, 1837. Helicella, sp. *Férus*. H. peruviana.
Campylæa, *Beck*, 1837. Helix hispana.
Chilostoma, *Fitz*. Campylæa, sp. *Beck*. Helix foetens.
Corneola, sp. *Held*. 1837. Helicogona, sp. *Risso*. Helix cornea.
Solarium, *Spix*. Helicella, *Swains*. 1840. Helicella, sp. *Férus*. Solaropsis, *Beck*, 1837. Helix pellis serpentis.

457. Iberus, *Montf*. 1810. Carocolla, sp. *Lam*. Helicogena, sp. *Férus*. Helix Gaulteriana.
Chilotrema, *Leach*, 1819; *Gray*, *Beck*. Latomus, *Fitz*. Carocolla, sp. *Lamk*. Helicogona, *Risso*. Helicogena, sp. *Férus*. Lenticula, *Held*. 1837. Helix lapicida.
Carocollina, *Ehrenb*.; *Beck*, 1837. Carocolla, sp. *Menke*. Helix barbata.
Trigonostoma, *Fitz*, *Gray*. Helicodonta, sp. *Férus*., *Risso*. Vortex, *Beck*. Gonostoma, *Held*. 1837. Helix obvoluta.
Drepanostoma, *Porro*. Chloritis, sp. *Beck*. Helix Drepanostoma.
Chloritis, *Beck*. Helix ungulina.
Planospira, *Beck*, 1837. Lomastoma, *Férus*. Pusiodon, sp. *Swains*. 1840. H. zonaria.
Obba, *Beck*, 1837. Helicella, sp. *Férus*. H. planulata.
Obba, sp. *Beck*, 1837. Helicogena, sp. *Férus*. Trochus, sp. *Chemn*. H. papilla.
Ampelita, *Férus*. H. labrella.
Discosoma, sp. *Swains*. 1840. Carocolla, sp. *Gray*, *Lesson*; *Beck*, 1837. H. marginata.
Carocollus, *Montf*. 1810. Carocollus, *Lamk*. 1812. Helix Carocolla.
Carocolla, *Schum*. 1817. Helix Lampas.
Polydontes, *Montf*. 1810. Helicodontes, sp. *Férus*. H. imperator.

458. Lampadion, *Bolten*, 1798. Lucerna, sp. *Humph.* 1797. Labyrinthus, *Beck*, 1837. Lyrostoma, *Swains.* 1842. Helicodonta, sp. *Férus.* Helix otis.
Caprinus, *Montf.* 1810. Pleurodonta, *Fischer*; *Beck*, 1837. Carocolla, sp. *Lam.* Lucerna, sp. *Swains.* Helix lynuchus.
Cepolis, *Montf.* 1810. Pleurodonta, sp. *Beck.* Helix Cepa.

459. Tomogerus, *Montf.* 1810. Anostoma, *Fischer*, *Lamk.* Angystoma, *Schum.* 1817. Anastomus, *Swains.* 1840. Hel. ringens.
Tomigerus, *Spix.* Helix clausa.
Ringicella, *Gray.* Anastomus, sp. *Lam.* Anas globulosa.

460. Polygyra, *Say*, 1817; *Swains.* 1840. Helicodonta, sp. *Férus.* Dædalochila, *Beck*, 1837. P. auriculata.
Petasia, *Beck*, 1837. Polita, sp. *Held.* 1837. Trochus, sp. *Da Costa.* Helix trochiformis.
Conulus, *Fitz.* Petasia, sp. *Beck.* Trochiscus, *Held.* 1837; not *Sow.* Helix fulva.
Tridonta. Tridopsis, sp. *Beck.* Helix plicata.
Tridopsis, *Rafin.* Helix lunula.
Isognomostoma, *Fitz.* Tridopsis, sp. *Rafin.*, *Beck.* Isognostoma, *Hartm.* 1840. Isognomonostoma, *Herrm.* 1846. Helix personata.
Stenotrema, *Rafin.* Tridopsis, sp. *Beck.* Helix convexa.
Mesodon, *Rafin.* Tridopsis, sp. *Beck.* Helix elevata.
Polygyra, sp. *Say*, *Beck.* Helix septemvalva.
Polygyratia. Polygyra, sp.? *Beck.* Hel. Polygyrata.

461. Theba, *Leach MSS.* 1817; *Risso*, 1827; *Beck*, 1837.
Trochidea, *Brown*, 1827. Trochus, sp. *Da Costa.* Turricula, *Beck*, 1837. Carocolla, sp. *Lamk.* Helicomanes β, sp. *Férus.* Helix elegans.
Theba, *Risso*, 1827. Helicomanes α, sp. *Férus.* Xerophila, sp. *Held.* 1837. Helix pisana.
Cochlicella, sp. *Férus.* H. conoidea.
Helicopsis, *Fitz.* 1835; not *Beck.* H. striata.
Oxycheilus, *Fitz.* H. ericetorum.
Leucochroa, *Beck*, 1837. Carocolla, sp. *Lamk.* H. albella.
Delphinula, *Bowd.* H. Delphinula.
Helicogena, sp. *Férus.* H. candidissima.
Ochthephila, *Beck*, 1837. Geometra, *Swains.* 1840. H. bicarinata.
Bradybæna, *Beck*, 1837. H. similaris.
Hygromia, *Risso*, 1826. Fruticola, *Held.* 1837. Bradybæna, sp. *Beck.* H. cinctella.
Monacha, *Fitz.* Theba, sp. *Risso.* Bradybæna, sp. *Beck.* Hel. carthusiana.
Trochulus, *Christ.* Hel. hispida.
Heterostoma, *Hartm.* 1844. Ochthephila, sp. *Beck.* Hel. paupercula.

462. Helicella. Helicelle, *Lam.* 1812.
Helicella, *Beck*, 1837. Helicelle, *Lam.* 1812. Helicella, sp. *Risso*,

1826. Oxycheilus, *Fitz.* Helicella (hyalina), *Férus.* Zonites, sp. *Leach, Gray.* Hyalina, *Férus.*; *Gray,* 1840. Polita, *Held.* 1837. Hel. cellaria.
Vitrea, *Fitz.* Helicella, sp. *Beck.* H. ——?
Mesomphix, *Rafin., Beck.* Zonites, sp. *Gray.* M. lævigata.
Mesomphix, sp. *Beck.* Helix Olivetorum.
Zonites, *Montf.* 1810; *Beck,* 1837. Helicella (verticilli), *Férus.* Helicella, sp. *Risso.* Tragomma, *Held.* 1837. Helix Algira.
Ægopis, *Fitz.* Zonites, sp. *Beck.* Hel. verticillus.
Eyromphala, *Beck,* 1837. Patula, *Held.* 1837. Hel. alternata.
Discus, *Fitz.* Eyromphala, sp. *Beck.* Patula, *Held.* 1837. H. ruderata.
Gonyodiscus, *Fitz.* Eyromphala, sp. *Beck.* H. solaria.
Pyramidula, *Fitz.* Eyromphala, sp. *Beck.* H. rupestris.

463. Sagda, *Beck,* 1837. Epistyla, *Swains.* 1840. Epistylium, *Gray,* 1840. Helicostyla, sp. *Férus.* Trochus alveolatus.
Helicodonta, sp. *Férus.* Sagda, sp.? *Beck.* Helix gularis.
? Pitys, *Beck.* Pitys aparana.

464. Streptaxis, *Gray, Swains.* 1840. Artemon, *Beck,* 1837. Helix contusa.

BULIMINA.

465. Orthostylus, *Beck,* 1837. Cochlostyla, sp. *Férus.* Helix viridis.
Cochlostyla *α*, *Férus.* Orthostylus, sp. *Beck.* Bul. metaformis.
? Pythohelis, *Swains.* 1840. P. castanea.
Balea, *Blainv.* 1825; not *Leach.* Bulimus citrinus.
Helicobulimus, *Brod.* 1840. Orthostylus, sp. *Beck,* 1837. H. sarcinosa.

466. Bulimus, *Scopol.* 1777; *Brug.* 1792; *Lamk.* 1801; *Montf.* 1810; *Beck,* 1837. Melania, *Perry,* 1811; not *Lam.* Bul. hæmastomus.
Strophocheilus, sp. *Spix.* Bulimus, sp. *Lamk., Férus.* Bul. ovatus.
Strophocheilus, *Spix.* Partula, sp. *Férus.* Voluta, sp. *Dillw.* Bulimus, sp. *Brug.* H. pudica.
Gonyostomus, *Beck,* 1837. Gonyostoma, *Swains.* 1840. Pupa, sp. *Gray.* Cochlogena, sp. *Férus.* Hel. gonyostoma.
Odontostomus, *Beck,* 1837. Cochlodina, sp. *Férus.* Pupa, sp. *Menke.* Hel. gargantula.
Auricula, sp. *Lea.* Aur. fuscagula.
Clausilia, sp. *Spix.* Pupa, sp. *Wagner.* Claus. exesa.
Scarabus, sp. *Menke.* Scar. labrosa.
Stenostoma, *Spix.* Pelekocheilus, sp. *Beck.* St. Paru.
Caprella, *Guild.* 1825; not *Lamk.* Plekocheilus, *Guild.* Pelekocheilus, *Beck.* Carychium, *Leach,* 1817; not *Müller.* Auricula, sp. *Lam.* Voluta auris Selini.
Auricula, *Swains.* 1840. Auricula, sp. *Lamk.* Pelekocheilus, sp. *Beck.* Pupa, sp. *Gray.* Bulimus auris Selini.
Otostomus, *Beck,* 1837. Auricula, sp. *Wagner.* Auris, sp. *Spix.* Stomatoides, *Férus.* Auris signata.

Stenostoma, *Spix*. Otostomus, sp. *Beck*. Auricula, sp. *Lam.*, *Swains*. Bulimus, sp. *Brug*. Pupa, sp. *Gray*. Auricula Leporis.

Navicula, *Spix*. Otostomus, sp. *Beck*. Helicogena, sp. *Moricd*. Nav. fasciata.

Pachyotus, *Beck*. Voluta, sp. *Chemn*. Pupa, sp. *Gray*. Cochlogena, sp. *Férus*. Vol. auris vulpina.

Auris, *Spix*. Bulimus, *Swains*. Bulimus, sp. *Sow*. Pachyotus, sp. *Beck*. Bul. melanostomus.

Placostylus, *Beck*, 1837. Auricula, sp. *Lamk*. Bulimus, sp. *Brug*. Cochlogena, sp. *Férus*. Vol. australis.

467. Partula, *Férus*. Limax, *Martyn*. Partulus, *Beck*, 1837. Voluta, sp. *Chemn*. Helix, sp. *Dillw.*, *Quoy & Gaim*. Limax faba.

468. Zua, *Leach MSS*. 1819; *Gray*, 1840. Bulimus, sp. *Brug*. Achatina, sp. *Menke*. Cionella, sp. *Jeffreys*, *Beck*. Helix lubrica.

Ageca, *Leach MSS*. 1819; *Fleming*, 1828; *Gray*. Pupa, sp. *Menke*. Cochlodonta, sp. *Férus*. Cionella, sp. *Jeffreys*. Carychium, sp. *Pfeiffer*, *Jeffreys*. Turbo tridens.

? Pegea, *Risso*, 1836 (jun.?). P. carnea.

? Crenea, *Risso*, 1826. Cr. vitrea.

469. ? Tornatellina, *Beck*. 1837. Torn. clausa.

Strombilus, *Alton*, 1839. St. turritus.

Elasmatina, *Petit*, 1843. E. subulatus.

470. Bulimulus, *Leach MSS.*; *Risso*, 1826. Buliminus, sp. *Beck*. Bulimus, sp. *Lam*. Cochlogena, sp. *Férus.*, *D'Orb*. Zebrina, *Held*. 1837. Helix detrita.

Bulimulus, *Guild.*, *Swains*. Bulimus, sp. *Beck*. Bul. stramineus.

Stenostoma, *Spix*. Bulimus, sp. *Spix*. Bulimulus, sp. *Beck*. St. Capueira.

Buliminus, *Ehrenb.*, *Beck*. Pupa, sp. *Lamk*. Pupa labrosa.

Buliminus, sp. *Beck*. Bulimus proteus.

Ena, *Leach MSS*. 1819; *Gray*. Mendigera, *Held*. 1837. Bulimus, sp. *Lamk*. Bul. montanus.

Brephulus, *Beck*, 1837. Pupa, sp. *Lam*. Bulimus, sp. *Menke*. Bul. fasciolatus.

Chondrus *α*, *Cuvier*, 1817. Pupa, sp. *Lamk*. Brephulus, sp. *Beck*. Bul. zebra.

Clausilia, sp. *Blainv*. Pupa, sp. *Lam*. Brephulus, sp. *Beck*. Bul. Tournefortii.

Mastus, *Beck*. Pupa, sp. *Menke*. Helix Pupa.

Cylindrus, *Fitz*. Pupa, sp. *Lamk*. Mastus, sp.? *Beck*. Pupa obtusa.

Macroceramus, *Guild.*, *Beck*. Leptospira, *Swains*. 1840. Cochlodina, sp. *Férus*. Bul. signatus.

Elisma, *Leach MSS*. 1819; Longæva, *Megerle*; *Menke*, 1830. Cochlicella, *Férus.*; *Risso*, 1826. Cochlicellus, *Beck*. Turbo, sp. *Penn*. Bulimus, sp. *Drap*. Helix acuta.

Peristoma, *Krynicki*, 184 ? P. merdueniana.

Remina, *Risso*, 1826. Bulimus, sp. *Brug*. Obeliscus, sp. *Beck*. Cochlicella, sp. *Férus*. Orbitina, *Risso*, 1826; very young. Helix decollata.

Columna, *Spix*. Obeliscus, sp. *Beck*, 1837. Cochlicella, sp. *Férus*. Helix calcarea.

Obeliscus, *Beck*, 1837. Helix obtusatus.

Plectostylus, *Beck*, 1837. Cochlostyla, sp. *Férus*. Achatina, sp. *Lesson*. Bul. peruvianus.

Orthaliscus, *Beck*, 1837. Achatina, *Spix*. Bulimus, sp. *Brug*. Cochlostyla, sp. *Férus*. Helix Sultana.

Achatina, *Swains*. Orthaliscus, sp. *Beck*, 1837. Ach. melanostoma.

Limicolaria, *Schum*. 1817. Limicolarius, *Beck*, 1837. Bulla, sp. *Chemn*. Buccinum, sp. *Müller*. Cochlogena, sp. *Férus*. Bucc. flammeum.

471. Pupa, *Lamk*. 1801; *Montf*. 1810; *Schum*. 1817. Cochlodonta, sp. *Férus*. Odostomia, sp. *Flem*. Bulimus, sp. *Brug*. Turbo uva.

Pupa, *Swains*. 1840. Bulimus, sp. *Brug*. Turbo mumia.

Gibbus, *Montf*. 1810. Bulimus, sp. *Brug*. Gibbulina, sp. *Beck*. Hel. Lyonetiana.

Gonidomus, *Swains*. 1840. Gibbulina, sp. *Beck*, 1837. Hel. Pagoda.

Otala β, *Schum*. 1817. Plicadomus, *Swains*. 1840. Gibbulina, sp. *Beck*, 1837. Hel. sulcata.

Gonospira, *Swains*. 1840. Gibbulina, sp. *Beck*, 1837. Hel. palanga.

Gibbulina, sp. *Beck*, 1837. H. infundibuliformis.

Pupilla, *Leach MSS*. 1819. Pupilla, sp. *Beck*. Bulimus, sp. *Brug*. Pupa, sp. *Drap*. Jaminia, sp. *Risso*, 1826. Alæa, sp. *Jeffr*. 1820. Torquatella, *Held*. 1837. Eruca, sp. *Swains*. Turbo muscorum.

Orcula, *Held*. 1837. Eruca, *Swains*. 1840. Pupilla, sp. *Beck*. Pupa, sp. *Drap*. Pupa dolium.

Lauria, *Gray*, 1840. Eruca, sp. *Swains*. 1840. Pupilla, sp. *Beck*. Pupa, sp. *Drap*. Jaminia, sp. *Risso*. Pupa umbilicata.

472. Vertigo, *Müller*, 1774. Pupilla, *Swains*. 1840. Jaminia, sp. *Risso*. Pupa, sp. *Drap*. Vert. pusilla.

Isthmia, *Gray*, 1840. Vertigo, sp. *Férus*. Alæa, sp. *Jeffreys*, 1820. Vert. nitida.

Alæa, sp. *Jeffreys*, 1820; *Beck*. Vertigo, *Leach*, 1819. Pupa, sp. *Nilsson*. Alæa palustris.

Jaminia, sp. *Risso*, 1826. J. heterostropha.

? Saraphia, *Risso*, 1826. S. uniplicata.

473. Torquilla, *Studer*, *Beck*. Abida, *Leach MSS*. 1819. Bulimus, sp. *Brug*. Pupa, sp. *Lamk*. Chondrus, sp. *Hartm*. Chondrus β, *Cuv*. 1817. Jaminia, sp. *Risso*. Vertigo, sp. *Turton*. Granaria, *Held*. 1837. Pupilla, sp. *Swains*. Pupa Secale.

Clausilia, sp. *Risso*, 1826; not *Lamk*. Pupa, sp. *Lamk*. Pupa cinerea.

Gonodon, *Held.* 1837. Chondrula, *Beck.* Chondrus α, sp. *Cuv.* 1817. Jaminia, sp. *Risso.* Bulimus, sp. *Brug.* Pupa, sp. *Lamk.* P. tridens.
Cyclodontina, *Beck,* 1837. Helix Draparnaldi.
Clausilia, *Spix*; not *Lamk.* Cyclodontina, sp. *Beck.* Pupa, sp. *Wagn.* Cl. pupoides.
Macrodontes, *Swains.* 1840. Cyclodontina, sp. *Beck.* H. Sowerbyana.
Vertigo, sp. *Férus.* Cyclodontina, sp. *Beck.* V. ovularis.
Odostomia, *Say,* 1817. Pupa, *Guild.* O. corticaria.

474. Megaspira, *Lea,* 1834; *Jay.* Pyrgelix, *Beck,* 1837. Pupa, sp. *Spix.* Macrospira, "*Lea,*" *Swains.* 1840. Pupa elata.

475. Clausilia, *Drap.* 1805. Volvulus, sp. *Oken.* Odostomia, sp. *Flem.* Marpessa, *Gray,* 1821. Oxystrombus, sp. *Klein.* Helix, sp. *Linn.* Pupa, sp. *Humph. & Drap.* Strombiformis, sp. *Da Costa.* Bulimus, sp. *Brug.* Cerion, sp. *Bolten.* Turbo bidens.
Iphigenia, *Gray,* 1821, 1840; not *Schum.* 1817. Clausilia, sp. *Drap.* Odostomia, sp. *Flem.* Turbo biplicatus.
Glischri, *Studer,* 1820.
Stomodonta, *Mermet,* 1840.
Clausilina, *Ehrenb.* 1831. C. tuba paradisea.

476. Balea, *Prideaux*; *Gray,* 1824. Balia, *Swains.* 1840. Eruca, sp. *Swains.* 1840. Odostomia, sp. *Flem.* Pupa, sp. *Drap.* Anomala, *Férus.* Fusulus, *Fitz.* Turbo perversa.

477. Brachypus, *Guild.* 1829; not *Swains.* Cochlodina, sp. *Férus.* Brachypodella, sp. *Beck,* 1837. Cylindrella, sp. *Pfeiffer,* 1840; not *Swains.* Siphonostoma, *Swains.* 1840. Pupa, sp. *D'Orb.* Tracheloides, *Férus.* Helix antiperversa.
Clausilia, sp. *Lamk.* Cochlodina, sp. *Férus.* Turbo, sp. *Wood.* Claus. collaris.
Urocoptis, *Beck.* Pupa, sp. *Gray.* Cyclostoma, sp. *Desh.* Turbo cylindrus.
Clausilia, sp. *Lamk.* Urocoptis, sp. *Beck.* Claus. truncatula.
Tortulosa. Urocoptis, sp. *Beck.* Turbo tortuosus.
Apoma, *Beck,* 1837. Pupa, sp. *Gray.* Cochlodina, sp. *Férus.* Turbo elongatus.

Achatinana.

478. Achatina, *Lam.* 1801. Bulla, sp. *Linn.* Cochlitoma β, *Férus.* Bulimus, sp. *Brug.* Buccinum, sp. *Müller.* Bulla Achatina.
Achatinus, *Montf.* 1810; *Schum.* 1817. Bulimus, sp. *Perry.* Bulla zebra.
Achatina, *Swains.* 1840. Ach. marginata.

479. Columna, *Perry,* 1811; *Schum.* 1817; *Beck.* Cochlicopa, sp. *Férus.* Lymnea, sp. *Lam.* Buccinum, sp. *Müller.* Bulimus, sp. *Brug.* Helix Columna.

480. Subulina, *Beck,* 1837. Macrospira, *Guild.*; *Swains.* 1840, p. 335

(not p. 176). Bulimus, sp. *Lamk.* Cochlicopa, sp. *Férus.* Achatina, sp. *Turton.* Cionella, sp. *Jeffreys.* "Chionella," *Swains.* Melania, sp. *Rüppell.* Helix octona.

481. Acicula, *Risso,* 1826; *Beck, Gray.* ? Columna, *Chr. & Jans.* Buccinum, sp. *Müller.* Helix, sp. *Gmel.* Bulimus, sp. *Brug.* Achena, sp. *Lam.* Cochlicopa, sp. *Férus.* Cionella, sp. *Jeffreys.* Bucc. acicula.
Columna, sp. *Chr. & Jans.* Col. miliaris.

482. Leptinaria, *Beck,* 1837. Cochlicopa, sp. *Férus.* Coch. unilamellata.

483. Ferussacia, *Risso,* 1826. Vidiantius, *Risso,* 1826, *Jun.* Cionella, sp. *Jeffreys, Beck.* Physa, sp. *Drap.* Cochlicopa, sp. *Férus.* Achatina, sp. *Michaud.* Pupa, sp. *Costa.* Helix foliculus.

484. Liguus, *Montf.* 1810. Cochlitoma α, *Férus.* Chersina, *Beck,* 1837. Chersina, sp. *Humph.* Bulla, sp. *Linn.* Buccinum, sp. *Müller.* Bulimus, sp. *Brug.* Achatina, sp. *Lam.* Bulla virginea.

485. Oleacina, *Bolten,* 1798. Oleac. ——?
Polyphemus, *Montf.* 1810. Glandina, *Schum.* 1817. Cochlycopa, *Swains.* 1840. Cochlicopa α, *Férus.* Buccinum, sp. *Müller.* Bulla, sp. *Chemn.* Bulimus, sp. *Brug.* Bulla glans.
Strombus, sp. *Gmelin.* Achatina, sp. *Brod.* Buccinum, sp. *Müller.* Bucc. striatum.
Voluta, sp. *Walch.* Polyphemus, sp. *Chr. & Jans.* Vol. leucozonias.
Polyphemus, *Say.* Glandina, *Say.* Cochl. rosea.

486. Halia, *Risso,* 1826; not *Dupont* nor *Macgill.* Bulla, sp. *Brocchi.* Cochlicopa α, sp. *Férus.* Bulla helicoides.
Priamus, *Beck,* 1837. Ampulla, sp. *Bolten.* Buccinum, sp. *Chemn.* Bulla, sp. *Gmelin.* Cochlicopa α, sp. *Férus.* Bulimus, sp. *Brug.* Helix Priamus.

487. Helicteres, *Férus.* 1819; *Beck,* 1837; not *Linn.* Achatinella, sp. *Green.* Helix vulpina.
Achatinella, *Swains.* 1828. Turbo, sp. *Chemn.* Monodonta, sp. *Lamk.* Achatina, sp. *Gray.* Bulimus, sp. *Menke.* Helicteres, sp. *Férus., Beck.* Turbo lugubris.

Fam. III. VERONICELLIDÆ.

488. Veronicella, *Blainv.* 1817; *D'Orb.* Vaginulus, *Férus.* 1821. Veronicellus, *Férus., Menke.* Onchidium H, *Blainv.* 1825. Vaginula, *Latr., Swains.* Limax nudus, *Sloane,* 1725. Veron. lævis.
Eumele, *Rafinesque.* Limax D, *Blainv.* 1825. Eum. nebulosus.

Fam. IV. ONCHIDIADÆ.

489. Onchidium, *Buchan*, 1800; *Lamk.* 1801. Onchidium *β*, *Blainv.* 1825. Oncidium, *Agass.* Onchidia, *Swains.* O. Typhæ.

490. Buchannia, *Lesson*, 1830.

491. Peronia, *Blainv.* 1825. Onchidium, *Cuvier*, 1805. Onchis, sp. *Férus.* 1821. Oncis, *Herrm.* Oncus, *Agass.* Onch. Peronii.

Fam. V. AURICULIDÆ.

492. Auricula, *Lam.* 1799, 1801; *Schum.* 1817. Otis, sp. *Humph.* 1797. Marsyas, *Oken*, 1818. Geovula, *Swains.* 1840. Bulimus, sp. *Brug.* Ellobium, *Bolten.* Aur. Midæ.
Auriculus, *Montf.* 1810. A. Judæ.

493. Melampus, *Montf.* 1810. Melampa, *Schweiger.* Conovule, *Lam.* 1812. Conovulus, *Lamk.*, *Beck.* Conovula, *Latr.* Conovulum, *Sow.* Pedipes *c*, *Blainv.* Rhodostoma, *Swains.* 1840. Vol. coniformis.
Melampus, *Say*; *Beck*, 1837, not *Montf.* Conovulus, sp. *Gray.* Mel. lineatus.

494. Cassidula, *Férus.*; *Beck*, 1837. Sidula, *Gray*, 1840. Limax, sp. *Martyn.* V. auris felis.
Lirator, *Beck*, 1837. L. multisulcatus.
Tralia, *Gray*, 1840. Auricula, sp. *Férus.* Pythia, sp. *Beck.* Melampa, *Schweiger.* V. pusilla.
Melampus, *Lowe*, not *Montf.* Mel. æqualis.
Detracia, *Gray*, 1840. Tornatella, sp. *Férus.* Vol. bullæoides.

495. Pedipes, *Adans.* 1757; *Blainv.* 1825. Polydonta, sp. *Fischer.* Bulimus, sp. *Brug.* Tornatella, sp. *Lamk.* P. afra.

496. Marinula, *King*, 1835. Rhodostoma, sp. *Swains.* 1840. Pythia, sp. *Beck.* M. pepita.

497. Ophicardelus, *Beck*, 1837. Aur. australis.

498. Alexia, *Leach MSS.* 1819. Ovatella, *Gray*, 1840; not *Bivon.* Acteon, sp. *Flem.* Auricula, sp. *Lamk.* Pythia, *Gray*, 1821; *Beck*, not *Schum.* Jaminia, *Brown*, not *Risso.* Vol. denticulata.
Carychium, sp. *Michel.* Aur. personata.

499. Leuconia, *Gray*, 1840. Volvaria, sp. *Flem.* Voluta alba.
Jaminea, *Leach MSS.* Vol. bidentata.
Ovatilla, sp. *Bivon*, 1832. Ovat. bidentata.

500. Scarabus, *Montf.* 1810. Phytia, *Schum.* 1817. Polydonta, *Fischer*, *Beck.* Sc. imbrium.
Melanopsis, *Bosc.* Strigula, *Perry*, 1811.

501. Carychium, *Müller*, 1774. Bulimus, sp. *Brug.* Odostomia, sp. *Flem.* Auricula, sp. *Drap.* Auricella, *Jurine*, *Hartm.* 1821. Car. minimum.

502. Acmea, *Hartm.* 1821. Acme, *Hartm.* 1821. Carychium, sp. *Flem.* Cyclostoma, sp. *Férus.* Bulimus, sp. *Turton.* Turbo, sp. *Montag.* Auricula, sp. *Drap.* Acicula, *Hartm.* Carychium, *Studer.* Turbo fuscus.

Fam. VI. LIMNÆADÆ.

Limnæina.

503. Lymnæa, *Lam.* 1801. Limnea, *Flem.* Limneus, *Drap.* Limnæus, *Oken, Rossm.* Lymnus, *Montf.* 1810. Lymnæa, *Blainv.* Limnea, *Swains.* 1840. Lymnia, *Swains.* 1837. Lymnophysa, *Fitz.* Lymnula, *Rafin.* Bulimus, sp. *Scopoli,* 1771. Vesica, sp. *Humph.* 1797. Buccinum, sp. *Müller.* Helix, sp. *Linn.* Bulimus, sp. *Brug.* Helix stagnalis.
Leptolimnea, *Swains.* 1840. L. elongata.
Radix, *Montf.* 1810. Lymnæa *β, Schum.* Gulnaria, *Leach MSS.* 1819; *Beck,* 1837. H. auricularia.
? Espiphylla, *Rafin.* 1819.
? Clymenis, *Rafin.* 1819.
? Leptoxis, *Rafin.* 1819.
? Lomastoma, *Rafin.* 1819.
? Eutrema, *Rafin.* 1819.
Omphiscola, *Rafin., Beck.* Stagnicola, sp. *Leach.* Bulimus, sp. *Poiret.* Bucc. glabrum.
Limnophysa, *Fitz., Beck.* Galba, *Schrank.* Lymnea, sp. *Lam.* Stagnicola, sp. *Leach.* Bucc. palustre.

504. Chilina, *Gray, D'Orb.* Limnea, sp. *D'Orb.* Dombeya, *D'Orb.* Conovula, sp. *Lam.* Auricula, sp. *Férus.* Otis, sp. *Humph.* Bulimus, sp. *Brug.* Bul. Dombeyanus.

505. Amphipeplea, *Nilsson,* 1822. Myxas, *Leach MSS.* 1819. Buccinum, sp. *Müller.* Limneus, sp. *Drap.* "Mixas," *Say.* Lutea, *Brown,* 1827. Bulimus, sp. *Brug.* Hel. glutinosa.

506. Bulinus, *Adans.* 1757. Bullinus, *Oken,* 1815. Bul. ——?
Physa, *Drap.*; *Lam.* 1812. Planorbis, sp. *Müller.* Bulimus, sp. *Brug.* Phyza, *Risso,* 1826. Anisus, *Studer.* Rivicola, *Fitz.* Bulla fontinalis.

507. Aplexa, *Flem.* 1824; *Beck.* Nauta, *Leach MSS.* 1819. Myxas, "*Leach,*" *Guild.* Physa, *Fitz.* Limnea, sp. *Sow.* Bulla hypnorum.
Diastropha, *Guild., Gray.* Ph. Guildingii.
Isidora, *Ehrenb.* 1831; *Beck.* Ph. truncata.
Camptoceras, *Benson,* 1834. C. terebra.

Coretina.

508. Coretus, *Adans.* 1757. Planorbis, sp. *Guettard?, Müller.* Planorbis, *Geoff., Montf.*; not *Lam.* 1801. Vortex, sp. *Humph.* 1797. Helix cornea.
Anisus, *Fitz., Studer.* Spirorbis, *Swains.* 1840. H. spirorbis.

Helisoma, *Swains.* 1840. H. complanata.
Nautilus, sp. *Linn.* Turbo, sp. *Linn.* Turbo nautilus.
Anisus, *Beck.* Pl. olivaceus.
Polygyrus, *Beck,* 1837. Helix contortus.
Dentatus, *Beck,* 1837. Plan. armatus.

509. Segmentina, *Flem.* 1824. Hemithalamus, *Leach MSS.* 1819. Segmentaria, *Swains.* 1840. Nautilus, sp. *Lightf.* Planorbis, sp. *Müller.* Naut. lacustris.
Discus, *Haldemann,* 1840; not *Fitz.* 1833, nor *King,* 1844. D. ——?

ANCYLINA.

510. Ancylus, *Geoff.* 1767; *Müller,* 1774. Bullinus, sp. *Oken,* 1815. Ansulus, *Herrm.* 1846. Patella, sp. *Linn.* Pat. fluviatilis.
Calyptra, sp. *Klein.* Crepidula, sp. *Flem.* Acroloxus, *Beck,* 1837. Velletia, *Gray,* 1840. Ancylus, sp. *Müller,* 1774. Pat. oblonga.
Ancylus, *Guild.* 1828. Ancy. ——?

Fam. VII. AMPHIBOLIDÆ.

511. Amphibola, *Schum.* 1817. Ampullacera, *Quoy & Gaim.* 1832. Thalicera, "*Quoy,*" *Swains.* 1840. Ampullarina, *Sow.*, not *Blainv.* Amph. australis.
Paludina, sp. *Sow.* Pal. australis.

Fam. VIII. SIPHONARIADÆ.

512. Siphonaria, *Sow.*, *Blainv.* 1825. Lepas (Mouret), *Adans.* 1757. Mouretia (*Gray*), *Sow.* 1835. Muretia, "*Sow.,*" *D'Orb.* Patella (juniore), *Rang.* Liria, *Gray MSS.* 1824. Siph. sipho.

Fam. IX. GADINIADÆ.

513. Gadinia, *Gray,* 1824. Lepas gadin, *Adans.* 1757. Gad. afra.
Mouretia, *Sow.* 1835. Mour. peruviana.
Pileopsis, sp. *Payr.* 1836. Clypeus, *Scacchi,* 1836; not *Brod.* Patella, sp. *Philippi.* Acmæa, sp.? *Philippi.* Pat. Garnoti.

Fam. X. CYCLOPHORIDÆ.

514. Cyclostomus, *Montf.* 1810. Cyclostome, *Lam.* 1812 (not 1801), not *Schum.* 1817. Cyclostoma, sp. *Drap.* Turbo elegans.

515. Licina, *Browne,* 1756. Cyclostoma, sp. *Lam. E.M.* Cyclostoma, *Swains.* 1840, not *Lam.* 1801. Nerita, sp. *Müller.* Annularia *β*, *Schum.* 1817. Turbo labea.
Cistula, *Humph.* 1797. Cist. fimbriata.

516. Poteria, *Gray,* 1840.

517. Leonia, *Gray,* 1840.

518. ? Lituus, *Martyn*, 1784; *Humph.* 1797; not *Breyn.* 1732. L. brevis.

519. Cyclophorus, *Montf.* 1810. Cyclophora, *Swains.* 1840. Annularia *α*, *Schum.* 1817.

520. Cyclotus, *Guild.*, *Swains.* 1840. Cycl. planorbutus.

521. Myxostoma, *Troschel*, 1847. Cyc. Petiverianus.

522. Pterocyclos, *Benson*, 1835. Spiraculum, *Pearson*, 1835. Pt. bilabiatus.

523. Farcimen, *Troschel*, 1847. Cycl. Torta.

524. Megalomastoma, *Guild.*, *Swains.* 1840. Cyclos. flavulum.

525. Realia, *Gray*, 1840. R. ——? n. s.

526. Callia, *Gray*, 1840; 1844, 72. C. ——? n. s.

527. Pupina, *Vignard*, 1829?; *Gray*, 1844. Pupina Keraudrenii.
Moulinsia, *Grateloup*, 1840. Pupina, sp. *G. Sow.* 1841. M. Nunezii.

528. Registoma, *Hasselt*, 1824. Reg. vitreum.

529. Pomatias, *Hartm.* 1821. Cyclostoma, sp. *Lam.* Cy. patula.

530. ? Ferussina, *Grateloup*, 1826. Ferussacia, *Lefroy*, 1828; not *Risso*, 1826. Strophostoma, *Desh.* 1827. Anastoma, sp. ——? F. anastomæformis.

Fam. XI. OLIGYRADÆ.

531. Oligyra, *Say*, 183 ? Helicina *β*, *Blainv.* 1825. O. orbiculata.
Helicina, *Lam.* 1822 (not 1801); not *Montf.* Hel. neritella.
Pachystoma, *Swains.* 1840. P. occidentalis.
Trochatella, *Swains.* 1840. H. pulchella.
Ampullina, *Blainv.* 1825. A. striata.
Oligyra, *Swains.* 1840. H. rhodostoma.

532. Lucidella, *Swains.* 1840. H. aureola.
Helix, sp. *Férus.* Helicina, sp. *Gray.*

533. Alcadia, *Gray*, 1840. Helicina, *Swains.* 1840. H. major.

Fam. XII. PROSERPINIDÆ.

534. Proserpina, *Gray*, 1840 (Procerpena *misprint*). Odontostoma, *D'Orb.* 1842. P. linguifera.

Class II. CONCHIFERA.

Order I. PHYLLOPODA.

Fam. I. VENERIDÆ.

Meretricina.

535. Dosinia, *Scopoli*, 1771. Chama (Dosin), *Adans*. Venus ——?
Arthemis and Arthemiderma, *Poli*, 1791 (Artemis, *Gray*, *Forbes*). Orbiculus *b*, *Megerle*, 1811. Exoleta, *Brown*, 1827. Asa, *Leach*, 1819. Venus *β*, *Schum*. 1817. Circompholos, *Klein*. Venus exoleta.
Arctoë, *Risso*, 1826. Arct. nitidissima.
Lucina, sp. *Lam*. 1818. Cytherea, sp. *Macgill*. Artemis, sp. *Reclus*. Mysia, sp. *King*. V. undata.

536. Meretrix, *Lam*. 1801. Cytherea, *Lam*. 1818; *Schum*. 1817; *Gray*, 1838. Cytheree, *Lam*. 1812. Callista, sp. *Poli*. Venus Meretrix.

537. Cuneus, *Megerle*, 1811; not *Dacosta*. Meroë, *Schum*. 1817; *Gray*, 1838. Venus Meroë.

538. Grateloupia, *Desmoul*. 1828; *Gray*, 1838. Gratelupia, *Pol. & Mich*. Donax irregularis.

539. Trigona, *Megerle*, 1811; *Schum*. 1817; *Gray*, 1838. Venus mactroides.
Trigona, *Megerle*, 1811. Venus donacina.

540. Dione. Venus, *Megerle*, 1811; *Schum*. 1817. Cytherea, sp. *Lam*. 1818. Chione, sp. *Gray*, 1838; not *Megerle*. Venus Dione.
Chione, *Gray*, 1838. Callista and Callistoderma, sp. *Poli*, 1795. Cytherea, sp. *Swains*. 1840. Venus Chione.

541. Circe, *Schum*. 1817. Cytherea, sp. *Lamk*. Venus scripta.

542. Venus, *Linn*.; *Lam*. 1801. Dosina, *Gray*, 1838. Clausina, sp. *Brown*, 1827; not *Jeffreys*. Callista and Callistoderma, sp. *Poli*, 1795. Venus verrucosa.
Venus, sp. *Swains*. 1840, 372. V. puerpera.

Venusina.

543. Mercenaria, *Schum*. 1817. Venus, sp. *Lam*. Venus Mercenaria.

544. Anomalocardia, *Schum*. 1817. Venus *m* (Triquetra), *Blainv*. 1825. Venus flexuosa.

545. Cyprina, *Lam*. 1818. Cyprine, *Lam*. 1812. Arctica, *Schum*. 1817. Venus Islandica.

546. Chione, *Megerle*, 1811; not *Gray*, 1838. Venus, sp. *Linn. & Lam*. Venus Dysera.

Chione, *Megerle*, 1811. Callista and Callistoderma, sp. *Poli.* Ortygia, *Brown*, 1827. Venus gallina.
Timoclea, *Leach MSS.* 1819; *Brown*, 1827. Venus ovata.
Antigone *Schum.* 1817. Venus cancellata.

547. Tapes, *Megerle*, 1811. Callista and Callistoderma, sp. *Poli*, 1795. Venus litteratus.
Pullastra, sp. *Sow.* Tapes, sp. *Schum.* 1817. Capsa, sp. *Leach*, 1817; not *Lam.* V. Pullastra.

548. Rupellaria, *Bellev.* 1802. Rupellare, *Lam.* 1812. Venerupis, *Lam.* 1818; *Turton*, 1822. Venus β. (Ruperelle), *Blainv.* 1825. Venus perforans.
Irus, *Oken*, 1815. Capsa, sp. *Leach*, 1819. Petricola, sp. *Turton*, 1822; *D'Orb.* Venerupes, *Swains.* 1840. Donax Irus.
Venus, sp. *Olivi.* Venus Lithophagus.
? Petricola, *Lam.* 1810. Petr. sulcata.

549. Clementia, *Gray*, 1840. Venus papyracea, *Gray in Wood Supp.* f. 8.

549*. Glauconome, *Gray*, 1829. G. chinensis.

550. Capsa, *Lam.* 1801 (not 1818). Capsula, *Schum.* 1817. Sanguinolaria, sp. *Lam.* 1818. Solen β, *Megerle*, 1811. Psammobia, sp. *Turton*, 1822; *Sow.* Venus deflorata.

551. Petricola, *Lam.* 1801; sp. 1818. Venus, sp. *Retzius.* Venus Lithophagus.
Petricola, sp. *Lam.* 1801 & 1818. Pet. striata.
Gastrana α, *Schum.* 1817. Tellina guinaica.
Gastrana β, *Schum.* 1817. Corbula, sp. *Brug.* Venus monstrosa.
Psammobia, sp. *Lam.* 1818. Tellina fragilis.
? Choristodon, *Jonas.* Ch. typicum.
——? Mysia, sp. *Leach.*

Fam. II. CORBICULADÆ.

552. Corbicula, *Megerle*, 1811. Cyclas, sp. *Lam.* 1801. Cyrena α, sp. *Lam.* 1818; from *Chemn.* vi. f. 320. Corb. fluminalis.
Cyclas, *Schum.* 1817. ? Cyrena α, sp. *Lam.* Cyc. lævigata.
Cyprina, sp. *Lesson*, 1830; not *Lam.* Cyrena α, sp. *Lam.* 1818. Cyrena violacea.

553. Cyrena β, *Lam.* 1818. Geloina, *Gray*, 1844, 75. Cyr. zeylanica.
Cyrena, *Sow.* Cyr. sumatrensis.
Cyclas, *Bosc.* Cyc. carolinensis.

554. Velorita, *Gray*, 1844, 75. Cyrena, sp. *Gray.* Cyr. cyprinoides.

555. Sphærium, *Scopoli*, 1777. Nux, *Humph.* 1797. Cyclas, sp. *Lam.* 1801. Cyclas, *Lam.* 1818. Cornea, *Megerle*, 1811. Tellina cornea.

556. Pisum, *Megerle*, 1811; not *Linn.* Pisidium, *Pfeiffer.* Pera,

Leach MSS. 1819; *Gray.* Euglesia, *Leach MSS.* 1820. Cardium, sp. *Poli.* Tellina amnica.
Galileja, *Costa,* 1846. Cyclas fontinalis.

Fam. III. CARDIADÆ.

557. Cardium, *Linn.*; *Lam.* 1801; *Megerle,* 1811; *Swains.* 1840. Cerastes and Cerastodermi, sp. *Poli.* Pectunculus, *Adans.* Card. costatum.
Lævicardium, *Swains.* 1840. C. lævigatum.
Lævicardium, sp. *Swains.* 1840. C. Æolicum.
Hemicardium, *Swains.* 1840. C. unedo.

558. Cardissa, *Megerle,* 1811. Hemicardium, *Cuvier,* 1817. Hemicardia, *Klein,* 1753. "Fragrum and Corculum," *Bolten,* 1778. Isocardia, *Oken,* 1817. Card. Cardissa.

559. Aphrodite, *Lea*; 183 ? not *Linn.* Serripes, *Beck MSS.* Acardo, *Swains.* 1840; not *Brug.* nor *Lamk.* Mactra, sp. *Don.* Cardium edentulum.
Corbula, sp. *Eichwald,* 1838. Corb. caspia.
Cardium, sp. *Eichw.* 1838. Card. protractum.
Glycimeris, *Eichw.* 1838. Gly. læviuscula.
Hypnaxis, *Pander,* 1830. Monodacna and Adacna, *Eichw.* 1838. M. ——?

560. Papyridea, *Swains.* 1840. Card. Soleniforme.
Papyridea, sp. *Swains.* Card. ringens.

561. ? Cardium, sp. *Lam.* Hippopus, sp. *Sow.* Pleurorhynchus, sp. *Swains.* 1840. Card. avicularia.

Fam. IV. MACTRADÆ.

562. Mactra, *Linn.*; *Lam.* 1801; *Gray,* 1837. Callista and Callistoderma, sp. *Poli,* 1791. Trigonella, sp. *Dacosta,* 1778; not *Dec.* Mact. stultorum.

563. Schizodesma, *Gray,* 1837. Mactra *α*, *Schum.* 1817. M. Spengleri.

564. Spisula, *Gray,* 1837. Mactra, sp. *Lam.* Trigonella, sp. *Dacosta,* 1778. M. solida.
Hemimactra, *Swains.* 1840. M. gigantea.

565. Cypricia, *Gray,* 1837. Anatina, *Schum.* 1817; not *Lam.* Mactra, sp. *Spengler.* Labiosa, *Schmidt MSS.*; *Moller,* 1832. Lutraria, sp. *Lam.*, *Sow.* Listera, sp. *Menke,* 1830. M. anatina.

566. Lutraria, *Lam.* 1799, 1801; *Schum.* 1817; *Gray,* 1837. Lutricola, *Blainv.* 1825. Cultellus, *Sow.*; not *Schum.* Mya oblonga.
Lutraria, *Megerle,* 1811. Mact. Lutraria.
Lutraria, sp. *Lam.* Mact. rugosa.

567. Cryptodon, *Conrad,* 1837; not *Turton,* 1822. Lutraria, sp. *Conrad.* C. Nuttallii.

568. Mulinia, *Gray*, 1837 (Moulinea, *Philippi*). M. lateralis.

569. Gnathodon, *Gray*, 1837; *Rang.* Clathodon, *Sow.* Clathrodon, *Conrad.* Rangia, *Desmoul.* 18 ? Gn. cuneatus.

570. Anatinella, *Sow.*; *Desh.* 1835. A. Sibbaldii.

571. ? Mactrula, *Risso*, 1826. M. Trinitea.

Fam. V. PAPHIADÆ.

572. Paphia, *Lam.* 1801. Crassatella, sp. *Lam.* 1818. Erycina, sp. *Sow.* Mesodesma, sp. *Desh.* 1835. Eryx, *Swains.* 1840; not *Daud.* Paphia glabrata.
Mesodesma, sp. *Desh.* 1835. Mya novæ zelandiæ.
Donacilla, sp. *D'Orb.* Erycina, sp. *Brod.* 1832. E. solenoides.
Donacilla, *Lam.* 1818. Donacille, *Lam.* 1812. Donacina, *Blainv.* Amphidesma, sp. *Lam.* 1818. Mactra, sp. *Poli.* Mesodesma, sp. *Desh.* 1830. Erycina, sp. *Sow.* Peronæa and Peroneoderma, sp. *Poli*, 1791. Mactra cornea.
Erycina, sp. *Reclus*, 1844. Eryc. Deshayii.

573. Anapa, *Gray*, 1844. Erycina, sp. *Reclus, D'Orb.* E. Petitiana.

574. ? Ervillia, *Turton*, 1822. Ervillia, sp. *Reclus*, 1846. E. nitens.

Fam. VI. TELLINIDÆ.

575. Psammobia, *Lam.* 1818; *Sow.* Tellina, sp. *Linn.* Gari α, *Schum.* 1817. Solen, *Megerle*, 1811. Peronæa and Peroneoderma, sp. *Poli.* Tellina Gari.
Azor, *Leach MSS.* 1819. Solen vespertinus.
Psammotea, *Lam.* 1818. Psam. zonalis.

576. Gari β, *Schum.* 1817, 132. Tellina, sp. *Spengler & Lamk.* Sanguinolaria, sp. *Desh.* Tellina papyracea.
? Scrobicularia β, *Schum.* 1817. Tel. angulata.

577. Tellina, *Linn.*; *Lam.* 1801. Peronæa, sp. *Poli.* Tel. radiata.
Angulus, *Megerle*, 1811. Psammotea, *Lam.* 1818. Tel. lanceolata.
Macroma, *Leach*, 1819. M. tenera.
Psammotea, *Turton*, 1822. Tel. solidula.
Tellinides, *Lam.* 1818. Tel. timorensis.
Tellinides, *Sow.* Tel. roseus.
Omala, *Schum.* 1817. T. planata.
Phylloda, *Schum.* 1817. T. foliacea.

578. Arcopagia, *Leach*, 1816; *Brown*, 1827. Tel. crassa.
Tellina β, *Megerle*, 1811. Tel. scrobinata.
Solecurtus, sp. *Gray.* Psammobia, sp. *Philippi.* Arcopagia, sp. *D'Orb.* S. solida.

579. Strigilla, sp. *Turton*, 1822. Lucina, sp. *Lamk.* Tellina carnaria.

580. Semele, *Schum.* 1817. Amphidesma, sp. *Gray, Sow.* Tel. reticulata.

Amphidesma, sp. *Lam.* 1818. Tellina, sp. *Brug.* Amph. variegata.
Cumingia, *Sow.* 1833. Lavignon, sp. *D'Orb.* C. lamellosa.

581. Arenaria, *Megerle*, 1811; not *Linn.* Scrobicularia α, *Schum.* 1817. Ligula β, sp. *Montag.* 1808. Abra, sp. *Leach MSS.* 1819. Lavignon, *Cuvier*, 1817. Lavignonus, *Férus.* 1821. Listera, *Turton*, 1822; *Menke*; not *R. Brown.* Lutricola, *Blainv.* Lutraria, *Swains.* 1840. Amphidesma, sp. *Sow.* Lutraria, sp. *Lam.* 1818. Trigonella, *Lovèn*, 1846. Trigonella, sp. *Dacosta*, 1778. Chama calcinella, *Adans.* Mya compressa.

582. Abra, *Leach MSS.* 1817 (fide *Lam.* 1818). Syndosmya, *Recluz*, 1846; *Lovèn.* Amphidesma, sp. *Lam.* Ligula β, *Montag.* 1808; not *Menke*, 1830. Mactra tenuis.
Abra, *Risso*, 1826. A. fragilis.
Erycina, *Lam.* 1818?; *Philippi*, 1846. Amphidesma, sp. *Lam.*; *Turton*, 1822. Mactra Boysii.
Tellina, sp. *Poli.* T. rubiginosa.

583. Donax, *Linn.*; *Lam.* 1801. Tellina, *Adans.* 1757. Peronæa, sp. *Poli.* Donax rugosa.
Donax, sp. *Scopoli*, 1777. Don. ——?
Capisteria, *Gevers*, 1787. Don. ——?
Hecuba, *Schum.* 1817. Donax, *Swains.* Donax, sp. *Lam.* Don. scrotum.
Chion, *Scopoli*, 1777. Don. denticulata.
Latona, *Schum.* 1817. Don. cuneata.
Capsa, sp. *Sow.* D. complanata.
Potamomya, *J. Sow.*; *D'Orb. A. M.*; not *Hinds.*

584. Iphigenia, *Schum.* 1817; not *Gray*, 1821. Capsa, *Lam.* 1818; not 1801. Donacina, *Férus.*; not *Blainv.* Donax, sp. *Gmel.*, *D'Orb.* Don. lævigata.
? Capsa, *Turton*, 1822. Don. castanea.

585. Galathea, *Brug.* 1798; *Lam.* 1812; not *Fab.* Egeria, *Roissy*, 1805; not *Lea*, 1833, nor *Leach*, 1815. Potamophila, *Sow.*; not . Megadesma, *Bowdich*, 18 ?; *Swains.* 1840. Galateola, *Flem.* 1828. Pectunculus, sp. *Humph.* 1797. Tellina, sp. *Dillw.* Venus, sp. *Born.* Venus reclusa.

Order II. CLADOPODA.

Fam. I. PHOLADIDÆ.

Pholadina.

586. Pholas, *Linn.*; *Lam.* 1801. Ph. costatus.
Barnia, *Leach MSS.* 1819. Barnea, *Risso*, 1826. Ph. candida.
Pholas, *Adans.* 1757. Ph. Tulan.
Pholas, sp. *Montag.* Ph. parva.

587. Dactylina. Pholas, sp. *Linn.*; *Lam.* 1818. Hypogæa and Hypogeoderma, *Poli*, 1791. Ph. Dactylus.
Thovana, *Leach MSS.* 1818. Ph. oblongata.

588. Zirfæa, *Leach*, 1817. Ph. crispata.

589. Pholadidea, *Turton*, 1819. Pholadidoidea, "*Goodall*"; *Blainv.* 1825. Pholidæa, "*Leach*"; *Swains.* 1840. Pholas, sp. *Turton.* Phol. papyracea.

590. Talona, *Gray*, 1840. Teredo clausa.

591. Xylophaga, *Turton*, 1822. Pholas, sp. *Desh.* 1835. Xyl. dorsalis.

592. Jouannetia, *Desmoulin*, 1828. Pholas, sp. *Desh.* 1835. Jouan. semicaudata.

593. Martesia, "*Leach*, 1818"; *Blainv.* 1825; *Menke*, 1830. Mactesia, Mactresia, *Gray*, *Agassiz* (*misprint*). Pholas, *Megerle*, 1811. Pholas D, *Blainv.* Ph. striatus.
Martesia, sp. *Leach.* Mytilus, sp. *Spengler.* Myt. lithophagus.

594. Teredina, *Lam.* 1818. Fistulana, *Lam.* Teredo, sp. *Sow.* Tered. personata.

TEREDINA.

595. Cuphus, *Guettard*, 1772. Kuphus, *Gray*, 1840. Kyphus, *Agassiz.* Furcella, *Oken*, 1815. Septaria, *Lam.* 1816. Clausaria, *Menke*, 1828. Clossonaria, *Férus.* Teredo, sp. *Pallas*, *Home.* Solen arenaria, *Humph.* Serpula, sp. *Linn.* Serpula polythalamia.

596. Guetera, *Gray*, *Syn.* 1840. Fistulana, sp. *Lam.* 1818. Fist. corniformis.
Teredo, *Megerle*, 1811. Teredo, sp. *Spengler.* Fistulana, sp. *Lam.* 1818. Teredo clava.

597. Xylotrya, *Leach MSS.* 1817; *Menke*, 1830. Bankia, *Gray*, 1840. Teredo α, *Schum.* 1817. Teredo, sp. *Lam.* 1801; *Turton.* Teredo β, *Blainv.* Teredo bipalmulata, *Lam.*

598. Teredo, *Linn.*; *Lam.* 1801. Teredo α, *Blainv.* Tered. norvegica.
Malleolus. Tered. Malleolus.

Fam. II. GASTROCHÆNIDÆ.

599. Penicillus, *Brug.* 1789; *Lam.* 1801. Aspergillum, *Lam.* 1818. Adspergillum, *Menke*, 1830. Arrosoir, *Lam.* 1812. Clepsydra, *Schum.* 1817. Aquaria, *Perry*, 1811. Arytæna, *Oken*, 1815. Solen Phalloides, *Klein.* Serpula, sp. *Dillw.* Serpula Aquaria.

600. Foegia, *Gray*, 1840. Aspergillum, sp. *Lam.* 1818. Aspergillum novæ zelandiæ.

601. Bryopa, *Gray*, 1840. Clavagella, sp. *Sow.* & *Brod.*; *Philippi.* Clav. aperta.

602. Clavagella, *Lam.* 1818; *Blainv.* Clavagelle, *Lam.* 1812. Fistulana, sp. *Lam.* Glycimeris, sp. *Lam.* (valve only). Clav. echinata.

603. Chæna *α*, *Retz.* 1788; *Schum.* 1817. Fistulana, *Lam.* 1801; *Megerle*, 1811. Gastrochæna *β*, *Blainv.* 1825. Ch. mumia.

604. Gastrochæna, *Spengler*, 1780. Gastrochena, *Swains.* 1840. Chæna *β*, *Retz.* 1788; *Schum.* 1817. Fistulana, *Brug.* 1792; *Lam.* 1801. Roxellana, *Bellev.* Trapezium, *Megerle*, 1811. Fistulana, sp. *Blainv.* Pholas, sp. *Chemn.* ? Quoyie, *Desh.* (E. M. ii. 247), 1830. Mya dubia.

Fam. III. SOLENIDÆ.

605. Solen, *Linn.*; *Lamk.* 1801; *Schum.* 1817. Vagina, *Megerle*, 1811; *Desmoul.* 1832. Solen *β*. vagina, *Blainv.* Hypogæa, sp. *Poli.* Sol. vagina.

606. Ensis, *Schum.* 1817. Ensatella, *Swains.* 1840. Hypogæa, sp. *Poli.* Sol. Ensis.

607. Pharus, *Leach*, 1817. Solecurtus *c*, *Blainv.* Solecurtoides, *Desmoul.* Psammobia, sp. *Turton*, 1822. Hypogæa, sp. *Poli.* Sol. legumen.

608. Macha, *Oken*, 1815. Solecurtus, *Desh.* Solecurtus *β*, *Blainv.* 1825. Chama golar, *Adans.* Hypogæa and Hypogæoderma, sp. *Poli.* Psammobia, sp. *Turton.* Solen strigillatus.
Solen *α*, *Blainv.* Sol. cultellus.
Psammobia, sp. *Turton*, 1822. Psam. scopulosa.

609. Azor, *Leach MSS.* 1819. Psammobia, sp. *Turton.* Solen antiquatus.

610. Sanguinolaria, *Lam.* 1801; *Sow.* Lobaria, *Schum.* 1817; not *Müller.* Aulus, *Oken*, 1817. Soletellina, *Desm.* 1832. Psammobia, sp. *Desh.* Tellina and Solen, sp. *Gmelin.* Tellina rosea.
Sanguinolaria, sp. *Lam.* 1818. Sol. occidens.
Psammobia, sp. *Lam.* 1818. Psam. violacea.
Psammotęa, sp. *Lam.* 1818. Psammobia, sp. *Sow.* Psam. serotina.

611. Tagelus. Siliquaria, *Schum.* 1817; not *Brug.* 1789, nor *Lam.* 1801. Solen (tagel), *Adans.* 1757. Solecurtus, sp. *D'Orb.* Sol. guinensis.
Novaculina, *Benson*, 1830. Solecurtus, sp. *D'Orb.* N. gangeticus.

612. Siliqua, *Megerle*, 1811. Leguminaria, *Schum.* 1817. Solecurtus, *Blainv.*; not *Desh.* Solecurtoides, sp. *Desmoul.* Solenocurtis, *Swains.* 1840. Machæra, *Gould.* Solen, sp. *Gmelin*, *Say.* Solen radiatus.

613. Cultellus, *Schum.* 1817; *Desmoul.* 1832. Solen lacteus.

614. Soletellina, *Blainv.* 1825; *Desmoul.* 1832. Sanguinolaria, sp. *Sow.* Psammobia, sp. *Desh.* Solen, sp. *Chemn.*; *Lam.* 1818. Solen Diphos.

615. Glycimeris, *Lam.* 1799; not 1801 nor 1812. Panopea, *Menard*,

1807; *Lam.* 1812. Ponopia, *Swains.* 1840. Chama Glycimeris, *Aldrov.* Mya Glycimeris.
Glycimeris, *Lam.* 1812. Gl. arctica.
Pholadomya, sp. *Conrad.* Ph. abrupta.

616. Cyrtodaria, *Daud.* 1799; *Oken,* 1815. Glycimeris, *Lam.* 1801 & 1812; not 1799, nor *Schum.* 1817. Mya Siliqua.

Fam. IV. NUCULIDÆ.

617. Nucula, *Lam.* 1801. Polydonta, *Megerle,* 1811. Glycimeris, sp. *DaCosta.* Tellina and Donax, sp. *Gmelin.* Arca, sp. *Linn.* Arca Nucleus.

618. Nuculina, *D'Orb.* 1845. Nucula, sp. *Desh.* Nuc. miliaris.

619. Leda, *Schum.* 1817; *Lovèn,* 1846. Lembulus, *Leach MSS.* 1819. Nucula, sp. *Lam.* Arca pella.
Lembulus, sp. *Risso,* 1826. L. Roissianus.

620. Yoldia, *Moller,* 184 ? Moldia, *Gray* (misprint), 1847. Arca ——?
Nucula, sp. *Moller.* Yoldia, sp. *Lovèn,* 1846. N. lenticula.

—— ——?

621. Solenella, *Sow.* 1832. Malletia, *Desmoulin,* 1832. Ctenoconcha, *Gray,* 1840. S. Norrisii.

Fam. V. MYADÆ.

622. Mya, *Linn.*; *Lam.* 1801; *Schum.* 1817. M. truncata.
Mya, *Megerle,* 1811. Mya β, *Blainv.* Sphænia, sp. *Turton,* 1822, jun. M. arenaria.

623. Platyodon, *Conrad,* 1817. Mya cancellata.

624. Sphenia, sp. *Leach MSS.* 1819; *Turton,* 1822. Sphæna, *Swains.* 1840. Sp. Binghami.
? Arcinella, *Philippi,* 1844; not *Oken* nor *Schum.* Arc. lævis.

625. Tugonia, *Gray,* 1840. Pholas (Tugon), *Adans.* 1757. Mya, sp. *Gmelin, Basterot.* Anatina, sp. *Lam.* 1812. Mya Anatina.

Fam. VI. ANATINIDÆ.

626. Laternula, *Bolten,* 1798. Auriscalpium, *Megerle,* 1811; *Schum.* 1817. Anatina, sp. *Lam.* 1812. Solen anatinus.
Anatina, *Blainv.* 1825. An. subrostrata.
Auriscalpium β, *Schum.* 1817. A. globulosum.

627. Periploma, *Schum.* 1817. Osteodesma α, *Blainv.*; not *Desh.* Anatina, sp. *Lam.* 1812. Corbula, sp. *Brug.* P. inæquivalvis.

628. Cochlodesma, *Couthouy,* 1839. Bontia, *Leach MSS.* 1819;

Brown, 1844. Ligula, sp. *Montag.* 1800 (*Soland. MSS.* ?); not *Humph.* 1797. Anatina, sp. *Turton, Conrad.* Mya, sp. *Montag.* Spoonhinge, *Petiver.* Mya prætenuis.

629. Cardilia, *Desh.* 1835. Hemicyclonosta, *Desh.* 1837; *Michelin*, 1837 (Hemicyclostoma, *Gray*, and Hemicyclostera, *Brown*, errors of press). Isocardia, sp. *Lam.* I. ——?

630. Rupicola, *Bellev.*; *Lam.* 1812. Osteodesma β, *Blainv.* 1825. Anatina *c*, *Schum.* 1817. Thracia, sp. *Brown*, 1827. Ligula, sp. *Montag.* Mya distorta.

631. Thracia, *Leach MSS.* 1819; *Desh.* 1835. Odoncincta, *Costa*, 1827. Odontocincta, *Agassiz.* Odoncyneta, *Cantr.* Cinetodonta, *Herrm.* 1847. Osteodesma, sp. *Blainv.* 1825. Tellina, sp. *Poli.* Amphidesma, sp. *Lam.* 1812. Anatina, sp. *Lam.*, *Turton.* Ligula, sp. *Montag.* 1808; not *Humph.* 1797. Mya pubescens.

Thracia, *Blainv.* 1825. Th. Corbuloides.

Thracia, *Conrad.* Th. rugosa.

632. Magdala, *Leach MSS.* 1819; *Brown*, 1827. Hiatella, *Brown*, 1827; not *Daud.* Myatella, *Brown*, 1833 & 1844. Lyonsia, *Turton*, 1822. Mya, sp. *Chemn.* Amphidesma, sp. *Lam.* Anatina, sp. *Sow.* Pandora? sp. *Philippi*, 1838. Osteodesma, sp. *Desh.* 1835; not *Blainv.* Tetragonostea, *Desh.* 1835. Mya norvegica.

Pandorina, *Scacchi*, 1836. Tellina, sp. *Scacchi*, 1833. Pand. coruscans.

Anatina, sp. *Gray.* Anat. cuneata.

Osteodesma, sp. *Couthouy.* Ost. hyalina.

633. Myodora, *Gray*, 1840. Myadora, "*Gray*," *Reeve.* Anatina, sp. *Stutch.* Anat. brevis.

634. Camostrea, *Roissy*, 18 ?; *Blainv.* 1825. Cleidothærus, *Stutch.* 1835. Chama *c*, *Blainv.* 1825. Ch. hemicardium.

635. Myochama, *Stutch.* 1835; *Sow.* Myo. anomioides.

636. ? Poromya, *Forbes*, 1843. Por. anatinoides.

Fam. VII. CORBULIDÆ.

637. Corbula, *Brug.* 1792; *Lam.* 1811. Aloïdis, *Megerle*, 1811. Corb. sulcata.

Agina, *Turt.* 1822. Tellina, sp. *Olivi.* Corbula, sp. *Brug.* Mya inæquivalvis.

Lentidium, *Christ. & Jans.* Corb. mediterranea.

Erycina, sp. *Lam.* Eryc. trigona.

638. Azara, *D'Orb.* 1839. Potamomya, *Hinds*, 1843; not *J. Sow.* Mya labiata.

639. Erodina, *Daud.* 17 ?; *Bosc.* Corbula, sp. *Desh.* Pacyodon, *Beck MSS.* Mya, sp. *Lam.* Mya Erodina.

? Tellina, sp. *Chemn.* Tel. guianaca.

640. Harlea, *Gray*, 1844, 78. Corbula, n. s.

641. Tomala, *Gray*, 1844, 78. Corbula, n. s.

642. Raleta, *Gray*, 1844, 78. Corbula, n. s.

643. Neara, *Gray*, 1830. Anatina, sp. *Lam.* Mya rostrata. Erycina cuspidata, *Risso*, 1826; not *Lam.* Tellina, sp. *Olivi.* Corbula, *Brown.* Cuspidaria, *Nardo.* Thracia, sp. *Brown.* N. brevirostris.

Fam. VIII. PANDORIDÆ.

644. Pandora, *Soland.*; *Brug.* 1792; *Lam.* 1801; *Schum.* 1817; not *Megerle*, 1811. Placuna, sp. *Humph.* Hypogæa, sp. *Poli.* Tellina inæquivalvis.

Fam. IX. SOLENOMYADÆ.

645. Solemya, *Lam.* 1818; *Blainv.* 1825. Solenomya, *Menke*, 1830. Solenymia, *Swains.* 1840. Solenimya, *Bowdich, Sow.* S. mediterranea.

Fam. X. GALEOMMIDÆ.

646. Galeomma, *Turton*, 1825; *Philippi.* Hiatella, *Costa*; *Chiaje*; not *Daud.* Parthenope, *Scacchi*, 1836; not *Fab.* Gal. Turtonii.
Psammobia, sp. *Lam.* 1818. Ps. aurantia.
Psammobia, sp. *Quoy & Gaim.* Ps. vitrea.

Fam. XI. LASIADÆ.

647. Lasea, *Leach MSS.* 1819; *Brown*, 1827. Kellia, sp. *Turton*, 1822. Bornia, sp. *Philippi*, 1836. Erycina, sp. *Scacchi.* Amphidesma, sp. *Lam.* 1818. Petricola, sp. *Gray*, 1825. Poronia, sp. *Thorpe.* Cardium rubrum.
Cycladina, *Cantraine*, 1830. Poronia, *Recluz*, 1846. Chama (poron), *Adanson.* Tellina Adansonii.

648. Kellia, sp. *Turt.* 1822. Bornia, sp. *Philippi*, 1836. Amphidesma, sp. *Lam.* 1818. Erycina, sp. *Payr.* 1826; *Recluz.* Chironia, *Desh.* 184 ? Petricola, sp. *Gray*, 1828. Tellimya, sp. *Brown.* Mya suborbicularis.

649. Cyamium, *Philippi*, 1845. Cy. antarcticum.
Cyamium, *Lovèn*, 1846. Lesæa, sp. *Moller.* Montacuta, sp. *Bean.* Erycina, sp. *Recluz.* Venus, sp. *O. Fab.* Solen, sp. *Flem.* Saxicava, sp. *Brown.* Mya purpurea.

650. Montacuta, (sp.) *Turt.* 1822; *Lovèn*, 1846. Tellimya, sp. *Brown.* Ligula, sp. *Montag.* Mya substriata.
Petricola, sp. *Gray*, 1825. Mya bidentata.
Tellimya, sp. *Brown*, 1827. Montacuta, sp. *Turt.* 1822. Poronia, sp. *Jeffreys.* Mya ferruginea.

651. Clausina, *Jeffreys*, 1847; not *Brown*. Kellia, sp. *Forbes*, 1843. Artemis, sp. *Jeffreys*. Cryptodon, sp. *Alder*. Cl. ferruginosa.

652. Embla, *Lovèn*, 1846. E. Koreni.

Fam. XII. LEPTONIDÆ.

653. Lepton, *Turton*, 1822. Mactra, sp. *Montag*. Mactra squamosa.

Fam. XIII. SAXICAVIDÆ.

654. Saxicava, *Bellev*. 1802. Saxicave, *Lam*. 1812. Glycimeris, *Schum*. 1817; not *Lam*. 1799 nor 1801. Byssomya, *Cuv*. 1817. Byssonia, *Blainv*. 1825. Byssomia, *Desh*. Pholeobia, *Leach*, 1819. ? Clotho, *Faujas*. Hypogæa, sp. *Poli*, 1791. Mytilus, sp. *Linn*., *Montag*. Mya, sp. *Fab*., *Müller*. Mytilus rugosus.

655. Hiatella, *Daud*.; *Bosc*, 1802. Diodonta, *Schum*. 1817. Rhomboides, *Blainv*. 1825. Biapholus, *Leach*, 1819; *Blainv*. Cardita, sp. *Brug*. Donax, sp. *Poli*. Corbula, sp. *Blainv*. Saxicava, sp. *Blainv*. Hyatella, *D'Orb*. Mya, sp. *Brocchi*. Solen, sp. *Linn*. Solen minutus.

656. ? Entodesma, *Philippi*, 1845. E. chilensis.

Order III. GONIOPODA.

Fam. I. CHAMIDÆ.

657. Chama, *Linn*.; *Lam*. 1801. Jataronus, *Adans*. 1757. Macrophyllum, *Gevers*, 1766. Psilopus, sp. *Poli*, 1791; *Oken*, 1815. Licinia, sp. *Humph*. 1797. Gryphus, *Humph*. *MSS*. 1797. Lazarus, *Cuv*. 1800. Cham. Lazarus.
? Diceras, *Lam*. (internal cast). D. arietina.

658. Arcinella, *Schum*. 1817; not *Philippi*. Licinia, sp. *Humph*. 1797. Gryphus, *Humph*. *MSS*. 1797. Chama *β*, *Blainv*. 1825. Ch. Arcinella.

Fam. II. ETHERIADÆ.

659. Etheria, *Lam*. 1808; *Blainv*. 1825; not *Raf*. Ætheria, *Menke*, 1830; *Koenig*. Etherea, *Schw*. E. semilunata.

660. ? Mulleria, *Férus*. 1823; *Sow*. Etheria plumbea (jun.), *Desh*. M. lobata.

Fam. III. CARDITIDÆ.

661. Venericardia, *Lam*. 1801. Cardita *c*, *Blainv*. Cardita, sp. *Desh*. Cardissa, *Oken*, 1815. V. imbricata.

662. Cardita, *Brug*. 1789; *Lam*. 1801. Cardita *β*, *Schum*. 1817.

Chama, sp. *Linn.* Trapezium, sp. *Humph.* 1797. Chama calyculata.
Cardita *α*, *Schum.* 1817. Venericardia, sp. *Payr.* Limnea, sp. *Poli*; not *Lamk.* Chama antiquata.
Agaria, *Gray*, 1840. Cardito-cardite, *Blainv.* Cardita, sp. *Lam.* Chama Agar.
Glans, *Megerle*, 1811. Card. trapezia.

663. Mytilicardia, *Blainv.* 1825. Mytilicardita, *Anton.* Cardita, sp. *Lam.* Jesonia, *Gray*, 1840. Chama Jeson.

664. Trapezium, *Megerle*, 1811. Trapezium, sp. *Humph.* 1797. Cypricardia, sp. *Lam.* Cyp. angulata.

665. Libitina, *Schum.* 1817. Cypricardia, *Lam.* 1818. Cardita, sp. *Brug.* Cardita D, *Blainv.* Cham. guinaica.

666. Coralliophaga, *Blainv.* 1825. Cardita, sp. *Brug.* Cypricardia, sp. *Lam.*; *Risso.* Chama Coralliophaga.

667. Byssomya, *Payr.* 1826; not *Cuv.* 1817. Saxicava, sp. *Desh.* Bys. Guerini.

668. ? Opis, *Defrance*, 1825. Trigonia *c*, *Blainv.* Ophis, *Gray*, 1840. O. cardissoides.

669. ? Myoconcha, *J. Sow.*; *Blainv.*

670. ? Hippopodium, *Conybeare*; *J. Sow.* 1819.

Fam. IV. PHOLADOMYADÆ.

671. Pholadomya, *Sow.*, *Desh.* Ph. candida.
Cardita, *J. Sow.* Ph. producta.
Mya, *J. Sow.* Ph. angulifera.

Fam. V. ASTARTIDÆ.

672. Astarte, *J. Sow.* 1816. Crassina, *Lam.* 1818. Venus, sp. *Montag.*, *Blainv.* A. Damnoniensis.
Goodallia, *Turton*, 1822. Mactrina, *Brown*, 1827. Mactra, sp. *Montag.* Mactra triangularis.
Nicania, *Leach*, 1819. Venus Q, *Blainv.* 1825. N. Banksii.
Cypricardia, sp. *Lam.* 1819. C. Modiolaris.
Tellina, sp. *Poli.* Tel. fusca.

673. ? Cardinia, *Agassiz*, 1846; not *Agassiz*, 1841.

674. Megalodon, *J. Sow.*; not *Agassiz.* Megalodus, *Goldf.*

Fam. VI. CRASSATELLIDÆ.

675. Crassatella, *Lam.* 1801, 1818. Venus, sp. *Gmelin.* Mactra *β*, *Schum.* 1817. Ven. ponderosa.
Paphia, sp. *Lam.* 1801. Crassatella, sp. *Lam.* 1818. Ven. contraria.

Crassatella, *Sow.* C. Kingicola.
? Ptychomya, *Agassiz.*

Fam. VII. GLOSSIDÆ.

676. Glossus, *Poli*, 1795; *Oken*, 1815. Trapezium, sp. *Humph.* 1797. Bucardium, *Megerle*, 1811; *Schum.* 1817. Bucardia, *Lister.* Isocardia, *Lam.* 1799, 1801, 1818; not *Klein.* Isocardium, *Blainv.* 1825; *Risso*, 1826. Chama, sp. *Linn.* Cardita, sp. *Brug.* 1792. Cardium, sp. *Bolten.* Chama Cor.
Isocardia, sp. *Lam.* Ch. Molkiana.

Fam. VIII. LUCINIDÆ.

677. Lucina, *Brug.* 1792; *Lam.* 1801. Venus, sp. *Gmel.* Phacoides, *Blainv.* 1825. Ven. jamaicensis.
Lucina, *Schum.* 1817. V. pennsylvanica.
Triodonta, *Schum.* 1817. Astarte, sp. *Gray*, 1825. Venus, sp. *Chemn.* Ven. borealis.
Thiatira, sp. *Leach*, 1819. Tellina, sp. *Mont.* Ven. spuria.
Strigella, sp. *Turton*, 1822. Tel. divaricata.
Cyrachæa, *Leach MSS.* 1819. Myrtea, *Turt.* 1822. Ortygia, sp. *Brown*, 1827. Venus, sp. *Montag.* Lucina, sp. *Philippi.* Venus spinifera.

678. Mysia, *Leach MSS.* 1819; *T. Brown*, 1827. Diplodonta, sp. *Philippi*, 1836. Psammobia, sp. *Flem.* Lucina, sp. *Turt.* 1822; *Lam.* Tellina, sp. *Montag.* Tel. rotundata.
Diplodonta, *Bronn*, 1831. Venus Lupinus.

679. Cyrenoida, *Joannis*, 1835. Cyrenella, *Desh.* 1835. Cyrenoides, *G. B. Sow.* 1842. Cyr. Dupontia.

680. Thyasira, *Leach MSS.* 1817; fide *Lam.* 1818. Thyatira, *Leach MSS.* 1819; fide *Jeffreys.* Thiatisa, sp. *Leach Cat.* 1819. Bequania, *Leach*; fide *Brown.* Cryptodon, *Turton*, 1822. Ptychina, *Philippi*, 1836. Axinus, "*Sow.*"; *Lovèn*, 1846. Tellina, sp. *Montag.* Lucina, sp. *Lam.* 1818. Amphidesma, sp. *Lam.* 1818. Tellina flexuosa.

681. Fimbria, *Megerle*, 1811. Idothea, *Schum.* 1817. Corbis, *Cuvier*, 1817. Idotæa, *Desh.* Lucina E, *Blainv.* 1825. Lucina, sp. *Brug.* Trapezium, sp. *Humph.* Venus fimbriata.

682. Loripes (or Loripoderma), *Poli*, 1792. Ligula, *Menke*, 1830; not *Montag.* Tellina *a*, *Megerle*, 1811. Amphidesma, sp. *Lam.* 1818. Lucina, sp. *Lam.* 1818. Thiatisa, sp. *Leach*, 1819. Venus lactea.
? Taras, *Risso*, 1826. T. antiquatus.
Ungulina, *Daud.*, *Roissy*, *Lam.* 1812. U. oblonga.

683. ? Scacchia, *Philippi*, 1844. Loripes, *Scacchi.* Lucina, sp. *Philippi.* E. elliptica.

684. Codakia, *Scopoli*, 1777. Chama codok, *Adans.* 1757. Ch. codok.
Lenticularia, *Schum.* 1817. Ven. punctata.
Orbiculus β, *Megerle*, 1811. Cytherea, sp. *Lamk.* Lucina, sp. *Sow.* Venus tigrinus.

Fam. IX. UNIONIDÆ.

685. Anodonta, *Cuvier*, 1798; *Lam.* 1801. Anodon, *Oken*, 1815. Lymnea and Lymnoderma, sp. *Poli*, 1795; not *Lam.* Mytilus, sp. *Linn.* Mytilus α, *Schum.* 1817. Glochidium, *Rathke* (very young). Myt. anatinus.
Strophilus, *Rafinesq.*
Lostena, *Rafinesq.*
Patularia, *Swains.* 1840. A. ovata.

686. Margaritana, *Schum.* 1817. Baphia, *Gevers*, 1787. Damalis, *Leach*, 1819. Unio, *Turt.* 1822. Mya, sp. *Linn.* Unio, sp. *Lam.* 1818. Mya margaritifera.
Unio, *Lam.* 1810. Unio littoralis.
Potamida, *Swains.* 1840. "Damalis, *Leach.*" Unio sinuata.
Complanaria, *Swains.* 1840. C. gigas.
Uniopsis, *Swains.* 1840. U. mytiloides.
Alasmodonta, *Say*; *Swains.* 1840. Alasmedonta, *Say.* Alasmodon, *Sow.* Alasmesodonta, *Blainv.* 1825. Monodonta, *Say*, 1817; not *Lamk.* A. undulatus.
Symphonota, sp. *Lea.* Lymnadea, *Swains.* 1840. L. alata.

687. Monocondylea, *D'Orb.* 1835. Monocondyla, *Gray*, 1840. M. paraguayana.

688. Unio, *Retzius*, 1788; *Schum.* 1817; not *Lamk.* 1801. Mya, *Humph.* 1797. Baphia, sp. *Gevers*, 1787. Mysia, *Turton*, 1822; *Swains.* 1840. Lymnea, sp. *Poli*, 1795. Lymneum, *Oken*, 1815. Luticola, *Goldf.* 18 ? Mya pictorum.
Unio, *Swains.* 1840. U. mytiloides.
Curricula, *Swains.* 1840. U. planulata.
Ligumia, *Swains.* 1840. U. recta.
Theliderma, *Swains.* 1840. U. metanera.
Megadomus, *Swains.* 1840. U. gigas.
Aglia, *Swains.* 1840. U. ovata.
Calceola, *Swains.* 1840. U. calceolus.
Hemiodon, *Swains.* 1840. U. undulatus.
Naidea, *Swains.* 1840. Niaa, *Swains.* 1837. U. ater.
Canthyria, *Swains.* 1840. U. spinosus.
Iridea, *Swains.* 1840. U. granosus.
Naia, *Swains.* 1840. U. corrugata.
Hyridella, *Swains.* 1840. U. australis.

689. Barbala, *Humph.* 1797; *Gray*, 1828. Barbata, *Sow.* Dipsas, *Leach*, 1817. Cristaria, *Schum.* 1817. Symphynota, *Swains.* 1840. Symphonota, sp. *Lea.* Dipsus, *Swains.* 1840. Appius, *Leach MSS. B.M.* Mytilus, sp. *Solander.* Mytilus plicatus.

690. Lamproscapha, *Swains.* 1840. Anodon, sp. *Spix.* Anodonta, sp. *D'Orb.* A. ensiformis.

691. Anodonta, sp. *Lam.* 1819. Anodon, sp. *Spix.* A. exotica.

692. ? Byssodonta, *D'Orb.* 1835 ? 184 ? B. paranensis.

Fam. X. MUTELADÆ.

693. Mutela, *Scopoli,* 1777. Chama (Mutel), *Adans.* 1757. Scapha, *Humph.* 1797. Anadontites, *Brug.* Iridina, *Lamk.* 1818; *Blainv.* 1825; *Swains.* "Berpolis, *Leach,*" *Blainv.* Mytilus dubius.
Anodonta, sp. *Lamk.* Symphynota, sp. *Swains.* Iridina, sp. *Desh.* Anod. rubens.

694. Leila, *Gray,* 1840. Anodonta, *Jans.* Iridina, sp. *D'Orb.* Anodon, sp. *Lea.* Anod. esula.

695. Pleiodon, *Conrad,* 1834. Iridina, sp. *Swains.* Irid. ovata.

696. Paxyodon, *Schum.* 1817. Hyria, sp. *Lam.* 1819. Unio *a*, *Blainv.* 1825. H. corrugata.
Prisodon *α*, *Schum.* 1817. Hyria, sp. *Lamk.* Tellina, sp. *Gmelin.* Tellina alata.

697. Prisodon *β*, *Schum.* 1817. Castalia, *Lamk.* 1819. Tetraplodon, *Spix.* Unio *c*, *Blainv.* Cast. ambigua.

Fam. XI. MYCETOPODIDÆ.

698. Mycetopus, *D'Orb.* 1835. Mycetopoda or Mycetopus, *Sow.*, *Swains.* 1840. M. soleniformis.
Anodon, sp. *Spix,* 1827. M. siliquosus.

Fam. XII. TRIGONIADÆ.

699. Trigonia, *Lam.* 1801. Tr. nodulosa.
Trigonia *β*, *Blainv.* Trigonia, sp. *Lam.* 1818. Tr. pectinata.

Fam. XIII. ARCADÆ.

700. Arca, *Linn.*; *Lam.* 1801. Arca *a*, *D'Orb.* Navicula, *Blainv.* 1818. Byssoarca, *Swains.* 1835 & 1840. Daphne and Daphnoderma, sp. *Poli,* 1795. Pectunculus (mesol), *Adans.* 1757. Cyphoxis, *Rafin.* Arca Noæ.
Litharca, *Gray,* 1844. Arca Lithodomus.

701. Trisis, *Oken,* 1815; *Alton,* 1829. Arca, sp. *Linn.* & *Lamk.* A. tortuosa.

702. Barbatia, *Gray,* 1840, 1844, 81. Arca, sp. *Linn.* & *Lamk.* A. barbata.

703. Scaphula, *Benson,* 1835; not *Swainson.* Scaphura, *Gray,* 1840. S. ——?

704. Senilia, *Gray*, 1840, 1844, 51. Arca, *Swains.* 1840. Arca 1 *d*, *Alton.* Pectunculus (Tagan), *Adans.* 1757. A. senilis.

705. Argina, *Gray*, 1840, 1844, 81. Arca, n. s.

706. Lunaria, *Gray*, 1840, 1844, 82. Arca, n. s.

707. Anadara. Arca, sp. *Linn.*, *Lamk.*, *Swains.* Pectunculus Anadara, *Adans.* 1757. Arca rhomboides, *Blainv.* Arca antiquata.

708. Scapharca. Arca, sp. *Brug.*, *Lam.* Arca inæquivalvis.

709. Cucullæa, *Lam.* 1801. Arca β, *D'Orb.* Arca cucullus.
? Arca, sp. *Philippi.* Arca pectunculoides.

710. Axinea, *Poli*, 1795. Axinæa, *Oken*, 1815. Arca pilosa.
Pectunculus, *Lam.* 1801. Glycimeris, *Humph.* 1797; *Solander.* Arca Pectunculus.
Pectunculus, *Megerle*, 1811. Arca Glycimeris.

711. Limopsis, *Sassi*, 1827; *Cantraine*, 1835. Arca, sp. *Brocchi.* Pectunculus, sp. *Philippi.* Limnopsis, *Gray*, 1840. Crenella, *Herrm.* 1846; not *Brown.* Arca aurita.

712. ? Trigonocœlia, *Nyst & Gal.*, *D'Orb.* Trigonocœlius, *Bronn.* Trigonocælia, *Nyst.*

713. ? Cannabina, *Gray*, 1840.

Order IV. POGONOPODA.

Fam. I. TRIDACNIDÆ.

714. Hippopus, *Martini*, 1773. Tridacna, sp. *Brug.* 1792. Tridachna, sp. *Humph.* 1797. Tridacna, *Lam.* 1801; *Schum.* 1817. Hippopodes, *Gevers*, 1787. Chama gigas.

715. Tridacna, sp. *Brug.* 1792. Tridachna, sp. *Humph.* 1797. Hippopus, *Lam.* 1799, 1801; *Schum.* 1817; not *Martini*, 1773. Pelvis, *Megerle*, 1811. Chama Hippopus.

Fam. II. MYTILIDÆ.

716. Mytilus, *Linn.*; *Lam.* 1801. Perna dotel, *Adans.* 1757. Perna, *Retz.* 1788; *Schum.* 1817. Callitriche and Callitrichoderma, sp. *Poli*, 1795. Mytulus, *Retz.* 1788. Mytuli, *Gevers*, 1787. Myt. edulis.
Mytilus, *Swains.* 1840. M. achatinus.

717. Volsella, *Scopoli*, 1777. Modiola, *Lam.* 1801. Modiolus, *Risso*, 1826; *Forbes.* Mytilus β, *Schum.* 1817. Mytilus α, *Blainv.* Callitriche and Callitrichoderma, sp. *Poli.* Tamarindiformes, *Gevers*, 1787. Mytilus Modiolus.
Perna lutat, *Adans.* 1757. M. ——?
Amydalum, *Megerle*, 1811. Myt. arborescens.

718. Lithophagus, *Megerle*, 1811. Lithodomus, *Cuv.* 1817; *Risso*, 1826. Perna, *Oken*, 1815. Mytilus γ, *Schum.* 1817. Modiola, sp. *Lam.* Pholas (rapan), *Adans.* 1757. Tamarindiformis α, *Gevers*, 1778. Callitriche and Callitrichoderma, *Poli*, 1795. M. Lithophagus.

719. Brachydontes, *Swains.* 1840. Arca, sp. *Linn.* Mytilus, sp. *Schroet.* Modiola, sp. *Lam.* Mytilus exustus.

720. Crenella, *Brown*, 1827. Mytilus crenatus.
Pectunculina, *D'Orb.* 1844. P. ——?

Herrmannsen (i. 320) erroneously unites this genus with *Limopsis*.

721. Lanistina. Modiola, sp. *Lam.* Lanistes, *Swains.* 1840; not *Montf.* Modiolaria, "*Beck*"; *Lovèn*, 1846. Mytilus discors.

722. Modiolarca, *Gray*, 1840. Modiola, sp. *Lam.* Modiolaria, "*Beck.*" Modiola trapezina.

Fam. III. PINNIDÆ.

723. Pinna, *Linn.*; *Lam.* 1801. Chimæra, *Poli*, 1792. Mya, *Scopoli*, 1777; not *Linn.* Pinna rudis.
Pinna, *Swains.* 1840. P. serrata.
Perna (apan), *Adans.* 1757.

724. Atrina, *Gray*, 1840, 1844. P. nigra.

Fam. IV. DREISSENIDÆ.

725. Dreissena, *Van Beneden*, 1835. Driessena, *Bronn.* Mytilina or Mytulina, *Cantraine*, 1835. Trichogonia, *Rossmäsler*, 1835. Cœlogonia, *Bronn.* Mytilus, sp. *Schroet.* Mytilus β, *Rang*; *Megerle*, 1811. Dythalmia, *Jay*. Mytilus polymorpha.

726. ? Enocephalus, *Munst.* 1833. Ænocephalus, *Herrmann*, 1846.

727. Congeria, *Partsch*, 1835. Mytilomya, *Cantraine*, 1837.

728. Mytilimeria, *Conrad*, 1837.

729. ? Myoconcha, *D'Orb.*

Fam. V. PTERIADÆ.

730. Malleus, *Lam.* 1799, 1801. Ostrea *e*, *Megerle*, 1811. Ripariæ, sp. *Gevers*, 1787. Pintada, sp. *Bolten*, 1798. Margaritifera, sp. *Humph.* 1797. Tudes polonica, *Klein*. O. Malleus.

731. Baphia, *Gevers*, 1787. Vulsella, *Humph.* 1797; *Lam.* 1799, 1801; *Schum.* 1817; not Volsella, *Scopoli*, 1777. Reniella, *Swains.* 1840, young. Mya Vulsella.

732. Pteria, *Scopoli*, 1777. Avicula, *Klein*, 1753; *Brug.* 1789; *Lam.* 1799, 1801. Margaritifera, sp. *Humph.* 1797. Anonica,

Oken, 1815. Perna (charon), *Adans.* 1757. Ripariæ, sp. *Gevers*, 1787. Mytilus Hirundo.
Perlamater β, *Schum.* 1817. M. punctata.
Avicula, *Swains.* 1840. A. heterophylla.

733. Margaritiphora, *Megerle*, 1811. Meleagrina, *Lam.* 1819. Margarita, *Leach*, 1814; not 1819. Perlamater, *Schum.* 1817. Margaritifera, *Humph.* 1797. Ripariæ, sp. *Gevers*, 1787. Avicula *a*, *Blainv.* 1825. Pintada 1 *a*, *Bolten*, 1798. Myt. Margaritifera.

734. Crenatula, *Lamk.* 1819. Crenatule, *Lam.* 1812. Isogonum, sp. *Bolten*, 1798. Ostrea semiaurita.
Crenatula, *Sow.* 1840. Cren. mytiloides.

735. Dalacia, *Gray*, 1825. Vulsella, sp. *Humph.* 1797. Dal. folium.

736. Melina, *Retz.* 1788; *Schum.* 1817. Perna, *Brug.* 1792; *Lam.* 1801; not *Retz.* Sutura, *Megerle*, 1811. Isognomon, *Klein*, 1753. Isogonum, sp. *Bolten*, 1798. Hippochæta, *Sangiov.* 1844. Pedalion, sp. *Soland.* Ostrea ephippium.
Pedalion, *Soland. MSS.* Vulsella, sp. *Humph.* 1797. Ripariæ, sp. *Gevers*, 1787. Ost. Isognomon.

Order V. MICROPODA.

Fam. I. PECTENIDÆ.

737. Argus, sp. *Poli*, 1795. Pecten, *Megerle*, 1811. Ostrea, sp. *Linn.* Ost. opercularis.
Pecten, *Schum.* 1817. Ost. radula.
Chlamys, sp. *Bolten.* 1798. Pecten β, *Schum.* Ost. pallium.

738. Pecten, *Bolten*, 1798; *Lam.* 1801. Pandora, *Megerle*, 1811; not *Brug.* nor *Lamk.* Janira, *Schum.* 1817; *D'Orb.* Janera, *Sow.* Argus, sp. *Poli.* Ost. maximus.

739. Amusium, *Megerle*, 1811. Ost. magellanicus.
Amusium, *Schum.* 1817. Pallium B, *Blainv.* Ost. japonicum.
Pleuronectia, *Swains.* 1840. Ost. pleuronectes.

740. Pallium, *Martini*, 1773; *Schum.* 1817. Dentipecten, *Rüppell*, 183 ? Decadopecten, "*Rüppell*;" *Swains.* 1840. Pecten plica.

741. Neithea, *Drouet*, 1824; *Blainv.* 1825. Janira, *D'Orb.* Pecten quinquecostatus.

742. Lima, *Brug.* 1797; *Lam.* 1801. Glaucus and Glaucoderma, sp. *Poli*, 1795. Glaucion, *Oken.* Mantellum, *Bolten*, 1798. Pectunculus, *Gualt.* Ostrea Lima.

743. Limatula, *S. Wood.* Pecten, sp. *Montag.* Limula, *D'Orb.* Pect. subauricula.

744. Limæa, *Bronn.* 1831. Limoarca, *Munster*, 1832. Ostrea strigillata.
Limæa, *Lovèn*, 1846. Limæa Sarsii.

745. Pedum, *Brug.* 1797; *Lam.* 1801. Pecten, sp. *D'Orb.* 1846. Glaucion β, *Oken*, 1815. Ostrea spondyloidea.

Fam. II. SPONDYLIDÆ.

746. Spondylus, *Linn.*; *Lam.* 1801. Gasteropoda, *Belon*, 1558. Argus, sp. *Poli*, 1795. Spond. gaderopus.

747. Plicatula, *Lam.* 1801. Spondylus β, *Schum.* 1817. Spondylus, sp. *Linn.*, *Brug.* Sp. plicatus.

748. Hinnites, *Defrance*, 1821. Hinnus, *S. Wood?* Hynnites, *Herrm.* 1846. Pecten, sp. *D'Orb.* H. Corteysii.
Hinnita, *Gray*, 1826; *Conrad*, 1834. Hinnites, *Sow.* Lima, sp. *Gray*, 1825. Lima gigantea.
Hinnites, *Sow.* Pecten pusio.

Fam. III. OSTREIDÆ.

749. Ostrea, *Linn.*; *Lam.* 1801; *Megerle*, 1811. Peloris, sp. *Poli.* Ostreum, *Adans.* 1757. Ost. edulis.
Dendostræa, *Swains.* 1840. Ostrea β, *Megerle*, 1811. Ostrea D, *Blainv.* Ostreum, sp. *Adans.* Ost. folium.
Mya, *Scopoli*, 1777. Alectrionidæ, *Fischer.* Amphidonta, *Fischer.* Ost. cristagalli.
Peloris, sp. *Poli.* Ost. Cochlearis.

750. Gryphæa, *Lam.* 1801; not Gryphus, *Humph.* Ostrea, sp. *D'Orb.* Ost. angulata.
Gryphæa, *Swains.* G. incurva.

751. Exogyra, *Say.* Ostrea, sp. *D'Orb.* Chama, sp. *Sow.* E. ——?

752. Plectronia. P. ——?

753. Carolia, *Cantraine*, 1835. C. placunoides.

Fam. IV. PLACENTADÆ.

754. Placenta, *Retz.* 1788; *Megerle*, 1811; *Schum.* 1817. Placuna, *Soland.*; *Humph.* 1797; *Lam.* 1801. Anomia, sp. *Linn.* An. Placenta.

Fam. V. ANOMIADÆ.

755. Anomia, *Linn.*; *Müller*, 1776; *Retz.* 1788; *Lam.* 1801; *Megerle*, 1811. Echion, sp. *Poli.* Fenestrella, *Bolten*, 1798. Lampades, sp. *Gevers*, 1787. An. Ephippium.
Cepa, *Humph.* 1797. An. Cepa.

756. Placunanomia, *Brod.* 1832; *Sow.* Anomia, sp. *Blainv.* Placunomia, *D'Orb.*; *Swains.* 1840. P. Cumingii.

757. Pododesmus, *Philippi*, 184 ? Placunanomia, sp. *Brod.*? P. ——?

Class III. BRACHIOPODA.

Fam. I. LINGULADÆ.

758. Lingula, *Haus.*; *Solander*; *Lam.* 1801; *Megerle*, 1811; *Schum.* 1817. Ligula, *Cuv.* 1797. Patella, sp. *Linn.* Mytilus, sp. *Dillw.* Pat. unguis.

Fam. II. CRANIADÆ.

759. Crania, *Retzius*, 1788; *Lam.* 1801, 1812; *Megerle*, 1811; *Schum.* 1817. Criopus and Criopiderma, *Poli*, 1795; *Flem.* Orbicula, *Lam.* 1801; *Schum.* 1817. Discina, *Turton*, 1825; not *Lam.* 1812. Cryopus, *Desh.* Patella, sp. *Fab.*, *Müller*, *Montag.* Anomia, sp. *Linn.*, *Chemn.* Pat. anomala.

Fam. III. DISCINIDÆ.

760. Discina, *Lam.* 1812; *Flem.* 1825. Crania β, *Schum.* 1817. Orbicula, sp. *G. B. Sow.*, *Owen*, not *Lam.* Orbicula β, *Blainv.* 1825. D. ostreoides.

Fam. IV. TEREBRATULIDÆ.

761. Terebratula, *Retz.* 1788; *Schum.* 1817. Anomia (animal), *Linn.* Gryphus, *Megerle*, 1811. T. dorsata.
Lampas, sp. *Humph.* 1797. L. columbina.
Lampades, *Gevers*, 1787. L. Terebratula.

762. Lampas, sp. *Humph.* 1797. Terebratula, sp. *Lam.* Anomia, sp. *Gmelin.* Hypothyris, sp. *Phillips*; *King*, 1846. Atrypa, sp. *Menke.* L. Psittacea.

See *King*, *Ann. & Mag. N.H.* xviii. 26, 1846, for fossil genera and their synonyma, which at least shows how imperfectly the distribution of the fossil species of this group is known.

Fam. V. THECIDEIDÆ.

763. Thecidea, *Defrance*; *Blainv.* 1825; *Risso*, 1826. Th. mediterranea.

Fam. VI. PRODUCTIDÆ.

764. Productus, &c.

Class IV. PTEROPODA.

Order I. THECOSOMATA.

Fam. I. CLEODORIDÆ.

765. Cavolina, *Gioeni*, 1783; *Abild.* 1791; not *Brug.* 1792. Tricla, *Retz.* 1788. Anomia, sp. *Forsk.* 1775. Fissurella, sp. *Brug.*; *Megerle*, 1811. Rheda, *Humph.* 1797. Hyalea, *Lam.* 1799, 1801. Hyalus, *Froriep*, *Meckel.* Hyalæus, *Montf.* 1810. Hyalea, *Schweiger*, *Herrm.* Monoculus, sp. *Linn.* Cavol. natans. Hyalæa, sp. *Peron & Lesueur.* H. tæniobranchiata.

766. ? Archonta, *Montf.* 1810. A. exploratus.

767. Diacria, *Gray*, 1842. Hyalea *b*, *Rang.* Hyalea trispinosa.

768. Clio, *Brown*, 1756; not *O. Müller.* Cleodora, *Peron & Lesueur*; *Lam.* 1812. Cliodora, *Schweig.* Hyalæa, sp. *D'Orb.* Clio pyramidata.

769. Balantium, *Leach MSS.* 1819; *Children*, 1829. Bal. recurvum.

770. Pleuropus, *Eschsch.* (*Isis*) 1825. Cleodora, *Blainv.* P. pellucidus.

771. Vaginella, *Daud.* Vaginula, *D'Orb.*, *Sow.* V. depressa.

772. Cresis ("Le Creseis"), *Rang*, 1828, 1829. Creseis, *Eschsch.* 1829. Criseis, *Forbes*, 1844. Crisia, *Menke*, 1844. Cleodora, sp. *D'Orb.* Hyalæa, sp. *D'Orb.* C. acus. Styliola, "*Lesueur*;" *Blainv.* 1825. Cleodora *c*, *Blainv.* S. recta.

773. ? Psyche, *Rang*, 1825, *Ann. Sc. N.* Psy. globulosa.

774. Euribia, *Rang*, 1827; not *Hubner*, &c. &c. Eurybia, *Menke*, 1830. Eur. hemispherica.

775. ? Cæcum, *Flem.* 1824. Brochus, *Brown*, 1827. Odontidium, *Philippi*, 1836. Cæcalium, *Macgilliv.* 1843. Orthoceras, sp. *Flem.* Dentalium, sp. *Montag.* Creseis, sp. *Cantr.* Odontina, *Zhorz.* 1834. Odontostoma, *Cantr.* Dentaliopsis, *Clark MSS.* Dent. trachea.

776. ? Cadulus, *Philippi*, 1844. Dent. ovulum.

Fam. II. LIMACINIDÆ.

777. Limacina, *Cuv.* 1817; not *Hartm.* 1821. Spiratella, *Blainv.* 1825. Argonauta, sp. *O. Fab.* Lim. arctica.

778. ? Spirialis, *Eyd. & Soul.* See Heterofusus?

779. ? Cirropteron, *Sars*, 1835. Buccinum (jun.), *Allman*, 1843. C. semilunare.

Fam. III. CUVIERIDÆ.

780. Cuvieria, *Rang*, 1827; not *Peron*, &c. Cleodora, sp. *Quoy & Gaim.* Creseis, sp. *Rang.* Cuv. columnella.

781. Triptera, *Quoy & Gaim.* 1825. Tripter, *Rang.* T. rosea.

Fam. IV. CYMBULIADÆ.

782. Cymbulia, *Peron & Lesueur*, 1810; *Lam.* 1812. Cym. proboscidea.
"Argivora, *Lesueur*;" *Blainv.* 1825. Cymbulia parva.

783. Tiedemannia, *Chiaje*, 1841; *Krohn*, 1844. Cymbulia, sp. *Beneden.* T. neapolitana.

Order II. GYMNOSOMATA.

Fam. V. PNEUMODERMIDÆ.

784. Pneumoderma, *Peron & Lesueur*, 1810. Pneumodermon, *Cuvier*, 1817. Pneum. capuchonne.

785. Spongiobranchea, *D'Orb.* 1840? Spong. australis.

786. Trichocyclus, *Eschsch.* (*Isis*) 1825. T. Dumerillii.

787. ? Pelagia, *Quoy & Gaim.*; not *Peron.*

Fam. VI. CYMODOCEADÆ.

788. Cymodocea, *D'Orb.* 184 ?; not *Salisbury.* Cyd. diaphana.

Fam. VII. CLIONIDÆ.

789. Clione, *Pallas*, 1774. Clio, *O. Müller*, 1776; *Peron & Lesueur*, 1810; *Lam.* 1812; not *Brown*, 1756. Clio. boreale.

790. Cliodita, *Quoy & Gaim.* 1825. Clio. caduceus.

Class V. CEPHALOPODA.

Subclass I. DIBRANCHIATA.

Order I. OCTOPODA.

Fam. I. OCTOPODIDÆ.

Ocythoina.

791. Ocythoë, *Rafin.*; *Leach*, 1818. Argonauta, *Risso*, 1826. Octopus *e*, *Blainv.* 1825. O. antiquorum.

OCTOPODINA.

792. Octopus, *Cuvier*, 1797, 1817; *Blainv.* 1825. Polypus, *Leach.* Octopodia, *Rafinesq.* Sepia Octopus.

793. Tremectopus, *Chiaje.* Octopus, sp. *Férus.* Oct. velifer.

794. Eledone, *Leach*, 1817; *Risso*, 1826. Eledona, *Risso*, 1826. Eledon, *Por. & Mich.* Heledone, *Menke*, 1830. Moschites, *Schneid.* Sepia octopodia.
Ozaena, *Montf.* "Ozoema, *Rafin.*" Eledona Aldrovandi.

795. Octopodoteuthis, *Rüppell*, 1845. Verania, *Krohn.* O. ——?

796. Cirroteuthis, *Eschricht*, 1836. Sciadephorus, *Eschr.* 1846. Chiroteuthis, *D'Orb.* Cirrhoteuthis, *Moller.* C. Mulleri.

PHILONEXIANA.

797. Philonexis, *D'Orb.* 184 ?. Philonexus, *D'Orb.* Ph. Quoyianus.

Order II. DECAPODA.

Fam. II. SEPIADÆ.

SEPIOLINA.

798. Sepiola, *Leach*, 1817; *Risso*, 1826; *Blainv.* 1825. Loligo, sp. *Lamk.* Sepia Sepiola.

SEPIANA.

799. Rossia, *Owen*, 1835. R. palpebrosa.

800. Sepia, *Linn.*; *Lam.* 1801; *Blainv.* 1825. S. officinalis.
Beloptera, *Desh.* B. parisiensis.

CRANCHINA.

801. Cranchia, *Leach*, 1817. Loligo *β*, *Blainv.* C. scabra.
Cranchia, *Peron.* C. cardioptera.

Fam. III. LOLIGIDÆ.

802. Loligo, *Leach.* Pteroteuthis, *Blainv.* 1825. Sepia Loligo.

803. Sepioteuthis, *Blainv.* 1825. Condrosepia, *Leuch.* Sepia, sp. *Lam.* 1812. Loligo, sp. *Blainv.* 1825. Loligo Sepioidea.

Fam. IV. LOLIGOPSIDÆ.

804. Loligopsis, *Lam.* 1811; *Blainv.* 1825. Leachia, *Lesson*; *Blainv.* 1825. Lol. ——?

805. Histioteuthis, *D'Orb.* Hist. ——?

Fam. V. ONYCHOTEUTHIDÆ.

806. Onychoteuthis, *Licht.* 1818; *Blainv.* 1825. Onychia, *Lesueur,* 1821. Ony. Bergii.
Onychia, sp. *Lesueur,* 1821. Cranchia, sp. *Férus.* 1823. Loligo, sp. *Peron.* Sepiola, sp. *Lesueur,* 1821. Sep. Cardioptera.

807. Enoploteuthis, *D'Orb.* Ommastrephes, *D'Orb.* Les Calmar-flèches, *Blainv.* 1825. Loligo Sagittæ.

808. Belemnites, *Lam.* 1801. Belemnita, *Flem.* 1828. Belemnosepia, *Agassiz,* &c. Belemnitella, *D'Orb.*

808*. Belemniteuthis, *Pearce,* 1842.

Fam. VI. LITUIDÆ.

809. Lituus, *Brown,* 1756; *Humph. MSS.* 1797. Pedum, *Humph.* 1797; not *Lam.* Spirula, *Lam.* 1801. Spirulæa, *Peron.* Spirula *a* (not *b* & *c*), *Blainv.* 1825. Sp. australis.

Subclass II. TETRABRANCHIATA.

Order III. POLIPODA.

Fam. VII. NAUTILIDÆ.

810. Nautilus, *Lam.* 1801; *Montf.* N. Pompilius.
Oceanus, *Montf.* 1808. Nautilus, sp. *Linn.* N. umbilicatus.

ERRATA.

No. 126, *for* Helenchus *read* Heleuchus.
No. 130, *for* Helicena *read* Helicina.
No. 206, *for* Forsar *read* Fossar.
———, *for* Pharianema *read* Phasianema.
No. 447, *for* Amphibulima *read* Amphibulina.
No. 518, *before* Lituus *add* Lituella.
No. 677, *for* Strigella *read* Strigilla.
No. 691, *add* Glabaris.
No. 706, *for* Lunaria *read* Lunarca.
No. 708, *for* Scapharea *read* Scapharca.

INDEX OF GENERA OF MOLLUSCA.

[The numbers refer to the numbers before the genera.]

Abida, 473.
Abra, 581, 582.
Acanthiza, 57.
Acanthochetes, 425.
Acanthochites, 425.
Acanthochiton, 425.
Acanthopleura, 413, 414.
Acardo, 323, 559.
Acavus, 453.
Acera, 298.
Achatina, 469, 471, 472, 478, 479, 481, 484, 485, 486, 488.
Achatinella, 487.
Achatinus, 478.
Achena, 482.
Acicula, 482, 502.
Aciona, 248.
Acionæa, 248.
Acione, 248.
Aclesie, 318, 319.
Acmæa, 275, 513.
Acme, 209, 275, 502.
Acmea, 276, 502, 514.
Acroloxus, 510.
Actæon, 388.
Acteocina, 294.
Acteon, 286, 287, 292, 294, 388, 498.
Acteonella, 297.
Acteonia, 393.
Actindoris, 342.
Actinocyclus, 346.
Acus, 65.
Adacna, 559.
Adeorbis, 140.
Admete, 30.
Adspergillum, 599.
Aegires, 353.
Ænocephalus, 726.
Ælidia, 373.
Æolis, 373, 377.
Ætheria, 659.
Agaria, 662.
Agaronia, 77.
Agina, 637.
Aglia, 688.
Agopis, 462.
Akera, 303.
Alæa, 471, 473.
Alasmedonta, 686.
Alasmesodonta, 686.
Alasmodonta, 686.
Alatæ, 1.
Alatus, 1.
Alcadia, 533.
Alderia, 380.
Alectrion, 68.
Alectrionidæ, 749.
Alexia, 498.
Alicula, 301.
Aloïdes, 637.
Alvania, 209, 219.
Amalthea, 263, 265.
Amarula, 215.
Amathina, 267.
Amicula, 424.
Amnicola, 198, 199.
Amoura, 287.
Ampelita, 457.
Amphibina, 449.
Amphibola, 511.
Amphibulima, 446, 447, 448.
Amphibulina, 447, 449.
Amphibulinus, 447.
Amphiceras, 108.
Amphidesma, 572, 580, 581, 582.
Amphidonta, 749.
Amphipeplea, 505.
Amphisphyra, 305.
Amphitrite, 364.
Amphorina, 395.
Amplexus, 456.
Amplustra, 309.
Amplustrum, 309.
Ampulla, 486.
Ampullacera, 512.
Ampullaria, 166, 188.
Ampullarina, 511.
Ampullarius, 166.
Ampullaroides, 172.
Ampullina, 531.
Amusium, 739.
Amydala, 299.
Amydalum, 717.
Anadara, 707.
Anadontites, 693.
Anapa, 573.
Anastoma, 459, 530.
Anastomus, 459.
Anatina, 565, 626, 627, 628, 633.
Anatinella, 570.
Anatola, 249.
Anatomus, 151.
Anaulax, 78.
Ancilla, 77, 78, 263, 268, 271.
Ancillaria, 74, 78.
Ancillus, 78.
Ancula, 357.
Anculosa, 224.
Anculotus, 224.
Ancylus, 275, 510.
Anguinaria, 261.
Angulus, 577.
Angystoma, 459.
Anisus, 506, 508.
Anna, 17.
Annularia, 515, 519.
Anodon, 685.
Anodonta, 685, 691.
Anolax, 78.
Anomala, 476.
Anomalocardia, 544.
Anomia, 754, 755, 765.
Anonica, 732.
Anops, 331.
Anostoma, 460.
Ansulus, 510.
Antigone, 546.
Aphrodite, 559.
Apiculum, 123, 132.
Aplexa, 507.
Aplysia, 315, 316, 317, 388.
Aplysiopterus, 388.
Apollon, 5.
Apoma, 477.
Aporrhais, 2, 33.
Aporrhis, 33.
Appendicularia, 397.
Appius, 689.
Aquaria, 599.
Aquillus, 6.
Aranea, 10.
Arca, 700.
Architectoma, 200.
Archonta, 766.

Arcinella, 624, 658.
Arcopagia, 578.
Arctica, 545.
Arctoë, 535.
Arenaria, 581.
Argina, 705.
Argivora, 782.
Argonauta, 31, 248, 336, 791.
Argus, 737, 746.
Arianta, 454.
Arion, 429.
Ariophanta, 433.
Arminia, 401.
Arrosoier, 599.
Artemis, 535, 651.
Artemon, 455, 464.
Arthemiderma, 535.
Arthemis, 535.
Artolon, 281.
Arytæna, 599.
Asa, 535.
Asolene, 172.
Aspergillus, 599.
Assaminea, 193.
Assiminea, 193.
Assula, 301.
Astarte, 672.
Asteronotus, 347.
Atlanta, 174, 175.
Atlas, 314.
Atractodon, 41.
Atractus, 39.
Atrina, 724.
Atrypa, 762.
Atys, 308.
Aulica, 87.
Aulus, 610.
Auricella, 501.
Auricula, 71, 283, 285, 287, 293, 467, 492, 499, 500, 502, 503.
Auriculina, 286.
Auriculus, 492.
Auriformes, 147, 191.
Auris, 466.
Auriscalpium, 626.
Auris mustela, 292.
Auris Veneris, 191.
Avellana, 295.
Avicula, 732.
Axinæa, 710.
Axinea, 710.
Axinus, 680.
Azara, 638.
Azeca, 468.
Azor, 575, 609.
Balantium, 769.
Balcis, 280, 289.
Balea, 465, 476.
Balia, 476.
Bankia, 597.
Baphia, 686, 688, 731.
Barbala, 689.
Barbata, 688.
Barbatia, 702.
Barnia, 586.
Batillaria, 223.
Batillus, 112.
Bela, 14.
Belemnita, 808.
Belemnitella, 808.
Belemnites, 808.
Belemnosepia, 808.
Belemnoteuthis, 808.
Bellerophon, 337.
Bellerophorina, 337.
Beloptera, 800.
Bembicium, 195.
Bensonia, 189.
Bequania, 680.
Berpolis, 693.
Berthella, 326.
Bezoardica, 43.
Biapholus, 655.
Bicatillus, 269, 270.
Biconia, 270.
Bifrontia, 202, 203.
Birostra, 108.
Bithinia, 253.
Bittium, 234, 241.
Bivinæ, 258.
Bivonia, 258.
Bolma, 115.
Bombyxinus, 250.
Bonellia, 291.
Bontia, 628.
Bornia, 647.
Brachychlamys, 345.
Brachychlanis, 345.
Brachydontes, 719.
Brachypodella, 478.
Brachypus, 477.
Brachystoma, 13.
Bradybæna, 461.
Brephulus, 470.
Briaræa, 397.
Briarea, 397.
Briareus, 397.
Brocchia, 266.
Brochus, 775.
Broderipia, 144.
Brontes, 10.
Brownia, 174.
Bryopa, 601.
Bucardia, 676.
Bucardium, 676.
Buccianops, 67.
Buccinella, 30.
Buccinum, 6, 7, 17, 62, 229, 230, 472, 480, 482, 485, 486, 504.
Buchanania, 400.
Buchannia, 490.
Bufo, 5.
Bufonaria, 5.
Bulbus, 23.
Buliminus, 470, 471.
Bulimulis, 470.
Bulimulus, 471.
Bulimus, 166, 228, 251, 253, 283, 290, 291, 293, 447, 450, 466, 469, 471, 474, 480, 482, 485, 486, 488, 496, 502, 503, 504, 505, 506, 507.
Bulinus, 506, 509, 511.
Bulla, 4, 255, 298, 300, 303, 306, 307, 311, 312, 471, 485, 486, 508.
Bullæa, 299, 310, 311.
Bullia, 67.
Bulliana, 67.
Bullina, 303, 304, 309, 310, 311.
Bullinula, 311.
Bullinus, 506, 510.
Bullus, 307.
Bursatella, 319.
Bursiris, 318.
Busyeon, 19.
Byssoarca, 700.
Byssodonta, 692.
Byssomia, 654.
Byssomya, 654, 667.
Byssonia, 654.
Cabochon, 263.
Cadulus, 776.
Cadus, 50.
Cæcalium, 775.
Cæcum, 775.
Calana, 163.
Calcar, 115.
Calceola, 688.
Callia, 526.
Calliopæa, 374.
Calliostoma, 124.
Callipara, 93.
Callista, 536, 540, 562.
Callistoderma, 540, 543, 546, 548, 562.
Callitriche, 716, 717.
Callitrichoderma, 716, 717.
Callochiton, 409.
Calpurna, 108.
Calpurnus, 108.
Calypeopsis, 270.
Calyptra, 271, 510.
Calyptradæ, 268.
Calyptræa, 269, 270, 271, 272.
Calyptria, 271.
Calyptrus, 271.

Camitia, 134.
Camostrea, 634.
Camptoceras, 507.
Campulote, 61.
Campulotus, 61.
Campylæa, 456.
Campylonaus, 179.
Canarium, 1.
Cancella, 96.
Cancellaria, 30, 48, 72, 94.
Cancellarius, 30.
Cannabina, 713.
Cantareus, 452.
Canthapleura, 413.
Canthidomus, 228.
Canthiridus, 125.
Canthorbis, 115.
Canthyria, 688.
Capisteria, 583.
Caprella, 466.
Caprinus, 458.
Capsa, 547, 548, 550, 584.
Capsula, 550.
Capulus, 263.
Cardiapoda, 334.
Cardilia, 629.
Cardinalia, 119.
Cardinia, 673.
Cardissa, 558, 661.
Cardita, 661, 662.
Cardium, 556, 557, 559, 561.
Carinaria, 335.
Carinea, 108.
Carinidea, 121.
Carocolla, 455, 457, 462.
Carocollina, 457.
Carocollus, 457.
Carolia, 753.
Carychium, 468, 469, 499, 501, 502.
Cassida, 42.
Cassidarea, 44*.
Cassidaria, 44*, 45, 46, 47.
Cassidea, 42, 47, 51.
Cassidula, 494.
Cassidulus, 21.
Cassis, 42, 43, 44, 51.
Castalia, 697.
Catillus, 165.
Cavolina, 375, 765.
Cela, 472.
Cemoria, 155, 156, 271.
Centronotus, 10.
Cepa, 755.
Cepæa, 453.
Cepatia, 184.
Cepolis, 458.
Cerastes, 557.
Cerastodermi, 557.
Cerastoma, 10.
Ceratodes, 167.
Ceratostoma, 10.
Cerion, 271, 475.
Ceriphasia, 227.
Cerithidea, 236.
Cerithium, 229, 233, 235, 240.
Cernina, 187.
Cerophora, 333.
Cerostoma, 10.
Chæna, 603, 604.
Chalidis, 391.
Chama, 581, 657.
Char, 301.
Charta, 301.
Chelinotus, 109.
Chemnitzia, 286, 288.
Chenopus, 33.
Chersina, 484.
Chicoreus, 10.
Chilina, 504.
Chilostoma, 456.
Chilotrema, 457.
Chimæra, 723.
Chion, 583.
Chione, 540, 546.
Chionella, 480.
Chironia, 648.
Chiroteuthis, 796.
Chiton, 407, 408, 414.
Chitonella, 426.
Chitonellus, 425, 426.
Chitoniscus, 426.
Chlamys, 737.
Chlorostoma, 129.
Chondrula, 473.
Chondrus, 470, 473.
Choristodon, 551.
Choristoma, 282.
Choritis, 457.
Chorus, 34.
Chrysodomus, 39.
Chrysostoma, 132.
Cidaris, 110.
Cimber, 165.
Cinctodonta, 631.
Cingula, 199, 209, 210.
Cingulifera, 454.
Cinulia, 295.
Cionella, 53, 419, 468, 480, 482, 483.
Circe, 541.
Circinaria, 456.
Circompholos, 535.
Cirrhoteuthis, 796.
Cirropteron, 779.
Cirroteuthis, 796.
Cistula, 515.
Cladophora, 352.
Clanculus, 123.
Clangulus, 123.
Clathodon, 569.
Clathrodon, 569.
Clathrus, 248.
Clausaria, 595.
Clausilia, 467, 470, 473, 475, 476, 478.
Clausilina, 475.
Clausina, 542, 651.
Clavagella, 601, 602.
Clavagelle, 602.
Clavatula, 12, 13.
Clavella, 37.
Clavellithes, 37.
Clavicantha, 13.
Clavus, 13.
Cleanthus, 326.
Cleidothærus, 634.
Clementia, 549.
Cleodora, 768, 770.
Clepsydra, 599.
Clio, 313, 768, 789.
Cliodita, 790.
Cliodora, 768.
Clione, 789.
Clionella, 230.
Clithon, 164.
Citon, 164.
Clœlia, 379.
Clossonaria, 595.
Clotho, 654.
Clymenis, 503.
Clypeus, 513.
Clypidina, 153.
Clypsidella, 156.
Cobresia, 444.
Cochlea, 454.
Cochlicella, 461.
Cochlicopa, 479, 480, 482, 484.
Cochlitoma, 478, 485.
Cochlodesma, 628.
Cochlodina, 466, 477.
Cochlodonta, 471.
Cochlogena, 470, 472.
Cochlohydra, 446, 449, 450, 451.
Cochlostyla, 465.
Codakia, 684.
Cœlogonia, 725.
Cœnatoria, 452.
Columbaria, 5.
Columbella, 8, 9, 53, 94.
Columna, 470, 478, 481.
Colus, 19.
Cominia, 54.
Complanaria, 686.
Conalex, 99.
Conchilium, 1.
Concholepas, 56*.
Condrosepia, 803.
Congeria, 727.
Conidea, 53.

Conilithes, 18.
Conœlix, 99.
Conoelix, 99.
Conohelix, 99.
Conopleura, 13.
Conorbis, 18.
Conovula, 493.
Conovule, 493.
Conovulum, 493.
Conovulus, 493.
Conulus, 460.
Conus, 18, 47.
Coralliophaga, 666.
Corbicula, 552.
Corbis, 681.
Corbula, 559, 637.
Corculum, 558.
Corephium, 416.
Coretus, 508.
Coriocella, 109.
Cornea, 555.
Corneola, 456.
Cornu, 31.
Cornucopia, 453.
Coronaxis, 18.
Costellaria, 96.
Cranchia, 801, 806.
Crania, 759, 760.
Crassatella, 572, 675.
Crassina, 672.
Crassispira, 13.
Cremoria, 155.
Crenatula, 734.
Crenatule, 734.
Crenea, 468.
Crenella, 711, 720.
Crepidula, 268, 511.
Crepidulus, 268.
Crepipatella, 268.
Cresis, 280, 772.
Criopiderma, 759.
Criopus, 759.
Crisia, 772.
Cristaria, 689.
Crucibulum, 270.
Cryopus, 759.
Crypta, 268.
Cryptella, 442.
Cryptochiton, 422.
Cryptoconchus, 423, 426.
Cryptodon, 567, 651, 680.
Cryptophthalmus, 300.
Cryptoplax, 426.
Cryptospira, 100.
Cryptostoma, 191.
Cryptothyra, 109.
Ctenoconcha, 621.
Cucullæa, 709.
Cultellus, 566, 613.
Cuma, 24, 26.
Cumia, 6.
Cumingia, 580.
Cuneus, 537.
Cuphus, 595.
Curricula, 688.
Cuspidaria, 643.
Cuvieria, 780.
Cyamium, 649.
Cyanogaster, 327.
Cycladina, 647.
Cyclas, 552, 553, 556.
Cyclodontina, 473.
Cyclogyra, 204.
Cyclonassa, 68.
Cyclope, 68.
Cyclophora, 519.
Cyclophorus, 519.
Cyclops, 68.
Cyclosantha, 115.
Cyclostoma, 135, 169, 248, 251, 254, 282, 478, 503, 514, 530.
Cyclostome, 514.
Cyclostomus, 514.
Cyclostrema, 209, 248.
Cyclotus, 520.
Cylichna, 304.
Cylinder, 18.
Cylindra, 98.
Cylindrella, 18, 304, 477.
Cylindrus, 74, 470.
Cyllene, 73.
Cymba, 82.
Cymbiola, 86, 87.
Cymbium, 82, 83, 100, 307, 312.
Cymbulia, 782.
Cymodocea, 788.
Cynodonta, 28.
Cyphonia, 108.
Cyphoxis, 700.
Cypræa, 103, 104.
Cypræcassis, 42.
Cyprædia, 106.
Cypræova, 105, 106.
Cyprella, 108.
Cypricea, 565.
Cyprina, 545, 552.
Cyprine, 545.
Cyprovula, 105.
Cyrachæa, 677.
Cyrena, 552, 553, 554.
Cyrenella, 679.
Cyrenoida, 679.
Cyrenoides, 679.
Cyrtodaria, 616.
Cyrtulus, 38.
Cythara, 48.
Cytherea, 536, 541, 542, 684.
Cytheree, 566.
Dactylina, 587.
Dactylus, 100, 293.
Dædalochila, 460.
Dalacia, 735.
Damalis, 686.
Daphne, 700.
Daphnella, 13.
Daphnoderma, 700.
Daudebardia, 445.
Dauphinule, 135.
Decadopecten, 740.
Defrancia, 14, 16.
Delphinoidea, 213.
Delphinula, 30, 114, 135, 136, 461.
Delphinus, 138.
Dendoris, 344.
Dendostræa, 749.
Dendroconus, 18.
Dendronotus, 364.
Dentalium, 277, 278, 280, 509, 775.
Dentatus, 508.
Dentellaria, 455.
Dentipecten, 740.
Deridobranchus, 149.
Dermatobranchus, 386.
Deshayesia, 181.
Desmoulea, 69.
Detracia, 494.
Diacria, 767.
Diadora, 155, 156.
Diaphana, 305.
Diastropha, 507.
Diceras, 657.
Diloma, 127.
Dimorpha, 358.
Diodonta, 653.
Diodora, 155.
Dione, 540.
Diphyllidia, 399.
Diplodonta, 678.
Dipsas, 689.
Dipsus, 689.
Discina, 759, 760.
Discodoma, 454.
Discoides, 325.
Discosoma, 457.
Discus, 462, 508.
Dispotea, 270.
Distorta, 7.
Distortio, 7.
Ditrupe, 281.
Dolabella, 315, 316, 317.
Dolabrifera, 316.
Dolium, 50, 51.
Dombeya, 504.
Donacelle, 572.
Donacilla, 572.
Donacina, 572, 584.
Donax, 439, 549, 583, 584.
Dorcasia, 454.

Doridium, 298.
Doris, 315, 342, 344, 345, 373, 377.
Dorsanum, 66.
Dosina, 542.
Dosinia, 535.
Dostia, 164.
Dota, 365.
Doto, 365.
Dreissena, 725.
Drepanostoma, 457.
Drillia, 13.
Duvaucelia, 363.
Dythalmia, 725.
Ebala, 288.
Ebena, 229.
Eburna, 35, 63, 65, 80.
Eburnus, 80.
Echinella, 196.
Echinora, 44*.
Echion, 775.
Egeria, 585.
Eglisia, 247.
Eidothea, 298.
Eione, 68.
Elasmatina, 469.
Eledon, 794.
Eledone, 794.
Elenchus, 125, 126.
Eleuchus, 125.
Elisma, 470.
Ellobium, 492.
Elysia, 388.
Emarginula, 152, 153.
Emarginulus, 153.
Embla, 652.
Ena, 470.
Enocephalus, 726.
Enoplochiton, 419.
Enoploteuthis, 807.
Ensatella, 606.
Ensis, 606.
Entalis, 278, 279.
Entodesma, 656.
Enzina, 9.
Eolidia, 373, 375.
Eolidina, 373.
Eolis, 373, 375, 376.
Epheria, 208.
Epistyla, 463.
Epistylium, 463.
Erato, 107.
Erodina, 639.
Ersina, 47.
Eruca, 471, 477.
Ervillia, 574.
Erycina, 572, 582, 637.
Eryx, 572.
Ésmia, 317.
Espiphylla, 503.
Ethalion, 373.
Etheria, 659.
Eubranchus, 373.
Eucampe, 303.
Euglesia, 556.
Eulima, 288, 289, 290.
Eulimella, 288.
Eumeles, 488.
Eumenis, 385.
Euomphalus, 202.
Euplocamus, 353, 356.
Euribia, 774.
Eurybia, 774.
Eurycratera, 454.
Eurydice, 396.
Eutrema, 503.
Eutropia, 116.
Exogyra, 751.
Exoleta, 535.
Eyromphala, 462.
Farcimen, 523.
Fasciolaria, 26.
Faunus, 228, 229.
Fenestrella, 755.
Ferussacia, 483, 530.
Ferussina, 530.
Ficula, 20.
Ficus, 20, 21.
Fidelis, 282.
Fimbria, 370, 681.
Firola, 332.
Firoloide, 322.
Fissilabria, 59.
Fissurella, 155, 156, 765.
Fissurellia, 156.
Fissurellidea, 158.
Fissurellus, 156, 158.
Fistulana, 594, 603.
Flabellina, 376.
Flabellines, 376.
Foegia, 600.
Fossar, 206.
Fossarus, 206.
Fragella, 123.
Fragrum, 558.
Fruticola, 461.
Fucicola, 389.
Fucola, 389.
Fulgoraria, 38.
Fulgur, 22.
Furcella, 595.
Fusus, 3, 8, 17, 19, 25, 226.
Gadila, 280.
Gadinia, 513.
Gadus, 280.
Galateola, 585.
Galathea, 585.
Galaxias, 454.
Galba, 503.
Galeomma, 646.
Galericulum, 255.
Galerus, 269.
Galileja, 556.
Gari, 576.
Gasteropoda, 746.
Gasteroptera, 313.
Gasteropteron, 313.
Gastrana, 551.
Gastridia, 35.
Gastrochæna, 603, 604.
Gastrochena, 604.
Gastroplax, 323.
Geloina, 553.
Gena, 145.
Genot, 12.
Geomalacus, 437.
Geometra, 461.
Geotrochus, 455.
Geovula, 492.
Gervisia, 330.
Gibberula, 102.
Gibbium, 128.
Gibbula, 137.
Gibbulina, 471.
Gibbus, 471.
Gioenia, 301.
Glabaris, 691.
Glabella, 100.
Glandina, 485, 486.
Glans, 662.
Glaucion, 742, 745.
Glaucoderma, 742.
Glauconome, 549.
Glaucus, 371, 742.
Glischri, 475.
Globioconcha, 296.
Globularia, 187, 188.
Globulus, 130, 188.
Glochidium, 685.
Glossodoris, 341.
Glossus, 676.
Glottella, 239.
Glycimeris, 559, 602, 615, 616, 651, 710, 711.
Gnathodon, 569.
Goniclis, 402.
Gonidomus, 471.
Goniodoris, 345.
Gonodon, 473.
Gonospira, 471.
Gonostoma, 457.
Gonyodiscus, 462.
Gonyostoma, 466.
Gonyostomus, 466.
Goodallia, 672.
Granaria, 473.
Grateloupia, 538.
Gratelupia, 538.
Gryphæa, 750.
Gryphochiton, 427.
Gryphus, 657, 658, 761.
Guetera, 596.
Gulnaria, 503.

Gyrina, 5.
Gyrorbis, 254.
Halia, 486.
Haliotis, 146, 147, 150, 191.
Haliotoidea, 146, 272.
Haminea, 307.
Harlea, 640.
Harpa, 52.
Harpago, 2.
Harpula, 85, 88, 89, 92, 93.
Hatina, 259.
Haustator, 242, 243.
Haustellaria, 10.
Haustellum, 10.
Hecuba, 583.
Helcion, 275, 276, 404, 405.
Heledone, 794.
Heleuchus, 126.
Heliacus, 201.
Helicarion, 431.
Helicella, 433, 456, 462.
Helicelle, 462.
Helicina, 130, 455, 531.
Helicobulimus, 465.
Helicodonta, 457, 461, 463.
Helicodontes, 457.
Helicogæna, 454.
Helicogena, 433, 452, 455, 458, 462, 467.
Helicogona, 458.
Helicolimax, 431, 433, 444, 445.
Helicomanes, 461.
Heliconoides, 177, 178.
Helicophanta, 454, 455, 458.
Helicophlegma, 174.
Helicophora, 177.
Helicopsis, 432, 433, 461.
Helicostyla, 454, 463, 464.
Helicteres, 487.
Helisiga, 449.
Helisoma, 508.
Helix, 254, 283, 289, 290, 291, 293, 452, 456, 465, 466, 468, 471, 472, 480, 504, 509.
Hemicardia, 558.
Hemicardium, 557, 558.
Hemicycla, 454.
Hemicyclonosta, 629.
Hemicyclostera, 629.
Hemicyclostoma, 629.
Hemifusus, 21.
Hemimactra, 564.
Hemimitra, 252, 264.
Hemiodon, 688.
Hemisinus, 222.
Hemithalamus, 509.
Hemitoma, 153.
Hemitrochus, 454.
Hermæa, 378.
Hermes, 18.
Heterofusus, 177.
Heterostoma, 461.
Hexabranchus, 348.
Hiatella, 632, 646, 655.
Hiatula, 77.
Hinea, 58.
Hinia, 68.
Hinnita, 748.
Hinnites, 748.
Hinnus, 748.
Hippochæta, 736.
Hippochrenes, 3.
Hippocrena, 3.
Hippocrenes, 3.
Hipponice, 264.
Hipponix, 265.
Hippopodes, 714.
Hippopodium, 670.
Hippopus, 561, 714, 715.
Histioteuthis, 805.
Homalonyx, 446.
Hyalæus, 765.
Hyalea, 765.
Hyalina, 101, 440, 444, 463.
Hyalus, 765.
Hyatella, 655.
Hydatina, 310.
Hydrobia, 199.
Hygromia, 461.
Hynnites, 748.
Hypobranchiæa, 351.
Hypogæa, 587, 605, 606, 644, 654.
Hypogæoderma, 587.
Hypothyris, 762.
Hypnaxis, 559.
Hyptere, 332.
Hyria, 696.
Hyridella, 688.
Hystrix, 47.
Ianthina, 173.
Ianthinus, 173.
Iaton, 10.
Iberus, 457.
Icarus, 320.
Ictis, 392.
Idalia, 356.
Idotæa, 681.
Idothea, 681.
Imbricaria, 99.
Imperator, 115.
Infundibulum, 121, 272.
Ino, 241.
Insulus, 477.
Io, 226.
Iodes, 173.
Iphigenia, 475, 584.
Iridea, 688.
Iridina, 693.
Irus, 548.
Ischnochiton, 410.
Ishnula, 14.
Isidora, 507.
Isocardia, 558, 629, 676.
Isocardium, 676.
Isognomon, 736.
Isognomonostoma, 460.
Isognomostoma, 460.
Isognostoma, 460.
Isogonum, 733, 734.
Ispidula, 74.
Isthmia, 472.
Jaminea, 286, 288, 499, 500.
Jaminia, 471, 473, 474, 477.
Janella, 291.
Janera, 738.
Janira, 738, 741.
Janus, 361.
Jataronus, 657.
Jesonia, 663.
Jouannetia, 592.
Katharina, 421.
Kellia, 647, 648.
Kuphus, 595.
Kyphus, 595.
Labio, 124, 128.
Labiosa, 565.
Labyrinthus, 458.
Lachesis, 8.
Lacuna, 208.
Ladas, 174.
Lævicardium, 557.
Lagena, 29, 55.
Laguncula, 189.
Lambis, 1, 2.
Lamellaria, 109, 325.
Laminaria, 326.
Lampades, 755, 761.
Lampadion, 458.
Lampania, 223.
Lampas, 672, 761.
Lamprodoma, 75.
Lamproscapha, 690.
Lamprostoma, 122.
Lampusia, 6.
Lanatica, 110.
Laniogerus, 372.
Lanistes, 169, 170, 721.
Lanistina, 721.
Lanites, 169.
Laplysia, 317.
Larva, 156, 157.
Lasea, 647.
Laternula, 626.
Lathirus, 25.
Lathyrus, 25.
Latiaxis, 22.
Latirus, 25.

Latomus, 457.
Latona, 583.
Latrunculus, 63.
Lauria, 471.
Lavignon, 581.
Lavignonus, 581.
Lazarus, 657.
Leachia, 199, 804.
Leda, 619.
Leguminaria, 612.
Leila, 694.
Leiodomus, 65, 67.
Leiostoma, 454, 458.
Leiotomus, 36.
Lembulus, 619.
Lementina, 260.
Lemintina, 260.
Lenticula, 457.
Lenticularia, 684.
Lentidium, 637.
Leonia, 517.
Lepas, 272, 403, 514, 563.
Lepeta, 406.
Lephocercus, 321.
Lepidopleurus, 407, 411.
Leptinaria, 482.
Leptochiton, 411.
Leptoconchus, 61.
Leptoconus, 18.
Leptolimnea, 503.
Lepton, 653.
Leptospira, 470.
Leptoxis, 503.
Lepus, 317.
Lernea, 317.
Lesæa, 649.
Leucochroa, 461.
Leuconia, 499.
Leucostoma, 59.
Leucotis, 256.
Leucotus, 256.
Leucozonia, 29.
Levenia, 44.
Levicardium, 557.
Libitina, 665.
Licina, 515, 657, 658.
Licium, 108.
Lignus, 484.
Ligula, 226, 239, 581, 582, 628, 681, 682, 758.
Ligumia, 688.
Lima, 742, 748.
Limacella, 429, 436.
Limacellus, 429, 436.
Limacia, 429.
Limacina, 177, 444, 777.
Limæa, 744.
Limapontia, 390.
Limatula, 743.
Limax, 429, 434, 436, 467, 489, 495.
Limicolaria, 470.
Limicolarius, 470.
Limnæus, 503.
Limnea, 450, 504, 507, 662.
Limneus, 503.
Limnophysa, 504.
Limnopsis, 711.
Limoarca, 744.
Limopsis, 711.
Limula, 742.
Linguella, 400.
Lingula, 758.
Liopa, 352.
Lippistes, 248.
Lirator, 494.
Liria, 512.
Listera, 565, 581.
Litharca, 700.
Lithoclyptus, 198.
Lithodomus, 718.
Lithoglyphus, 198.
Litholepas, 271.
Lithophagus, 718.
Litiopa, 250.
Litorina, 194.
Litreus, 519.
Littorina, 194.
Lituella, 518.
Lituus, 518, 809.
Livona, 132.
Lobaria, 299, 610.
Lobiger, 322.
Loligo, 802.
Loligopsis, 804.
Lomanotus, 366.
Lomastoma, 457, 503.
Longæva, 470.
Lophuriderma, 407.
Lophurus, 407.
Loripes, 682.
Loripoderma, 682.
Lostena, 685.
Lotorium, 6.
Lottia, 275, 403.
Loxostoma, 209.
Lucapina, 160.
Lucena, 452, 456.
Lucerna, 458.
Lucernella, 455.
Lucidella, 532.
Lucidula, 455.
Lucina, 449, 450, 453, 458, 536, 579, 677.
Lunarca, 706.
Lunatia, 183.
Lunatus, 180, 183.
Lunella, 194.
Luponia, 106.
Lutea, 258, 505.
Lutraria, 565, 566, 567, 581.
Lutricola, 566, 581, 688.
Lymnadea, 686.
Lymnæa, 503.
Lymnæus, 503.
Lymnea, 193, 251, 685
Lymneum, 688.
Lymnia, 503.
Lymnoderma, 685.
Lymnophysa, 503.
Lymnula, 503.
Lymnus, 503.
Lyonsia, 632.
Lyria, 92.
Lyrostoma, 458.
Macha, 608.
Machæra, 612.
Macroceramus, 470.
Macrochisma, 157.
Macrochlamys, 433.
Macrocyclis, 456.
Macrodontes, 473.
Macroma, 577.
Macromphalus, 30.
Macrophyllum, 657.
Macroschisma, 157.
Macrospira, 474, 480.
Mactesia, 593.
Mactra, 559, 562, 563, 564.
Mactresia, 593.
Mactrina, 672.
Mactrula, 571.
Madulus, 197.
Magdala, 632.
Magillus, 61.
Malea, 51.
Malleolus, 598.
Malletia, 621.
Malleus, 730.
Malybe, 367.
Mammilla, 185, 186.
Mammillaria, 185.
Mangelia, 14, 15, 212.
Mangilia, 14.
Mantellum, 742.
Maravignia, 206.
Margarita, 139, 733.
Margaritana, 686.
Margarites, 139.
Margaritifera, 730, 732, 733.
Margaritiphora, 733.
Marginella, 71, 100, 102, 107.
Marginellus, 100.
Marinula, 496.
Marisa, 167.
Marissa, 167.
Marmarostoma, 113.
Marpessa, 475.
Marsenia, 109.

Marsyas, 492.
Martesia, 593.
Mastonia, 241.
Mastus, 470.
Medoria, 208.
Megadesma, 585.
Megadomus, 688.
Megalodon, 674.
Megalodus, 674.
Megalomastoma, 524.
Megaspira, 474.
Meghimatium, 435.
Melacanthus, 215.
Meladomus, 170.
Melafusus, 226.
Melagraphia, 128.
Melampa, 493.
Melampus, 493, 494.
Melanamona, 229.
Melanatria, 222.
Melanella, 214.
Melania, 215, 224, 228, 252, 288, 289, 290, 466, 469.
Melanithes, 228.
Melanoides, 215.
Melanopside, 228.
Melanopsis, 222, 224, 228, 229, 500.
Melarapha, 194.
Melaraphis, 194.
Melas, 215.
Melatoma, 12, 225.
Meleagrina, 733.
Meleagris, 132.
Melibæa, 365, 367.
Melibe, 367.
Melibea, 367.
Melibœa, 367.
Melina, 736.
Melo, 82, 83.
Melongena, 21.
Mendigera, 470.
Menetho, 288.
Mercenaria, 543.
Meretrix, 536.
Meroë, 537.
Merria, 256.
Mesalia, 245.
Mesodesma, 572.
Mesodon, 460.
Mesomphyx, 456, 462.
Metopoma, 428.
Microcystis, 433.
Microstoma, 55.
Mingeria, 49.
Mitra, 94.
Mitrella, 8, 94, 96, 98.
Mitreola, 96.
Mitrula, 269.
Mitrularia, 271.
Mixas, 505.
Modiola, 717, 722.
Modiolarca, 722.
Modiolaria, 721, 722.
Modiolus, 717.
Moldia, 620.
Monacha, 461.
Monilea, 133.
Monoceros, 29, 34, 35, 57, 68.
Monocerotes, 242.
Monocondyla, 687.
Monocondylea, 687.
Monoculus, 765.
Monodacna, 559.
Monodon, 127.
Monodonta, 123, 127, 196, 488, 686.
Monodontes, 127.
Monoplex, 6.
Monoptigma, 81, 285.
Monoptygma, 81.
Monotygma, 81, 285.
Montacuta, 649, 650.
Montagua, 373, 375.
Mopalia, 420.
Morio, 44*.
Morula, 60.
Morum, 47.
Moschites, 794.
Moulinea, 568.
Moulinsia, 527.
Mouretia, 512, 513.
Moutensia, 528.
Mulinia, 568.
Mulleria, 660.
Muretia, 512.
Murex, 10, 11, 16, 30.
Muricanthus, 10.
Muricidea, 11.
Muriciformis, 23.
Musica, 85.
Mutela, 693.
Mya, 622, 723, 749.
Myadora, 633.
Myatella, 632.
Mycetopoda, 698.
Mycetopus, 698.
Myochama, 635.
Myoconcha, 669.
Myodora, 633.
Myosota, 292.
Myristica, 21.
Myrtea, 677.
Mysia, 535, 551, 678, 688.
Mytilicardia, 663.
Mytilicardita, 663.
Mytilimeria, 728.
Mytilina, 725.
Mytilomya, 727.
Mytilus, 595, 716.
Mytulina, 725.
Mytulus, 716.
Myxas, 505, 507.
Myxostoma, 521.
Nacca, 180.
Nacella, 403.
Naia, 688.
Naidea, 688.
Nana, 68, 228.
Nanina, 433.
Nannia, 68.
Narica, 256.
Nasa, 68.
Nassa, 55, 63, 68, 71, 234.
Natica, 180, 183.
Naticaria, 186, 190.
Naticella, 185, 206.
Naticina, 185, 190.
Naticus, 180.
Naucum, 308.
Nauta, 507.
Nautilus, 508, 509, 810.
Navicella, 165.
Navicelle, 165.
Navicula, 466, 700.
Neara, 643.
Nebularia, 94.
Neithea, 741.
Nematura, 207.
Nerea, 369.
Nerilopsis, 192.
Neripteron, 164.
Neripterum, 164.
Nerita, 161, 229, 254, 256, 516.
Neritella, 164.
Neritiformes, 180.
Neritina, 164, 251.
Neritine, 164.
Neritoidea, 173.
Neritoides, 194.
Neritopsis, 192, 256.
Nesea, 18.
Neverita, 182.
Nicania, 672.
Nioma, 256.
Nisò, 291.
Nisso, 291.
Nitidella, 53.
Northea, 70.
Notarchus, 318, 319.
Novaculina, 610.
Nucula, 617.
Nuculina, 618.
Nux, 555.
Obba, 457.
Obeliscus, 283, 470, 472.
Oceanus, 810.
Ocenebra, 10.
Ochthephila, 461.

Octopodia, 792.
Octopodoteuthis, 795.
Octopus, 792.
Ocythoë, 791.
Odoncincta, 631.
Odoncyncta, 631.
Odontidium, 775.
Odontina, 775.
Odontis, 127.
Odontocincta, 631.
Odontostoma, 534, 775.
Odontostomus, 466.
Odostomia, 286, 471, 473, 476, 501.
Okenia, 356.
Oleacina, 485.
Oligyra, 531.
Oliva, 74, 78.
Olivella, 75.
Olivancillaria, 76.
Omala, 577.
Omalaxis, 202.
Omalaxon, 202.
Omalonyx, 446, 448.
Ombrella, 323.
L'Ombrelle, 323.
Ommastrephes, 807.
Omolaxon, 202.
Omphalius, 122.
Omphemis, 224.
Omphiscola, 503.
Onchidia, 489.
Onchidiodoris, 349.
Onchidiorus, 349.
Onchidium, 488, 489, 491.
Onchidora, 349.
Onchidoris, 349.
Onchis, 491.
Oncidium, 489.
Oncis, 491.
Oncus, 491.
Oniscia, 45, 46, 47.
Oniscidia, 46.
Onustus, 273, 274.
Onychia, 806.
Onychoteuthis, 806.
Onythochiton, 418.
Operculum, 315.
Ophicardelus, 497, 498.
Opiptera, 313.
Opis, 668.
Orbicula, 759, 760.
Orbiculus, 535, 684.
Orbis, 203.
Orbitina, 470.
Orcula, 471.
Oris, 438.
Orthaliscus, 470.
Orthoceras, 775.
Orthostelis, 288.
Orthostylus, 465.
Ortygia, 546, 677.
Oscanius, 325.
Osilinus, 128.
Osteodesma, 627, 630, 632.
Ostrea, 749.
Ostreum, 749.
Otala, 453, 454, 455, 471.
Otavia, 123, 131.
Otina, 255.
Otis, 492, 504.
Otostomus, 466.
Ovatella, 286, 498, 499.
Ovula, 108.
Ovulum, 108.
Ovulus, 108.
Oxinoë, 109, 191, 255.
Oxycheilus, 461, 462.
Oxychilus, 461.
Oxygyrus, 174.
Oxystrombus, 475.
Ozaena, 794.
Ozoema, 794.
Pachylabra, 166.
Pachyotus, 467.
Pachystoma, 216, 331.
Pachystomus, 166.
Pacyodon, 639.
Pacyotus, 467.
Padola, 148.
Padolla, 148.
Padollus, 148.
Pagodella, 196.
Pagodus, 196.
Pallium, 740.
Palmarium, 152*.
Paludestina, 198, 199.
Paludina, 170, 198, 251, 282.
Paludine, 251.
Paludinella, 199.
Paludomus, 219, 252.
Pandora, 644, 738.
Pandorina, 632.
Panopea, 615.
Panopia, 615.
Paphia, 572, 675.
Papyridea, 560.
Parmacella, 436, 441, 442.
Parmacellus, 441.
Parmophorus, 152.
Parmula, 435.
Parthenia, 286, 288.
Parthenope, 313, 646.
Parthenopia, 313.
Partula, 466, 467.
Partulus, 467.
Pasithea, 290, 291.
Patella, 56*, 152, 263, 267, 275, 276, 402, 514.
Patelloida, 275.
Patelloidea, 275, 404.
Patellus, 402.
Patina, 403.
Patula, 462.
Patularia, 685.
Paxyodon, 696.
Pectella, 443.
Pecten, 738.
Pectunculina, 720.
Pectunculus, 557, 585, 710.
Pedicularia, 56.
Pedipes, 292, 495.
Pedum, 745, 809.
Pegea, 468.
Pelagia, 787.
Peloris, 749.
Peloronta, 161.
Pelta, 390, 451.
Pelvis, 715.
Penicillus, 599.
Peplidea, 360.
Pera, 556.
Peracles, 177.
Perdix, 50.
Peribolus, 103.
Periploma, 627.
Peristoma, 470.
Perlamater, 732, 733.
Perna, 716, 723, 732, 736.
Peronæa, 572, 575, 583.
Peroneoderma, 572, 575.
Peronia, 349, 491.
Perrona, 12.
Persicola, 102.
Persicula, 102.
Persona, 7.
Petalifera, 316.
Petasia, 460.
Petricola, 548, 551.
Phænospira, 100.
Phakellopleura, 425.
Pharus, 607.
Phasianella, 116, 125, 194, 289.
Phasianema, 206.
Phasianus, 116.
Philippia, 142.
Philomycus, 434.
Philonexis, 797.
Philonexus, 797.
Pholadidea, 589.
Pholadidodea, 589.
Pholadomya, 615, 671.
Pholas, 586, 589, 604.
Pholeobia, 654.
Pholidæa, 589.
Phorcus, 122.
Phorus, 273.
Phos, 72.
Phosphorax, 430.
Phylina, 299.

Phyline, 299.
Phyllidea, 398.
Phyllidia, 398.
Phylliroë, 396.
Phyllirrhoë, 396.
Phylloda, 577.
Phyllodesmium, 384.
Phyllonotus, 10.
Physa, 483, 506, 507.
Physeter, 200.
Phytia, 500.
Phyza, 506.
Pileolus, 163.
Pileopsis, 263, 264, 513.
Pinna, 723.
Pintada, 733.
Pirena, 221, 229.
Pirenella, 235.
Pisania, 8, 53.
Pisidium, 556.
Pisum, 556.
Pitys, 463.
Placamoceros, 359.
Placenta, 754.
Placobranchus, 387, 388.
Placostylus, 466.
Placuna, 644, 754.
Placunanomia, 756, 757.
Placunomia, 756.
Planaria, 388, 391.
Planaxis, 58, 59, 68.
Planorbis, 508, 517.
Planospira, 457.
Platycloster, 432.
Platyodon, 623.
Plaxiphora, 417.
Plectostylus, 470.
Plectronia, 752.
Plectrophorus, 439.
Pleiodon, 695.
Plekocheilus, 466.
Plenaria, 205.
Pleurobranchæa, 327, 340.
Pleurobranchæna, 327.
Pleurobranchidium, 327.
Pleurobranchus, 325, 327.
Pleurodonta, 458.
Pleuronectia, 739.
Pleurophyllidia, 399.
Pleuropus, 770.
Pleurorhynchus, 561.
Pleurotoma, 12, 13, 16, 230.
Pleurotomus, 12.
Plicadomus, 471.
Plicatella, 25, 29.
Plicatula, 747.
Plocamoceros, 359.
Plocamophorus, 349.
Plotia, 228.
Pneumoderma, 784.
Pneumodermon, 784.
Pododesmus, 757.
Polia, 8.
Polinices, 185.
Polita, 460.
Polycera, 353, 355, 357.
Polydonta, 122, 495, 500, 617.
Polydontes, 457.
Polygona, 25.
Polygyra, 460.
Polygyratia, 460.
Polygyrus, 508.
Polymita, 454.
Polyphemopsis, 290.
Polyphemus, 485.
Polypus, 792.
Polytropa, 55.
Pomacea, 166.
Pomatia, 452, 453.
Pomatias, 529.
Pomella, 171.
Pomus, 166, 168.
Porcellana, 74, 100.
Poromya, 636.
Poronia, 647, 650.
Posteobranchus, 328.
Posteriobranchus, 328.
Potadoma, 215.
Potamida, 686.
Potamide, 231.
Potamides, 236, 237, 240.
Potamidis, 231.
Potamidum, 232.
Potamis, 237.
Potamomya, 503, 638.
Potamophila, 585.
Poteria, 516.
Potomis, 237.
Priamus, 486.
Prisodon, 696, 697.
Procerpena, 534.
Proctonotus, 382, 394.
Productus, 764.
Proserpina, 534.
Proto, 246.
Psammobia, 550, 551, 575, 578, 607, 608, 609.
Psammotea, 575, 577.
Pseudodactylus, 35.
Pseudoliva, 35.
Psiloceros, 352.
Psilopus, 657.
Psyche, 773.
Pteria, 732.
Pterocera, 2.
Pteroceras, 2.
Pteroceres, 2.
Pterochilus, 381.
Pterocyclos, 522.
Pterodoris, 343.
Pteronotus, 10.
Pteroteuthis, 802.
Pterotrachea, 332.
Pterygia, 100.
Ptychina, 680.
Ptychomya, 675.
Pugilina, 21.
Pullastra, 547.
Puncticulis, 18.
Puncturella, 155.
Pupa, 467, 471, 472, 473, 475, 476.
Pupilla, 471, 473, 477.
Pupillaca, 159.
Pupillia, 159.
Pupina, 527.
Purpura, 10, 55.
Pusia, 96.
Pusio, 8, 40.
Pusiodon, 457.
Pusionella, 40.
Pusiostoma, 53.
Pustularia, 103.
Pyramidea, 117, 119, 120.
Pyramidella, 283, 284, 286, 463.
Pyramidellus, 283.
Pyramidula, 462.
Pyramis, 117, 286, 288.
Pyrazus, 240.
Pyrella, 10.
Pyrene, 229, 235.
Pyrgelix, 474.
Pyrgiscus, 288.
Pyrgula, 217.
Pyrula, 10, 20, 21, 22, 26.
Pythia, 494, 496, 499.
Pythohelix, 465.
Quoya, 59.
Quoyia, 59.
Quoyie, 604.
Radius, 108.
Radix, 543.
Radsia, 408.
Radula, 192.
Raleta, 642.
Rana, 5.
Ranella, 5.
Rangia, 569.
Ranularia, 6.
Rapana, 8, 23.
Rapella, 23.
Rapum, 27.
Realia, 525.
Registoma, 528.
Remina, 470.
Reniella, 731.
Retusa, 306.
Rheda, 765.
Rhinoclavis, 233.
Rhinodomus, 72.

Rhizorus, 305.
Rhodostoma, 493, 496.
Rhomboides, 655.
Rhombus, 18.
Rhycobranchus, 388.
Ricinella, 55, 60.
Ricinula, 60.
Rimula, 154, 155.
Rimularia, 154.
Ringicella, 459.
Ringicula, 71.
Ringinella, 282, 286, 296.
Ripariæ, 730, 732.
Risella, 195.
Rissoa, 209, 212, 286.
Rissoella, 286.
Rissoina, 212.
Rivicola, 506.
Rollus, 18.
Rossia, 799.
Rostellaria, 3, 33.
Rostellum, 3.
Rotella, 130.
Roxania, 301.
Roxellana, 604.
Rudolphia, 57.
Rudolphus, 57.
Ruma, 186.
Rupellare, 548.
Rupellaria, 548.
Ruperelle, 548.
Rupicola, 630.
Sabanea, 289.
Sabia, 266.
Sabinea, 199, 286.
Sagda, 463.
Sagita, 339.
Sandalium, 268.
Sanguinolaria, 550, 576, 610.
Sagitella, 340.
Saraphia, 472.
Sarcoptera, 313.
Sarmaticus, 111.
Saxicava, 654.
Saxicave, 654.
Scabicola, 94.
Scacchia, 683.
Scaea, 177.
Scala, 248.
Scalaria, 248.
Scalarus, 248.
Scapha, 87, 693.
Scaphander, 301.
Scapharca, 708.
Scaphella, 52, 92.
Scaphula, 76, 703.
Scaphura, 703.
Scarabus, 467, 500.
Schizochiton, 415.
Schizodesma, 563.
Schizostoma, 202.
Sciadephorus, 796.
Scissurella, 150.
Scolymus, 28.
Sconsia, 41.
Scrobicularia, 576, 581.
Scurria, 276.
Scutella, 144, 405.
Scutelligera, 435.
Scutellina, 405.
Scutus, 152.
Scyllæa, 368.
Scyllea, 371.
Segmentaria, 509.
Segmentina, 509.
Semele, 580.
Semilimax, 444.
Senectus, 110, 112.
Senilia, 704.
Separatista, 31.
Sepia, 800.
Sepiola, 798, 806.
Sepioteuthis, 803.
Septaria, 165, 595.
Seraphys, 4.
Serpula, 257, 259, 453, 595, 599.
Serpulorbis, 259.
Serripes, 559.
Sidula, 494.
Sigapatella, 269.
Sigaret, 109.
Sigaretus, 109, 146, 191, 255, 256.
Siliqua, 612.
Siliquaria, 261, 611.
Siliquarius, 261.
Simia, 108.
Simnia, 108.
Simulopsis, 450.
Sinusigera, 53*.
Sipho, 156.
Siphon, 155.
Siphonaria, 512.
Siphonium, 257.
Siphonostoma, 477.
Sistrium, 55.
Sistrum, 52, 60.
Skenea, 43.
Sol, 115.
Solariella, 141.
Solarium, 200, 433, 455, 457.
Solaropsis, 456.
Solecurtoides, 607, 612.
Solecurtus, 578, 607, 608, 612.
Solemya, 645.
Solen, 550, 575, 605.
Solen Phalloides, 599.
Solen arenaria, 595.
Solenella, 621.
Solenimya, 645.
Solenocurtis, 612.
Solenomya, 645.
Solenymia, 645.
Soletellina, 610, 614.
Solidula, 293.
Sormetus, 312.
Speo, 292.
Sphæna, 624.
Sphærium, 555.
Sphærostoma, 362.
Sphenia, 622, 624.
Spiraculum, 522.
Spiratella, 777.
Spirialis, 778.
Spiricella, 263.
Spiriela, 215.
Spirobranchus, 61.
Spiroglyphus, 262.
Spirorbis, 508.
Spirula, 809.
Spirulæa, 809.
Spisula, 564.
Spondylus, 746, 747.
Spongiobranchea, 785.
Stagnicola, 503.
Stamonita, 55.
Steira, 176.
Stenopus, 433.
Stenostoma, 466, 471.
Stenotrema, 460.
Steromphala, 137.
Stilifer, 380, 383.
Stiliger, 383.
Stomatea, 146, 191.
Stomatella, 143, 145.
Stomatelle, 143.
Stomatoides, 467.
Stomax, 146.
Stomodonta, 475, 476.
Strephona, 74.
Streptaxis, 464.
Strigatella, 94.
Strigella, 677.
Strigilla, 579.
Strigula, 500.
Strombidea, 1.
Strombiformis, 234, 236, 475.
Strombilus, 469.
Strombus, 1, 18, 486.
Strophilus, 685.
Strophocheilus, 466.
Strophostoma, 530.
Struthiolaria, 32, 35.
Styliola, 772.
Stylodon, 455.
Subemarginula, 153.
Subula, 65.
Subulina, 480.

Succinea, 450.
Sutura, 736.
Sychar, 241.
Sycotypus, 20.
Symphonota, 686.
Symphynota, 689, 693.
Syncera, 193.
Syndosmya, 582.
Sypho, 155.
Syphopatella, 272.
Systrium, 55.
Tachea, 453.
Tagelus, 611.
Talona, 590.
Talopia, 133.
Tamarindiformis, 717.
Tanalia, 219.
Tania, 220.
Tanychlamys, 433.
Tapada, 449, 452.
Tapes, 547.
Taras, 682.
Tebenophorus, 434.
Tectura, 275.
Tecture, 275.
Tectus, 117.
Tegipes, 377.
Tegula, 118.
Telescopella, 227.
Telescopium, 238.
Tellimya, 648, 650.
Tellina, 551, 555, 556, 575, 577, 580, 583, 585.
Tellinides, 577.
Temana, 208.
Terebellum, 4, 242.
Terebra, 40, 65, 234, 241.
Terebralia, 238, 240.
Terebratula, 761.
Terebrum, 65.
Teredina, 594.
Teredo, 596, 597, 598.
Tergipes, 365, 377.
Testacella, 440, 442, 444.
Testacellus, 440, 442.
Tethis, 317, 370.
Tethys, 370.
Tetragonostea, 632.
Tetraplodon, 697.
Textilia, 18.
Thais, 57.
Thalicera, 511.
Thallepus, 316.
Thalotia, 126.
Theba, 461.
Thecidea, 763.
Thecacera, 354.
Theliconus, 18.
Theliderma, 688.
Thelidomus, 455.
Themisto, 352, 355.
Theodoxus, 164.
Thiara, 214.
Thiarella, 94.
Thiatira, 677.
Thiatisa, 680, 682.
Thicolea, 116.
Thovana, 587.
Thracia, 630, 631.
Thyasira, 680.
Thyatira, 680.
Thyreus, 56.
Tiara, 96, 215.
Tiedemannia, 783.
Tigris, 132.
Timoclea, 546.
Tomala, 641.
Tomella, 12.
Tomigerus, 459.
Tomogerus, 459.
Tomopteris, 397.
Tomopterus, 397.
Tonicia, 412.
Torcula, 243.
Torinia, 201.
Tornatella, 286, 292, 293, 304, 494, 495.
Tornatelle, 292.
Tornatellina, 469.
Torquatella, 471.
Torquilla, 473.
Tortulosa, 477.
Tracheloides, 477.
Tragomma, 462.
Tralia, 494.
Trapezium, 604, 662, 664, 676.
Tremectopus, 793.
Trichocyclus, 786.
Trichogonia, 725.
Trichopodus, 64.
Trichotropis, 64.
Trichotropus, 64.
Tricla, 301, 765.
Tricolæa, 116.
Tricula, 218.
Tridachna, 714.
Tridacna, 714, 715.
Tridonta, 460.
Tridopsis, 460.
Trigona, 30, 539.
Trigonella, 562, 564, 581.
Trigonia, 699.
Trigonocœlia, 712.
Trigonocœlius, 712.
Trigonostoma, 30, 457.
Triodonta, 677.
Triopa, 354, 355.
Triphora, 241.
Triphore, 241.
Triphoris, 241.
Triphorus, 241.
Triplex, 10.
Tripter, 781.
Triptera, 781.
Triquetra, 544.
Trisis, 701.
Tristoma, 241.
Tritia, 67.
Triton, 5, 6, 8, 10, 32.
Tritonalia, 10.
Tritonia, 68, 352, 362, 365, 375.
Tritonidea, 8, 40.
Tritonidium, 33.
Tritonium, 6, 11, 14, 30, 39, 62.
Trivea, 104.
Trivia, 104.
Trochatella, 272, 531.
Trochia, 55.
Trochidea, 461.
Trochidon, 127.
Trochilea, 269.
Trochilla, 269, 272.
Trochilus, 124.
Trochiscus, 138, 460.
Trochita, 269, 272.
Trochius, 128.
Trochulus, 461.
Trochus, 120, 272, 273, 274, 283, 458.
Trocophore, 64.
Trocus, 132, 348.
Trophon, 11.
Truncatella, 282.
Tuba, 114.
Tubicanthus, 115.
Tubulites, 61.
Tudes polonica, 730.
Tugonia, 625.
Tuliparia, 18.
Turbinella, 27, 28.
Turbinellus, 10, 25, 27.
Turbo, 110, 282, 286, 288, 289, 291, 292, 469, 471, 472, 485, 503, 509, 515.
Turbona, 209.
Turbonella, 209, 286.
Turbonilla, 209, 286, 288.
Turricula, 12, 461.
Turris, 12, 96.
Turritella, 242, 246, 282, 288.
Tylodina, 324.
Tympanotomos, 237.
Tympanotomus, 237.
Typis, 10.
Uber, 185.
Ultimus, 108.
Umbella, 323.
Umbonicum, 130.
Umbraculum, 323.

Umbrella, 323.
Ungulina, 682.
Unicornus, 57.
Unio, 686, 688.
Uniopsis, 686.
Urcocoptis, 477.
Utriculina, 76.
Utriculus, 305, 306.
Vagina, 605.
Vaginella, 771.
Vaginula, 488.
Vaginulus, 488.
Vallonia, 456.
Valvarius, 97.
Valvata, 254.
Valve, 254.
Vanicoro, 256.
Velates, 162.
Velletia, 510.
Velorita, 554.
Velutella, 255.
Velutina, 191, 255, 256.
Venericardia, 661.
Venerupis, 548.
Venilia, 394.
Venus, 538, 540, 544.
Verania, 307, 795.
Vermetus, 257, 259, 262.
Vermicularia, 257, 258.
Vermicularius, 258.
Veronicella, 488.
Veronicellus, 488.
Vertigo, 472, 474, 477.
Vesica, 215, 307, 308, 504.
Vexillum, 55.
Vibex, 221.
Vidiantius, 483, 484.
Villiersia, 350.
Vitrea, 462.
Vitrella, 303.
Vitrina, 109, 431, 433, 444.
Vitrine, 444.
Vitrinus, 444.
Vitularia, 10.
Vivipare, 251.
Viviparus, 251.
Volsella, 717.
Voluta, 4, 18, 35, 67, 284, 293, 486.
Volutella, 28, 84, 100.
Volutilithes, 91.
Volvaria, 97, 101, 304, 500.
Volvulus, 475.
Vortex, 457, 508.
Vulpecula, 96.
Vulsella, 731.
Westernia, 329.
Xenophora, 273.
Xenophoris, 273.
Xylophaga, 591.
Xylotrya, 597.
Yetus, 82.
Yoldia, 620.
Zaria, 244.
Zephrina, 394.
Zierliana, 95.
Ziziphinus, 124.
Zonites, 433.
Zua, 468.
Zurama, 456.

November 23, 1847.

William Yarrell, Esq., Vice-President, in the Chair.

The following papers were read:—

1. Descriptions of some new species of Australian Birds. By John Gould, Esq., F.R.S., F.Z.S. etc.

Melithreptus chloropsis.

Upper surface greenish olive; head and chin black; crescent-shaped mark at the occiput, and under surface, white; wings and tail brown, margined with greenish olive; apical half of the external webs of the primaries narrowly edged with white; irides dull red; bill blackish brown; naked space above the eye greenish white in some, in others pale wine-yellow; tarsi and outer part of the feet light greenish olive; inside of feet bright yellow.

Total length $5\frac{1}{4}$ inches; bill $\frac{11}{16}$; wing $3\frac{1}{4}$; tail $2\frac{5}{8}$; tarsi $\frac{3}{4}$.

Hab. Western Australia.

Remark.—Allied to *M. lunulatus*, from which it differs in being of a larger size, and in having the bare space over the eye pale green instead of red.

Melithreptus albogularis.

Upper surface greenish wax-yellow; head black; crescent-shaped mark at the occiput, chin, and all the under surface, white; wings and tail brown, margined with greenish wax-yellow; irides dull red; bill brownish black; legs and feet greenish grey, with a tinge of blue on the front of the tarsi.

Total length $4\frac{5}{8}$ inches; bill $\frac{5}{8}$; wing $2\frac{7}{8}$; tail $2\frac{1}{4}$; tarsi $\frac{11}{16}$.

Hab. Northern and Eastern Australia.

Remark.—Rather smaller than *M. lunulatus*, from which it differs in the brighter colouring of the back and in the total absence of any black on the chin.

Grus Australasianus.

The general plumage deep silvery grey; the feathers of the back dark brownish grey, with silvery grey edges; lesser wing-coverts dark brown; primaries black; crown of the head and bill olive-green, the bill becoming lighter towards the tip; irides fine orange-yellow; raised fleshy papillæ surrounding the ears and the back of the head fine coral-red, passing into an orange tint above and below the eye, and becoming less brilliant on the sides of the face, which, together with the gular pouch, is covered with fine black hairs, so closely set on the latter as almost to conceal the red colouring of the skin; upper part of the pouch and the bare skin beneath the lower mandible olive-green; in old males the gular pouch is very pendulous, and forms a conspicuous appendage; legs and feet purplish black.

Total length 48 inches; bill $6\frac{1}{4}$; wing 24; tail $9\frac{1}{2}$; tarsi $10\frac{1}{2}$.
Hab. Australia generally.
Remark.—A very noble species, which has hitherto been confounded with the *Grus Antigone* of India, to which it is nearly allied, but from which it differs in being somewhat smaller in size and in the black colouring of the legs.

MYÏAGRA CONCINNA.
The male has the whole of the upper surface, wings, tail, and breast, lead-colour, glossed with green on the head, neck and breast, and becoming gradually paler towards the extremity of the body and on the wings and tail; primaries slaty black; secondaries faintly margined with white; under surface of the wing, abdomen and under tail-coverts white; bill leaden blue, except at the extreme tip, which is black; irides brown; feet blackish grey.
The female has the head and back lead-colour, without the greenish gloss; wings and tail brown, fringed with bluish grey, particularly the secondaries; throat and breast rich rusty red; abdomen and under tail-coverts white, which colour does not gradually blend with the rusty red of the breast, as in the female of *Myïagra plumbea*; upper mandible black; under mandible pale blue, except at the tip, which is black.
Total length $5\frac{1}{4}$ inches; bill $\frac{1}{2}$; wing 3; tail $2\frac{3}{4}$; tarsi $\frac{5}{8}$.
Hab. North-western Australia.
Remark.—Closely allied to *M. plumbea* and *M. nitida*.

HERODIAS PLUMIFERUS.
The entire plumage pure white; bill and orbits yellow.
Total length 24 inches; bill 4; wing 11; tail $4\frac{1}{2}$; tarsi $4\frac{1}{4}$.
Hab. New South Wales.
Remark.—This species is distinguished by the greater developemont of the plumes depending from the chest, and by their structure assimilating very closely to those of the back.

HERODIAS PANNOSUS.
The entire plumage bluish or slaty black, with the exception of the chin, which is pure white.
Total length 24 inches; bill $4\frac{1}{4}$; wing $10\frac{1}{2}$; tail 4; tarsi $4\frac{1}{4}$.
Hab. Port Stephens, New South Wales.
Remark.—The deep leaden blue colouring of this species renders it a very conspicuous bird.

ARDETTA STAGNATILIS.
Crown of the head, occipital crest and a small tuft beneath each eye black; neck and all the under surface grey, with a vinous tinge, which becomes much deeper on the abdomen and under tail-coverts; lengthened feathers of the back bluish grey, with lighter shafts; wing-coverts dark slate-grey, narrowly margined with buff and white; remainder of the wings and tail dark grey; irides light yellow; orbits and eyelash gamboge-yellow; upper mandible and cutting edge of the lower mandible very dark reddish brown; remainder of the lower

mandible oil-green; tibiæ and hinder part of the tarsi bright yellow; remainder of the legs and feet yellowish brown.

Total length 14 inches; bill $3\frac{1}{2}$; wing $7\frac{1}{2}$; tail $2\frac{3}{4}$; tarsi $2\frac{1}{4}$.

The young differ in having all the upper surface brown, with a triangular spot of white at the tip of all the wing-feathers, and the throat broadly and conspicuously striated with brown on a white ground.

Hab. Port Essington.

Actitis empusa.

All the upper surface pale glossy or bronzy brown, each feather crossed with irregular bars of dark brown, bounded on either side by a narrow line of paler brown; wings dark brown; base and tips of the secondaries white; primaries very slightly tipped with white; central tail-feathers pale glossy or bronzy brown, with a row of irregular-shaped spots of dark brown along the margins; lateral feathers white, crossed by irregular blended bars of dark and pale brown; under surface white, with the exception of the sides of the chest, which are pale brown, and the shafts of the feathers of the front of the neck, which are also pale brown.

Total length $6\frac{1}{4}$ inches; bill $1\frac{1}{8}$; wing $4\frac{1}{8}$; tail $2\frac{1}{4}$; tarsi 1.

Hab. Port Essington.

Remark.—Closely allied to, but smaller than, *Actitis hypoleucus*.

Sterna gracilis.

Crown of the head and back of the neck rich deep black; all the upper surface, wings and tail silvery grey; sides of the neck and all the under surface white, with a blush of rose-colour on the breast and centre of the abdomen; shafts of the primaries white, their outer webs slaty black, and a narrow stripe of dark slate-colour along the inner web close to the stem; irides brownish red; bill red; feet orange-red, nails black.

Total length $12\frac{1}{2}$ inches; bill 2; wing $8\frac{1}{2}$; tail 6; tarsi $\frac{3}{4}$.

Hab. The Houtmann's Abrolhos, off the western coast of Australia.

Remark.—A very elegant species, closely allied to *Sterna Dougallii* of the British Islands.

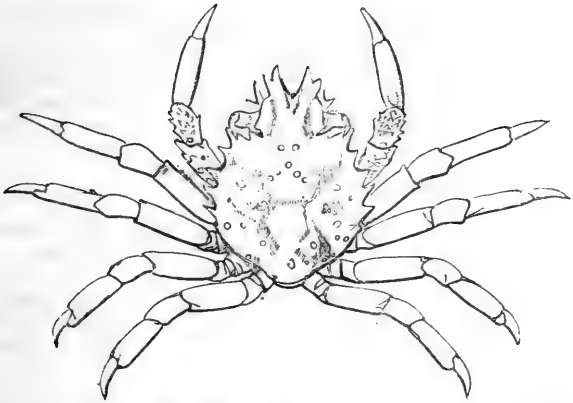
2. Short Descriptions of new or little-known Decapod Crustacea. By Adam White, F.L.S., Assistant in the Zool. Dep. British Museum.

Family Maiadæ.

Schizophrys, White.

Carapace oval, depressed, somewhat attenuated behind; beak deeply cloven; upper orbit deeply cloven, with a strong tooth in the middle of the cleft; under orbit with an elongated appendage on the inside, with two teeth at the end.

Tail of male with seven joints, the sides nearly parallel. Fore-legs shortest. Fingers without teeth.



Schizophrys serratus (twice the natural size).

SCHIZOPHRYS SERRATUS, White, List of Specimens of Crustacea in the Collection of the British Museum, p. 9.

Two basal joints of fore-legs with numerous pointed tubercles; sides of carapace with six strongish teeth, including outer tooth of orbit. The two strong teeth of the front with a tooth each on the outside.

Hab. Isle of France (male). Coll. Brit. Museum.

SCHIZOPHRYS SPINIGER, White, l. c. 9.

Basal joints of fore-legs smooth; sides of carapace with eight teeth on each, the second and third from the orbit united at the base; behind, in the middle and close to each other, are two small teeth. Carapace above with numerous minute tubercles, amongst which are nineteen of larger size, arranged mostly transversely. The carapace is yellow, tinged here and there.

Hab. Philippine Islands (Siquejor and Isle of Rohol). Coll. Brit. Museum. From Mr. Cuming's collection.

HUENIA FRONTALIS, White, l. c. 10.

Carapace with the front very wide and semicircular in front; sides of carapace behind eyes narrower than a line measured across; a slight sinus in the side behind. Legs flat and foliaceous.

Locality unknown. Coll. Brit. Museum.

HUENIA DEHAANII, White, l. c. 10.

Carapace elongated, depressed; beak compressed; sides hairy, with a tooth at base directed forwards; carapace behind eyes with the sides nearly parallel, the end straight; sides with two wide, bluntish, somewhat falcated appendages directed backwards, separated by a roundish sinuation.

Hab. Philippine Islands. Coll. Brit. Museum. From Mr. Cuming's collection.

Menœthius porcellus, White, l. c.

Upper part of carapace very irregular all over; the front, with three teeth arising from the same, plain; the middle one very much elongated and bent down at the end; the side margin with several largish crenations; base of fore-legs with two or three tubercles on the outside.

Blastia monoceros, Leach MSS.

Hab. Isle of France (male and female).

Family Cancerideæ.

Genus Actæa, De Haan.

Actæa nodulosa, White, l. c. 15.

Carapace and legs above thickly covered with rounded tubercles, largest on fore-legs and on fore-margins; a tubercle on the under orbit; the carapace in the middle longitudinally impressed; the posterior edge is straight and furnished with two transverse lines of small tubercles; claws, both upper and under, with longitudinal keels, horn-coloured.

Hab. Isle of France. Coll. Brit. Museum.

Actæa carcharias, White, l. c. 15.

Carapace and legs above covered very closely with sharp rough tubercles; on the front the tubercles are much smaller, the upper surface divided into different divisions by transverse and longitudinal lines; upper edge of legs serrated.

Hab. Australia (Swan River).

This species is nearly allied to *Actæa calculosa* (*Cancer calculosus*, Edw. Crust. i. 378).

Atergatis, De Haan.

Atergatis sinuatifrons, White, l. c. 14.

Carapace with the marginal limb very entire and rather thick, of a uniform brownish red. Front with three lobes, each notched in the middle. Fingers of fore-legs with tufts of hair, black, extreme tip white. Width of carapace four inches.

Hab. Mauritius. Coll. British Museum. Presented by Lady Frances Cole.

Atergatis subdivisus, White, l. c. 14.

Carapace with the marginal limb divided by four very indistinct lobes; greater part of top of carapace deep red, with yellowish spots; behind paler. Fingers black, base of moveable finger yellow. Front of carapace with two straightish lobes, sinuated close to the eye. Width of carapace three inches eight lines.

Hab. Philippine Islands. From Mr. Cuming's collection.

Near *A. marginatus*.

Atergatis asperimanus, White, l. c. 14.

Carapace with its latero-anterior sides with a cutting edge, part of carapace behind this punctate; the rest of upper surface almost quite

smooth, with three or four impressed lines in front. Hands rugose, especially above; fingers both moveable and fixed, deeply channeled. Pale yellowish red; feet darker; fingers of fore-legs pale horn-coloured.

Hab. Philippine Islands. Coll. Brit. Museum. From Mr. Cuming's collection.

ATERGATIS LATERALIS, White, l. c. 15.

Carapace with each of the sides having three projecting teeth; hands with a crest above and below; fingers short, pale brown; hands roughish on the outside.

Hab. Unknown. In collection of Brit. Museum.

XANTHO, Auct.

XANTHO DEPRESSUS, White, l. c. p. 17.

Carapace much-depressed, very flat, in front tuberculated; many of the tubercles sharp-pointed. Front deeply notched in the middle; sides with three teeth. Hands on the outside tuberculated, three last joints of legs slightly tuberculated and with a few hairs.

Hab. Philippine Islands (Isle of Corregidor). From Mr. Cuming's collection.

This is quite a magazine genus in the family *Cancerideæ*; it requires subdivision greatly.

XANTHO DENTICULATUS, White, l. c.

Carapace with the latero-anterior edge long, and arched with eight sharp teeth on each side, largest behind. Front of carapace between the orbits separated into four parts by five longitudinal lines; two transverse lines about the middle. Hands on the outside smooth, above with a bluntish edge, punctured on each side.

Hab. West Indies. Brit. Museum. From Mr. Scrivener's collection.

XANTHO CULTRIMANUS, White, l. c. 17.

Carapace slightly convex above; front notched; sides with four teeth; front part and sides with very slight tubercles; carapace behind the eyes with impressed lines, which meet in the middle. Hands with four longitudinal impressed lines on the outside, which is covered with small roughish tubercles. Carapace and legs pale yellowish, varied with red.

Hab. Philippine Islands. Coll. Brit. Museum. Mr. Cuming's collection.

XANTHO LAMELLIGERA, White, l. c. 17.

Carapace rather convex above, with four teeth on each side; upper part on sides slightly tubercular. Hands rough on the outside; edge of wrist above with a toothed margin; edge of hands, both above and below, with a lamellar edge. Hind-legs on the upper edge lamellar.

Hab. Isle of France. Coll. Brit. Museum.

Chlorodius, Auct.

Chlorodius hirtipes, White, l. c. 18.

Carapace smooth; front very broad, scarcely notched in the middle; the sides with four blunt teeth. Fore-legs long; third joint very thick; upper edge at base with one thick tooth; hind-legs with many brownish hairs.

Hab. Philippine Islands. Coll. Brit. Museum. From Mr. Cuming's collection.

Chlorodius fragifer, White, l. c. 18.

Carapace covered with roundish berry-like tubercles, arranged in groups and separated by definite impressed lines. Pedicel of eye with two spines close to the eye; legs covered with rice-like tubercles. White, a broad pinkish longitudinal line down the middle in front; five pink marks on hind part of carapace.

Hab. Philippine Islands (Rohol). Coll. Brit. Museum. From Mr. Cuming's collection.

Chlorodius pilumnoides, White, l. c. 18.

Carapace and legs covered with brown hairs; carapace somewhat depressed, sides with three teeth covered with spines; fore-part of carapace with several bosses, and rough with spiny tubercles; on hind-part of carapace are four transverse raised lines, the innermost the shortest. Hands large, upper edge serrated, outside and top with largish tubercles. Fingers on the outside and top channeled; several tubercles at the base of the moveable finger; fingers black, hollowed ends white. Hind-legs serrated above, second and third joints with three rows of serratures.

Hab. Singapore. Philippine Islands (Rohol). Coll. Brit. Museum. From Mr. Cuming's collection.

Panopeus, Edwards.

Panopeus dentatus, White, l. c. 18.

Carapace having the sides furnished with five lobes, the first three blunt and wide, the last two sharp and narrow; front with four lobes, the two middle largest; fore-part of carapace above, round the edge, depressed and irregularly tuberculated, most of the tubercles very small. Hands very unequal in size, the right largest fingers thick, the left small, the fingers much elongated. Upper part red, with many irregular yellow marks.

Hab. Philippine Islands (Masbata). Coll. Brit. Museum. From Mr. Cuming's collection.

Ozius, Edwards.

Ozius? subverrucosus, White, l. c. 19.

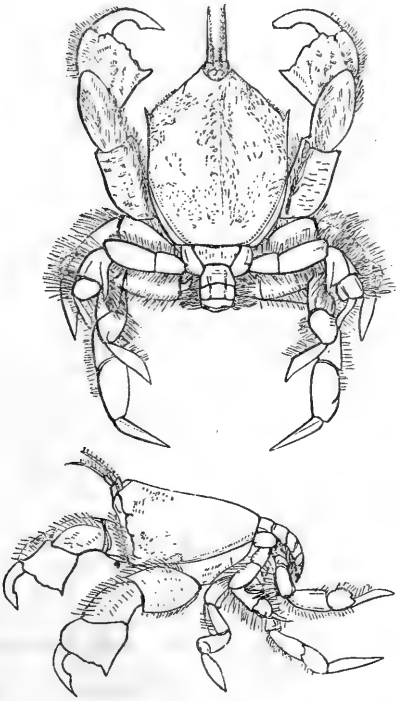
Carapace with latero-anterior side short, with three deep incisions forming four lobes, the two middle truncated; carapace above irregular, the edges and under-side thickly covered with small warts. Front formed of two truncated widish lobes, separated by a very

slight notch; a deepish notch between the front and the orbit, and a sinus between the outer orbital angle and the first lobe of the side.

Hab. ——?

Family Hippidæ.

Cosmonotus, Adams and White.



Cosmonotus Grayii, Adams and White, List of Crustacea, p. 129.

Carapace oval (about an inch in length and half an inch wide), very much compressed laterally, especially in front, with a distinct prominent keel extending down the middle line, very strongly marked in front, but fainter posteriorly; the surface covered with numerous minute depressed punctures.

Front with two very small spines on each side of a deep angular notch, in which are placed the eyes.

Chelæ trigonal, the inferior part plane, the exterior convex, with transverse, interrupted, engraved or depressed lines, the upper angle covered with long thick hairs; the inner surface concave. Carpus

incurved, subcompressed, convex externally, but less convex internally, and ending above and in front in a blunt spine; hand compressed, elevated, with the upper edge arched, but not so sharp as in *Notopus*; the sides convex and covered with asperities or minutely denticulated ridges, interrupted and transverse; finger uncinate, very short, incurved; thumb narrow, compressed, elongated, with a sharp apex and a strong tooth near the distal extremity.

Feet short and weak, as in *Notopus*; the first tibia bicarinated; the tarsus subquadrate, anteriorly bicarinate, with a scalpel-shaped claw; the second tibia one-keeled, with the tarsus oblong, and a sharp elongated trigonal claw; the third tibia subtriangular; tarsus short, flattened, subtrigonal, with a falcate claw; fifth tibia triangular, very short, flattened; tarsus transverse-ovate, with a small narrow claw.

Abdomen of the male seven-jointed, the joints from the first to the sixth nearly of the same width as in *Notopus*, and the last joint trigonal.

Cosmonotus differs from *Notopus*, De Haan, by wanting the postfrontal, elevated, denticulated ridge; by the dorsal keel ending abruptly in front, instead of terminating in a central frontal spine; in the front being notched with a single small spine on each side; in the thorax being much compressed, more especially in front, and in the produced and angular shape, while in *Notopus* it is almost straight across in front; and in the sides being entire, with a short sharp spine at the antero-latero angle.

The cut represents this species of twice the natural size, and is named in compliment to J. E. Gray, Esq., F.R.S., Keeper of the Zoological Department in the British Museum.

December 12, 1847.

W. Spence, Esq., F.R.S., in the Chair.

The following papers were read:—

1. Descriptions of nineteen new species of Helicea, from the Collection of H. Cuming, Esq. By Dr. L. Pfeiffer.

1. Helix Kurri, Pfr. *Hel. testâ mediocriter umbilicatâ, depressâ, tenui, punctis distantibus sub lente scabriusculâ, diaphanâ, corneo-albidâ, fasciâ* 1 *angustâ rufâ, alterâ obsoletâ infra peripheriam ornatâ; spirâ planâ; anfractibus* $4\frac{1}{3}$, *primis convexiusculis, ultimo sensim descendente, utrinque subplano, anticè subconstricto; aperturâ obliquâ, subtriangulari-lunari; peristomate simplice, tenui, marginibus conniventibus, supero latè expanso, basali reflexo, columellari brevi, triangulatim dilatato.*

Diam. 25, alt. 10 mill.
Locality unknown.

2. Helix Gardeneri, Pfr. *Hel. testâ subperforatâ, turbinatâ, solidâ, striis longitudinalibus et spiralibus distantioribus decussatâ, nitidâ, castaneâ; spirâ elevatâ, acutiusculâ; anfractibus $6\frac{1}{2}$ convexiusculis, ultimo majore, sublævigato, ad peripheriam cingulo albo ornato; aperturâ obliquè lunari, intus albâ; peristomate simplice, recto, margine columellari subincrassato, supernè subdilatato, perforationem ferè claudente.*
Diam. 22, alt. 15 mill.
Found on leaves of trees in the forests of Ceylon, 8000 feet above the level of the sea (Dr. Gardener).

3. Streptaxis Funcki, Pfr. *Str. testâ subobtectè umbilicatâ, depresso-ovatâ, tenuiusculâ, supernè confertim plicatâ, basi lævigatâ, sub epidermide tenui, corneo-albidâ; spirâ regulariter parùm elatâ, apice obtusiusculâ; anfractibus $6\frac{1}{2}$ vix convexiusculis, ultimo deorsum deviante, prope suturam striatulo, basi convexo, juxta umbilicum mediocrem compresso; aperturâ obliquâ, subtriangulari; peristomate breviter expanso, margine basali leviter arcuato, columellari in laminam triangularem, fornicatim supra umbilicum reflexam, dilatato.*
Diam. $27\frac{1}{2}$, alt. 16 mill.
From Merida, New Granada (Funck).

4. Bulimus quadricolor, Pfr. *Bul. testâ imperforatâ, succiniformi, tenui, striatulâ, luteâ, strigis obliquis fulguratis confertis castaneis, nonnullisque latioribus stramineis, antrorsum serratis, infra medium evanescentibus pictâ; spirâ conicâ, obtusiusculâ; anfractibus 4 subplanis, ultimo parùm convexo, 2—3 longitudinis subæquante; columellâ filari; peristomate undique brevissimè expanso, roseo, marginibus callo tenuissimo junctis.*
Long. $30\frac{1}{2}$, diam. 14 mill.
From Chachopo, province of Merida, New Granada (Funck).

5. Bulimus Lovéni, Pfr. *Bul. testâ imperforatâ, ovatâ, tenui, longitudinaliter plicatâ, fusco-luteâ, strigis castaneis fulguratis elegantissimè pictâ; spirâ conicâ, obtusâ, apice subimpressâ; anfractibus $4\frac{1}{2}$ vix convexiusculis, supremis castaneis, penultimo inter plicas subtilissimè transversim striato, ultimo subtiliter malleato, 4—7 longitudinis æquante; columellâ castaneâ, supernè leviter plicatâ; aperturâ oblongo-ovali, subconcolore; peristomate nigro-castaneo, undique expanso et reflexo, margine columellari supernè dilatato, appresso.*
Long. 42, diam. 20 mill.
From the Colonia of Tovar, Venezuela (Mr. D. Dyson).

6. Bulimus Lamarckianus, Pfr. *Bul. testâ subperforatâ, ovatâ, solidâ, striatâ et undique distinctè granulatâ, saturatè fuscâ, punctis nigricantibus conspersâ; spirâ brevi, obtusiusculâ; anfractibus 5 parùm convexis, ultimo ventrosiore, 3—5 longitudinis sub-*

æquante; columellâ obliquè leviter plicatâ; aperturâ oblongo-ovali, intus lividâ; peristomate subincrassato, expanso-reflexo, marginibus callo tenui junctis, columellari supernè dilatato, perforationem ferè occultante.
Long. 62, diam. 32 mill.
From the Andes of New Granada, 8000 feet high (Funck).

7. Bulimus Blainvilleanus, Pfr. *Bul. testâ subperforatâ, solidâ, ventroso-ovatâ, longitudinaliter confertim plicatâ, sub epidermide olivaceâ castaneâ, strigis sparsis nigricantibus fulguratis variegatâ; spirâ brevi, conicâ, acutiusculâ; anfractibus 4½, supremis planis, penultimo convexiusculo, ultimo ventroso, 3—5 longitudinis subæquante, perobliquè descendente; columellâ mediocriter plicatâ, paulò recedente; aperturâ oblongo-semiovali, intus nigricante, nitidâ; peristomate nigro, incrassato, latè expanso, marginibus callo tenuissimo junctis, columellari dilatato, plano, subappresso.*
Long. 50, diam. 25 mill.
From Zaji, province of Merida, New Granada (Funck).

8. Bulimus plectostylus, Pfr. *Bul. testâ subperforatâ, ovato-conicâ, solidâ, regulariter et distinctè granulatâ, saturatè castaneâ, flammis brevibus albis infra suturam ornatâ; spirâ conicâ, obtusiusculâ; anfractibus 5 vix convexiusculis, superioribus plicato-striatis, ultimo tumido, anticè perobliquè descendente, 4—7 longitudinis subæquante; columellâ supernè plicâ validâ, subobliquâ, munitâ; aperturâ obversè auriformi, intus sordidè lilaceâ, nitidâ; peristomate undique expanso et reflexo, livido-fusco.*
Long. 35, diam. 17 mill.
From Chachopo, province of Merida, New Granada (Funck).

9. Bulimus Veranyi, Pfr. *Bul. testâ subperforatâ, ovatâ, solidiusculâ, minutissimè granulatâ, fulvâ, punctis castaneis conspersâ et strigis luteis vel albis fulguratis distantibus ornatâ; spirâ conicâ, obtusiusculâ; anfractibus 4½ convexiusculis, ultimo 3—5 longitudinis æquante; columellâ supernè subplicatâ, leviter arcuatâ; aperturâ oblongo-ovali, intus margaritaceâ; peristomate albo, undique mediocriter expanso.*
Long. 33, diam. 15 mill.
From Chachopo, province of Merida, New Granada (Funck).

10. Bulimus perdix, Pfr. *Bul. testâ perforatâ, ovato-oblongâ, solidâ, confertim striatâ, albidâ, flammis, maculis et punctis nigricantibus pictâ; spirâ conicâ, apice obtusiusculâ; suturâ marginatâ; anfractibus 5½ vix convexis, ultimo spiram subæquante, basi juxta perforationem angustam vix compresso; columellâ supernè obliquè plicatâ, leviter arcuatâ; aperturâ oblongâ, intus concolore; peristomate undique expanso, margine columellari subfornicato.*
Long. 36, diam. 15 mill.
From Agua de Obispo, New Granada (Funck).

11. Bulimus quitensis, Pfr. *Bul. testâ umbilicatâ, ovato-conicâ, solidulâ, ruguloso-striatâ, pallidè fuscescente, strigis variis fuscis*

et castaneis variegatâ; spirâ conicâ, acutâ; anfractibus 7 planiusculis, ultimo convexo, spiram vix superante, basi juxta umbilicum angustum, apertum compresso, nigricante; columellâ rectâ, verticali, nigricante; aperturâ oblongâ, ad basin columellæ subangulatâ, intus nigricanti-limbatâ; peristomate simplice, recto, marginibus subparallelis, dextro supernè repando, columellari dilatato, patente.
Long. 26, diam. 12 mill.
From Quito (De Lattre).

12. Bulimus irregularis, Pfr. *Bul. testâ umbilicatâ, ovato-oblongâ, solidulâ, plicis confertis, longitudinalibus rugosâ, carneâ, fusculo substrigatim variegatâ; spirâ conicâ, acutiusculâ, apice rufâ; anfractibus 6 vix convexiusculis, ultimo spirâ vix breviore, circa umbilicum angustum, non pervium subangulato-compresso; columellâ leviter arcuatâ; aperturâ ellipticâ, basi subangulatâ; peristomate simplice, recto, margine columellari e basi reflexo, supernè dilatato.*
Long. 19, diam. 9 mill.
From Quito, Equador (De Lattre).

13. Bulimus meridionalis, Pfr. *Bul. testâ perforatâ, ovato-conicâ, striatulâ, diaphanâ, albidâ, fasciâ 1 aurantio-fuscâ cingulatâ; spirâ regulariter conicâ, acutiusculâ; anfractibus 7 convexiusculis, ultimo spirâ breviore, subrotundato; columellâ leviter arcuatâ; aperturâ obliquâ, truncato-ovali, intus concolore; peristomate simplice, breviter expanso, margine columellari supernè fornicato-reflexo.*
Long. 15, diam. 8 mill.
From South Africa.

14. Bulimus pellucidus, Pfr. *Bul. testâ subperforatâ, turritâ, tenuissimâ, striatulâ, nitidâ, pellucidâ, lutescenti-corneâ; spirâ elongatâ, apice obtusâ; anfractibus 7 convexiusculis, ultimo 1—3 longitudinis æquante; columellâ subtortâ; aperturâ subquadrangulari-ovali; peristomate simplice, acuto, margine columellari breviter revoluto.*
Long. 11½, diam. 4 mill. (spec. max.).
From Merida, New Granada (Funck).

15. Bulimus granadensis, Pfr. *Bul. testâ angustè perforatâ, fusiformi-ovatâ, tenui, irregulariter striatâ, albidâ, strigis vitellinis et maculis longitudinalibus nigricantibus seriatis ornatâ; spirâ conicâ, acutiusculâ; anfractibus 6 vix convexiusculis, ultimo spiram æquante; columellâ rectâ; aperturâ ovali-oblongâ, intus concolore; peristomate acuto, simplice, vix expansiusculo, margine columellari in laminam triangularem tenuem reflexo, perforationem ferè occultante.*
Long. 26, diam. 11 mill.
From Merida, New Granada (Funck).

16. Achatinella Michelsiana, Pfr. *Ach. testâ ovato-coniformi, lævigatâ, opacâ, nitidâ, nivea, strigis cinereis variegatâ; spirâ*

conicâ, apice acutiusculâ; suturâ submarginatâ; anfractibus $5\frac{1}{2}$ *convexis, ultimo infra medium lineâ nigricante (interdum duplicatâ) cincto; plicâ columellari validâ, dentiformi, basi castaneâ; aperturâ semiovali, fusco-marginatâ; peristomate simplice, acuto.*

Long. 17, diam. 8 mill.

From Molokai, Sandwich Islands.

17. Achatina magnifica, Pfr. *Ach. testâ ovato-subfusiformi, tenuiusculâ, leviter striatulâ, haud nitente, luteâ, strigis et flammis virentibus et castaneis, fasciâque 1 luteo et castaneo articulatâ, supramedianâ variegatâ; spirâ conicâ, apice obtusissimâ; anfractibus* $5\frac{1}{2}$ *vix convexiusculis, ultimo spiram paulò superante; suturâ angustè marginatâ; columellâ rectâ, verticali, callo introrsum albo, extrorsum nigricante indutâ, basi rubrâ, ad basin aperturæ ellipticæ, intus cærulescenti-albidæ obliquè truncatâ.*

Long. 47, diam. 21 mill.

From Quito, Equador; in woods (De Lattre).

18. Achatina Funcki, Pfr. *Ach. testâ subperforatâ, ovato-conicâ, tenui, striatulâ, nitidâ, pellucidâ, stramineo-hyalinâ; spirâ conicâ, acutâ; anfractibus 6 convexis, ultimo spirâ paulò breviore; aperturâ semiovali; pariete aperturali medio plicâ lævi, intrante munito; columellâ medio lamellatim truncatâ; peristomate simplice, acuto.*

Long. $12\frac{1}{2}$, diam. 6 mill.

From the province of Merida, New Granada (Funck).

19. Balea Funcki, Pfr. *Bal. testâ sinistrorsâ, vix subrimatâ, turritâ, truncatâ, sublævigatâ, fuscâ; anfractibus (spec. trunc.) 5 convexiusculis, ultimo basi rotundato; aperturâ oblongo-semiovali, intus fulvâ; plicâ parietali validâ, compressâ, columellari obliquâ, obsoletâ; peristomate albo, expanso, reflexiusculo, marginibus callo junctis, externo sinuato.*

Long. (spec. trunc.) 14, diam. 4 mill.

From Chachopo, province of Merida, New Granada (Funck).

2. Description of a new species of Volute. By W. J. Broderip, Esq., F.R.S. etc.

Voluta signifer. *Vol. testâ ovato-fusiformi, longitudinaliter creberrimè lineatâ, subflavâ, signis spadiceo-brunneis irregularibus, interruptis vittatâ; spirâ mediocri, subtumidâ, apice subacuto-mammillari, glabro; anfractibus 3, ultimo longè maximo, subventricoso; labro acuto; columellâ quadriplicatâ, plicis magnis.*

Long. $3\frac{5}{8}$, lat. $1\frac{5}{8}$ poll.

Hab. In Oceano Orientali?

Two bands of detached, reddish-brown, irregular, interrupted spots wreathe the spiral whorls, and three such bands, with a trace of a fourth, adorn the body-whorl. There is a wide interval between the upper two of the bands of the body-whorl, and the third and trace of the fourth on the same whorl. An irregular linear dash of the same colour connects the three uppermost of these bands longitu-

dinally and centrally. Indeed the colour seems disposed generally to run from the upper to the lower band of each pair. The terminal notch is very deep and is surmounted by an unusually strong elevated ridge.

The specimen is faded and rubbed, but in form is nearly perfect. When in fine condition *V. signifer* must be one of the most elegant of the beautiful family to which it belongs.

Mr. Cuming obtained this Volute in the present year, from the cabinet of Dr. Dalen of Rotterdam, by whom it was liberally presented to him, although Dr. Dalen had no other example of the shell. I never saw the species before, and as far as my experience goes, this is the only specimen known.

INDEX.

The names of New Species, and of Species newly characterized, are printed in Roman Characters: those of Species previously known, in *Italics*: those of Species respecting which Anatomical Observations are made, in CAPITALS.

The index of names occurring in Mr. Gray's Paper on the Genera of Shells will be found at p. 207—219.

Page

Acanthion Cuvieri, *Gray* 102, 103
—— *Daubentonii* 98
—— Flemingii, *Gray* 103
—— Hodgsonii, *Gray* 101, 103
—— *javanicum*, F. Cuv. 102, 103
Acanthiza apicalis, *Gould* 31
—— diemenensis, *Gould* 32
—— Ewingii, *Gould* 32
—— *pusilla*, Vig. & Horsf. 32
Acanthochites, *Leach* 66, 69
—— *fascicularis* 70
—— *Garnoti* 70
—— *hastatus* 70
—— *hirundiniformis* 70
—— *Lesueurii* 70
—— *polychetus* 70
—— *roseus* 70
—— *scaber* 70
—— *strigatus* 70
—— *violaceus* 70
Acanthochiton, Herrm. 69
Acanthochitus, Riss. 69
Acanthopleura, Guild. 65, 67
—— *bicolor* 67
—— *brevispinosa* 68
—— ? *gigas* 68
—— *Hennahi* 67
—— *magnifica* 68
—— nobilis, *Gray* 68
—— Owenii, *Gray* 68
—— *peruviana* 67
—— *picea* 68
—— *spinigera* 68
—— *spinosa* 68
—— ? *truncata* 68
—— *Watsonii* 68
Accipiter fringilloides, Vig. 38
—— *pennsylvanicus* 37
Aguias, n. g., *Gray* 15

Page

Akera bullata 19
Alcedo alcyon 38
Alope, n. g., *White* 123
—— palpalis, *White* 124
Aluna Aphrodite, *White* 124
Ametrida, n. g., *Gray* 15
—— centurio, *Gray* 15
Amicula, n. g., *Gray* 66, 69
—— *vestita* 69
Amphioxus Belcheri, *Gray* 35
—— *lanceolatus* 35
Amytis macrourus, *Gould* 2
—— *striatus* 2
—— *texilis* 2
Anas bahamensis ?, Linn. 54
—— *clypeata* 40
—— ? *dominica* 40
—— ? *fistularis* 40
—— ? *jamaicensis* 40
—— *Rafflesii*, Vig. 54
—— ? *spinosa* 40
Anatinæ 40
Anoura Geoffroyii 115
Anthenea, n. g., *Gray* 77
—— *chinensis*, Gray 77
—— granulifera, *Gray* 77
—— tuberculosa, *Gray* 77
Apteryx australis, Shaw 51, 93, 94
—— Owenii, *Gould* 93, 94
Aramus scolopaceus 40
Arctibius Floresii, *Bonap.* 115
Ardea alba 39
—— *cærulea* 39
—— *candidissima* 39
—— *exilis* 39
—— *herodias* 39
—— *ludoviciana* 39
—— *virescens* 39
Ardeidæ 39

Page
Argala olivacea 97
Artamus albiventris, *Gould* 31
—— *cinereus*, Vieill. 31
Astacus zealandicus, *White* 123
Asterias Cumingii 73
—— *discoïdes*, Less. 74
—— *equestris*, Retz. 76
—— *gibbosus*, Leach 81
—— *glacialis* 72
—— *granifera*, Lam. 82
—— *granularis*, Retz. 78
—— *helianthus* 73
—— *multiradiata* 73
—— *ocellifera*, Lam. 82
—— *pentagonula*, Lam. 77
—— *polaris* 72
—— *pulvillus*, Müll. 81
—— *Schmideliana*, Retz. 74
Asteriscus coccineus, Müll. et Trosch. 82
Asterodiscus, n. g., *Gray* 75
—— elegans, *Gray* 75
Astrogonium granularis 78
—— inæquale, *Gray* 79
—— miliare, *Gray* 79
—— paxillosum, *Gray* 79
—— tuberculatum, *Gray* 79
Asturina Burtonii 74
—— *gibbosa* 74
Aterica Barce, *Doubled.* 59
Atherura africana, *Gray* 104
—— *fasciculata*, Cuv. 104
Attagis Gayii, Geoff. et Less. 29
Balæna minor borealis, Knox 118
—— *mysticetus* 118
—— *physalus*, Scoresby 90
—— *rostra*, Müll. 90
Balænoptera antiquorum, Fisch. ... 90
—— *rostrata* 88, 90, 118
Boschas crecca 40
—— *discors* 40
—— *discors occident.* 40
—— *fera* 40
Botaurus minor 40
Bradypus tridactylus 111, 114
Bulla ficus, Linn. 18
—— *resiliens* 19
—— *smaragdina* 18
Buteo borealis 37
Calliderma, n. g., *Gray* 76
—— Dixonii, *Gray* 76
—— Emma, *Gray* 77
Callochiton evanidus 126
—— *lævis* 126
Calothorax cyanopogon 11
Canthapleura, Swains. 67
Caprimulgus americanus 38
—— *carolinensis* 38
—— *jamaicensis* 38
Cardium Bechei, *Reeve* 25
Carduelis mexicana, Swains. 38
Cathartes aura 37

Page
Cathartes Iota, Mol. 52
Caulodromus, n. g., *Gray* 6
—— Gracei, *Gray* 6
Ceratocarcinus, *Adams & White* ... 57
—— *longimanus*, White 57
Cerithium truncatum 21
Certhia flaveola, Linn. 39
—— *maculata*, Wils. 38, 39
—— *spilonota*, Frankl. 7
Chalcites osculans, *Gould* 32
Charadriadæ 39
Charadrius apricarius 39
—— *melodus* 39
—— *morinellus* 39
—— *pluvialis* 39
—— *semipalmatus* 39
—— *vociferus* 39
Charaxes Castor 61
—— Phraortes, *Doubled.* 60
Chauliodus streperus 40
Chiton 65, 67
—— acutirostratus, *Reeve* 25
—— *amiculatus*, Pall. 64, 69
—— *alatus*, Sow. 127
—— *albidus*, Blainv. 68
—— *albolineatus*, Sow. 66
—— *albus*, Lowe 127
—— *articulatus*, Sow. 66
—— *asellus*, Lowe 127
—— *atratus*, Sow. 67
—— *australis*, Sow. 66
—— Barnesii, *Gray* 66, 126
—— bicolor, *Adams* 67
—— *biramosus*, Quoy 68
—— *bistriatus*, Wood 66
—— *Blainvillii* 25
—— *Bowenii*, King 66, 127
—— *brevispinosus*, Sow. 68
—— *cajetanus*, Poli 127
—— *Carmichaelis*, Gray 68
—— *castaneus*, Wood 67
—— *chiloensis*, Sow. 67
—— *cinereus*, Mont. 127
—— *coquimbensis*, Frembl. 69
—— *corallinus*, Risso 67, 126
—— coreanicus, *Reeve* 24
—— *costatus*, Blainv. 68
—— *Cumingii*, Frembl. 66
—— *discors*, Mat. & Rack. 126
—— *echinatus*, Barnes 66, 68
—— *echinites*, Blainv. 70
—— *elegans*, Frembl. 67
—— *Emersonii*, Couth. 69
—— *evanidus*, Sow. 66, 126
—— *excavatus*, Gray 66
—— *fasciatus*, Wood 66
—— *fascicularis*, Linn. 70
—— *fastigiatus*, Gray 67
—— formosus, *Reeve* 25
—— *foveolatus*, Sow. 66
—— *Fremblii*, Brod. 68

Page
Chiton fuliginatus, *Reeve* 24
—— *fulminatus*, Couth. 67
—— *fulvus*, Wood 67
—— *Gaimardi*, Blainv. 68
—— *Garnoti*, Blainv. 70
—— *gigas*, Gmel. 64, 68
—— *glaucus*, Gray 66
—— *Goodallii*, Sow. 66
—— *graniferus*, Sow. 67
—— *granosus*, Frembl. 66
—— *granulosus*, Frembl. 66
—— *Grayii*, Sow. 67
—— *Hanleyi*, Bean 127
—— *hastatus*, Sow. 70
—— *Hennahi*, Gray 67
—— *Hindsii* 69
—— *hirtosus*, Blainv. 68
—— *hirundiniformis*, Sow. 25, 70
—— *Hookeri*, Gray 70
—— *incisus*, Sow. 68
—— *indicus*, Sow. 67
—— *lævigatus*, Sow. 66, 67
—— *lævis*, Mont. 67, 126
—— *latus*, Lowe 67
—— *Leachii*, Blainv. 69
—— *Lesueurii*, Blainv. 70
—— *limaciformis* 127
—— *lineolatus*, Frembl. 67
—— *longicymba*, Blainv. 67, 127
—— *lyratus*, Sow. 66
—— *magdaliensis*, Hinds 67, 127
—— *magnificus*, Gray 68
—— *marmoratus*, Gmel. 66
—— *marmoreus*, O. Fab. 67
—— *monticularis*, Quoy 69
—— *niger*, Barnes 69
—— *obscurus*, Sow. 66
—— *olivaceus*, Frembl. 66
—— *patulus*, Sow. 66
—— *peruvianus*, Lam. 67
—— petasus, *Reeve* 25
—— *piceus*, Sow. 68
—— *polychetus*, Blainv. 70
—— *Polii*, Desh. 66
—— *porosus*, Burr. 69
—— *punctulatus*, Mat. 126
—— *raripilosus*, Blainv. 68
—— *roseus*, Blainv. 70
—— *ruber*, Linn. 67
—— *scaber*, Blainv. 70
—— *septemvalvis*, Mont. 126
—— *setiger*, King 68
—— *setosus*, Sow. 68
—— *siculus*, Gray 66
—— *Simpsonii*, Gray 69
—— *sitkensis*, Reeve 69
—— *solea*, Sow. 67
—— *sparus*, Sow. 67
—— *spiniferus*, Frembl. 68
—— *spinigerus*, Sow. 68
—— *spinosus*, Brug. 68

Page
Chiton squamosus, Linn. 66
—— *Stokesii*, Brod. 66
—— *striatus*, Barnes 66
—— *sulcatus*, Wood 66
—— *textilis*, Gray 67, 127
—— *tuberculiferus*, Sow. 68
—— *tunicatus*, Wood 69
—— *undulatus* 68
—— *vermiformis*, Blainv. 70
—— *vestitus*, Sow. 69
—— *violaceus*, Quoy 70
—— *virgulatus*, Sow. 66
—— *viridis*, Quoy 66
—— *Watsonii*, Sow. 67
—— *zelandica*, Quoy 70
Chitonella, Desh. 70
Chitonellus 66, 69, 70
—— *lævis*, Lam. 70
—— *latus*, Guild. 70
—— *striatus*, Lam. 70
—— *strigatus*, Sow. 70
Chitoniscus, Herrm. 70
Chorinus acanthonotus, Adams and White 119
—— *aculeatus*, Edw. 120
Chthonicola, n. g., *Gould* 35
Circus americanus 37
—— *rutilans* 38
Colaptes auratus, Vieill. 39
—— *fernandina*, Vig. 39
—— *rupicola*, D'Orb. 29
—— *superciliaris*, Temm. 39
Columba caribbæa, Gmel. 39, 40
—— *carolinensis* 38, 40
—— *cyanocephala*, Linn. 38
—— *inornata*, Vig. 37
—— *jamaicensis*, Linn. 39
—— *leucocephala* 38
—— *leucoptera*, Linn. 39
—— *martinica*, Linn. 39
—— *minuta*, Linn. 39
—— *montana*, Linn. 39
—— *passerina* 38
—— *sylvestris?* 39
—— *Zenaida*, Bonap. 37, 39
Columbina strepitans, Spix 53
Cometes, n. g., *Gould* 30
—— *Sappho* 31
—— Phaon, *Gould* 31
Corephium 65, 66, 68
—— *echinatus* 68
Corvus jamaicensis, Linn. 38
—— *ossifragus* 38
Crithagra brevirostris, Gould 53
Crocodilus lucius 116
Crotophaga ani 38
Cryptochiton 65, 69
—— *amiculatus* 69
Cryptoconchus, Blainv. 66, 69, 70
—— *larvæformis* 70
—— *porosus* 69

Page
Cryptoplax, Blainv. 70
Cryptopodia dorsalis, *White & Adams* 84
—— *fornicata* 84
Cuculus carolinensis 38
—— *pluvialis*, Gmel. 39
—— *vetula*, Linn. 39
Culcita, Agassiz 74
—— *pentangularis*, Gray 74
—— *Schmideliana* 74
Cyanotis omnicolor, Swains. 53
Cygnus nigricollis, Gmel. 54
Cynanthus minimus 39
—— *polytmus* 39
Cynocephalus leucophæus 110
Cysticola exilis 1
—— isura, *Gould* 32
—— lineocapilla, *Gould* 1
Dafila caudacuta 40
Delphinus leucopleurus, Rasch 117
—— *gangeticus* 88
—— *Tursio* 117
Dendroblax Earlii, White 123
Dendrocolaptes procurvus, D'Orb. et Laf. 30
Dendronessa sponsa 40
Dermatemys, n. g., *Gray* 55
—— Mawii, *Gray* 56
Diglossa carbonaria, D'Orb. et Laf. . 29
—— *mystacalis*, Laf. 29
—— *mystacea*, Gray 29
—— *sittoïdes*, D'Orb. et Laf. 29
Doclea calcitrapa, White 56
Dolichonyx oryzivorus 38
Doryfera, n. g., *Gould* 95
Enoplochiton 65, 69
—— *niger* 69
Ephippiphora, n. g., *White* 124
—— Kroyeri, *White* 124
Eriopus, n. g., *Gould* 16
—— *Aline* 17
—— *cupreoventris* 17
—— *Derbyi* 17
—— *mosquera* 17
—— *vestitus* 17
Eudromias elegans, D'Orb. et Laf. ... 28
Falco sparveroïdes, Vig. 38
Fringilla bicolor, Linn. 38
—— *diuca*, Mol. 53
—— *jamaicensis*, Linn. 38
—— *lepida*, Linn. 38
—— *noctis*, Linn. 38
—— *Savanna* 38
—— *tristis* 38
—— *Zena* 38
Fulgora (Hotinus) sultana, *Adams & White* 83
Fulica galeata, G. R. Gray 54
Fuligula cristata 40
—— *ferina* 49
—— ferinoïdes, *Bartl.* 48
—— *Marila* 40

Page
Fuligulinæ 40
Gallinula crassirostris, Gray 54
—— *Galatea* 40
—— *martinica* 40
Ganeria, n. g., *Gray* 83
—— falklandica, *Gray* 83
Gebia hirtifrons, *White* 122
Gelasimus bellator, White 84
—— *crassipes*, White 84
—— *cultrimanus*, White 84
—— *porcellanus*, White 85
Geositta cunicularia, Vieill. 53
Globiocephalus Svieval 118
Glossophaga caudifer, Geoff. 15
Gonatonotus, *Adams & White* 57
—— *pentagonus* 58
Goniaster Templetoni, Forbes 81
Gryphochiton, n. g., *Gray* 70
Gymnoplax, n. g., *Gray* 66
Haliaëtus Aguia, Temm. 52
—— *niger* 37
Himantopus melanopterus 39
Hirundo albicollis, Vieill. 38
—— *fulva* 37
—— *melanogaster*, Swains. 38
—— *tapera*, Linn. 38
—— *thalassinus*, Swains. 38
—— sp.? 38
Hosia flavescens 78
—— spinulosa, *Gray* 78
Hotinus clavatus, Westw. 83
—— *pyrorhynchus*, Don. 83
Hyastenus, n. g., *White* 56
—— Sebæ, *White* 57
Hystrix alopæus, Hodgs. 128
—— *brevispinosus*, Wagn. 102
—— *cristata*, Linn., 98, 99, 100, 101, 102, 103
—— *fasciculata*, Shaw 98, 104
—— hernitorostris 98
—— *hirsutirostris*, Brandt 99
—— *Hodgsonii*, Gray 128
—— *leucurus*, Sykes 100, 101
—— *macroura*, Linn. 104
Hyperoodon latifrons 118
Hypobranchlæa, n. g., *Adams* 23
—— fusca, *Adams* 24
Ibis alba 39
—— *rubra* 39
—— *versicolor* 38
Icterus baritus, Linn. 38
—— *bonana*, Linn. 38
—— *brasiliensis*, Linn. 38
—— *cucullatus*, Swains. 38
—— *dominicensis* 38
—— *leucopteryx* 108
—— *mexicanus* 38
—— *Thilius*, Mol. 53
—— *versicolor* 38
Indri brevicaudatus 110
Ischnochiton, n. g., *Gray* 126

Heline p. 228

Page
Ischnochiton alatus 127
—— *limaciformis* 127
—— *magdaliensis* 127
—— *textilis* 127
Katharina, n. g., *Gray* 65, 69
—— Douglasiæ, *Gray* 69
—— *tunicata* 69
Lagenorhynchus leucopleurus ... 117, 118
Lambrus lamelliger, *White* 58
—— turriger, *White* 58
Lampornis graminea 40
—— *mango* 39, 40
Laridæ 40
Larus argentatus 40
—— *atricilla* 40
—— *parasiticus* 40
Leistes humeralis, Vig. 38
Lepas 66
Lepidopleurus, Leach MSS. 66
—— *cajetanus*, Riss. 127
Leptochiton, n. g., *Gray* 127
—— *cajetanus* 127
—— *cinereus* 127
—— *Hanleyi* 127
Leptonyx Weddelii 118
Linkia bifasciatus 73
—— *Brownii* 73
—— *typus* 73
—— *unifasciatus* 73
Lophornis ornatus 96
—— *Reginæ* 95
—— *Regulus* 96
Lophurus, Pall. 66
Mareca americana 40
Megapteron longimanus 88, 89, 92
Merula dominicus, Linn. 38
—— *fusca* vel *leucophthalma* 38
—— *jamaicensis*, Linn. 38
—— *minor* 38
—— *mustelinus* 38
—— *rubripes*, Temm. 38
Metallura, n. g., *Gould* 94
Milvago pezoporos, Meyen 52
Mimon, n. g., *Gray* 14
—— Bennettii, *Gray* 14
—— megalotis, *Gray* 14
Mirafra Horsfieldii, *Gould* 1
—— *javanica*, Horsf. 2
Molossus ater 115
Monodon monoceros 118
Monophyllus Leachii, Gray 15
Mopalia 65, 69
—— *Blainvillii* 69
—— *Hindsii* 69
—— *Simpsonii* 69
MOSCHUS MEMINNA, *Erxl.* 13
Mus fuscipes, Waterh. 6
—— *vellerosus*, Gray 5
Muscicapa crinita 38
—— *ferox* 38
—— *fusca* 38

Page
Muscicapa ruticilla 38
—— *virens* 38
Mustela putorius 111
Nicon, n. g., *Gray* 15
—— caudifer, *Gray* 15
Noctilio mastivus 105
Nothura perdicaria, G. R. Gray ... 53
Numenius longirostris 39
Numida maculipennis, Swains. 39
—— *meleagris*, Linn. 39
Nycticorax Gardenii 39
—— *violacea* 39
Nymphon Johnstonianum 125
—— *Johnstonii*, Goods. 125
—— Phasma, *White* 125
Onithochiton, n. g., *Gray* 65, 68
—— *Gaimardi* 68
—— *hirtosus* 68
—— *undulatus* 68
Orca gladiator 88
Ornismya Aline, Bourc. 17
—— *Anais*, Less. 8
—— *brevirostris*, Less. 43
—— *chrysolopha* 42
—— *Clarissæ*, Less. 46
—— *Cora*, Less. 46
—— *cyanea*, Less. 46
—— *Delphinæ*, Less. 9
—— *Elisa*, Less. 44
—— *glomata*, Less. 17
—— *labrador.*, Boiss. 46
—— *maniculata*, Less. 17
—— *paradisæa*, Boiss. 44
—— *petasophora*, Less. 8
—— *platurus*, Less. 42
—— *Sappho*, Less. 30, 31
—— *scutatus*, Less. 42
—— *Underwoodii*, Less. 42
—— *vestita*, De Long. 17
Oreotrochilus, n. g., *Gould* 9
—— *Adela* 10
—— *chimborazo* 10
—— *Estella* 10
—— leucopleurus, *Gould* 10
—— melanogaster, *Gould* 10
Orpheus polyglottus 38
Orthorhynchus Adela, D'Orb. 10
—— *Ceciliæ*, Less. 10
—— *Estella*, D'Orb. 10
Ortyx marylandicus 38
Otocyon Lalandii 11
Palola, Gray 17
—— viridis, *Gray* 18
Pagurus cavipes, White 122
—— *comptus*, White 122
—— *guttatus*, Oliv. 122
—— strigimanus, *White* 121
Pandion haliaëtus (? *carolinensis*) ... 37
Parra jacana 40
—— *variabilis* 40
Patiria, n. g., *Gray* 82

Page
Patiria coccinea, Gray 82
—— ? crassa, *Gray* 83
—— *granifera* 82
—— obtusa, *Gray* 82
—— *ocellifera* 82
Pelecanidæ 40
Pelecanus fuscus 40
Pentaceros Franklinii 74
—— *gibbus* 74
—— *grandis* 74
—— granulosus, *Gray* 75
—— *reticulatus* 74
—— *turritus* 74
Pentagonaster Dubeni, *Gray* 79
—— *pulchellus* 80
—— *regularis*, Link 80
Petasophora Anais 8
—— *coruscans* 9
—— *cyanotus* 8
—— *Delphinæ* 9
—— ? *Geoffroyi* 9
—— iolota, *Gould* 9
—— *serrirostris* 8
—— *thalassina* 8
Petricia, n. g., *Gray* 81
—— punctata, *Gray* 81
Phaëton æthereus 40
Phakellopleura, Guild. 69
Phascolomys Vombatus 41
Phoca Leopardina, James. 118
Phœnicopterus ruber 39
Phrynops Geoffroyii 56
Phyllophora megalotis, Gray 14
Phyllostoma Bennettii, Gray 14
—— *nigrum* 115
Physalus Antiquorum ... 88, 89, 90, 117
—— *Boops* 88, 89
—— *borealis* 117
—— *Sibbaldii* 88, 89
—— (*Rorqualus*) *Boops* 91
—— (*Rorqualus*) *Sibbaldii* 92
Phytotoma rara, Mol. 53
Picus carolinensis 38, 40
—— *carolinus*, Linn. 39
—— *percussus*, Vig. 39
Pieris Eudoxia 59
—— Matuta, *Doubled.* 59
—— Phaola, *Doubled.* 58
Pipillo maculata, Swains. 39
Platalea ajuga 39
Plaxiphora, n. g., *Gray* 65, 68
—— *Carmichaelis* 68
Plotus novæ-hollandiæ, *Gould* 34
Podiceps auritus 40
—— *chilensis*, Garn. 54
—— *cristatus* 40
—— *kalipareus*, Quoy et Gaim. ... 55
Polyborus brasiliensis, Swains. ... 38, 52
Porania gibbosa 81
Porcula salvania, *Hodgs.* 115
Porzana leucophrys, *Gould* 33

Page
Psittacara nana, Vig. 38
Psittacus æstivus 38
—— *leucocephalus* 38
Pteraster capensis, *Gray* 83
—— *militaris* 83
Pyrrhula collaris, Vig. 38
—— *nigra*, Linn. 38
Querquedula cærulata, Eyton 54
Radsia Barnesii 126
Rallidæ 40
Rallus jamaicensis 40
—— *minutus* 40
—— *sanguinolentus*, Swains. 54
—— *virginianus* 40
Randasia, n. g., *Gray* 74
—— granulata, *Gray* 75
—— spinulosa, *Gray* 75
Rhea Darwinii, *Gould* 54
—— *pennata D'Orbignii* 54
Rhinolophus aurantius, Gray 16
—— *lacteus*, Temm. 16
—— *trifoliatus*, Temm. 16
Rhinonicteris, n. g., *Gray* 16
—— *aurantius*, Gray 16
Rhynchaspis maculatus 54
Rorqualus minor, Knox 90
Salpornis, n. g., *Gray* 7
Sarcoramphus papa 38
Schizochiton, n. g., *Gray* 65, 68
—— *incisus* 68
Scolopacidæ 39
Scolopax gallinago 39
—— *grisea* 39
—— *minor* 39
—— *paraguaiæ*, Vieill. 54
Scythrops novæ-hollandiæ, Lath. ... 51
Sciurus aurocapillus 38
Sericornis frontalis 3
—— *humilis*, Gould 3
—— lævigaster, *Gould* 3
—— maculatus, *Gould* 2
—— osculans, *Gould* 2
Sitta jamaicensis 39
Spondylus asperrimus 87
—— Cumingii, *Sow.* 86
—— digitatus, *Sow.* 87
—— *imperialis* 86
—— limbatus, *Sow.* 87
—— lingua-felis, *Sow.* 87
—— *regius* 86
—— sinensis, *Sow.* 87
—— tenuispinosus, *Sow.* 87
—— unicolor, *Sow.* 86
Stellaster Childreni, Gray 76
—— *Incei*, Gray 76
—— Belcheri, *Gray* 76
Sterna fuliginosa 40
—— *minuta* 40
—— *stolida* 40
Strigops habroptilus, *Gray* ... 50, 61, 62
Strix americana, Aud. 53

Page
Strix asio 37
—— *flammea*, Wils. 37, 53
—— *pratincola*, Bonap. 53
Sturnella Loica, Mol. 53
—— *magna* 38
Sylvicola americana 38
—— *canadensis* 38
—— *coronata* 38
—— *dominica* 38
—— *maculosa* 38
—— *minuta* 38
—— *pensilis* 38
—— *pusilla* 38
Synoïcus australis, Gould 33
—— diemenensis, *Gould* 33
—— *sinensis*, Gould 33
—— sordidus, *Gould* 33
Tachypetes aquilus 40
Tanagra gularis 39
Tantalidæ 39
Tantalus loculator 39
Taxidea leucurus, *Hodgs.* 116
Thalassidroma pelagica 40
—— *Wilsoni* 40
Thinocorus D'Orbignianus 29
Tinamotis Pentlandii, Vig. 28, 29
—— *elegans* 28
Todus viridis, Linn. 38
Tonicia, *Gray*, n. g. 65, 67
—— *atrata* 67
—— *castanea* 67
—— cerasina, *Gray* 67
—— *disjuncta* 67
—— *elegans* 67
—— *fastigiata* 67
—— *fulva* 67
—— *Grayii* 67
—— *lævigata* 67
—— *lineata* 67
—— lyrata, *Gray* 67
—— *rubra* 67
—— *Swainsonii* 67
Tosia, *Gray*, n. g. 80
—— aurata, *Gray* 80
—— *australis*, Gray 78, 79, 81
—— grandis, *Gray* 80
—— rubra, *Gray* 81
—— tubercularis, *Gray* 80
Totanus flavipes 39
—— *chloropygius* 39
—— *macularius* 39
—— *semipalmata* 39
Trachops, n. g., *Gray* 14
—— fuliginosus, *Gray* 14
Trichas personatus 38
Tringa minutella 39
—— *pectoralis* 39
—— *pusilla* 39
—— *rufescens* 39

Page
Trochilus æneocauda, Gould 94
—— *Alardi*, Bourc. 94
—— *Amagili*, Less. 47
—— *amethysticollis*, D'Orb. et Laf. 46
—— *amethystinus*, Less. 47
—— *Antonia*, Bourc. et Muls. 46
—— aquila, *Lodd. MSS.* 42
—— *Buffonii*, Less. 96
—— Caroli, *Bourc.* 48
—— *chimborazo*, Bourc. 10
—— *columbicus*, Boiss. 44
—— Conradii, *Bourc.* 45
—— *cristatus*, Gmel. 42
—— *cupreocauda*, Gould 94
—— *cupreoventris*, Fras. 17
—— *cyanotus*, Bourc. 8
—— *Derbyi*, Bourc. et Delatt. 17
—— Doubledayi, *Bourc.* 46
—— *eurypterus*, Lodd. 48
—— Evelynæ, *Bourc.* 44
—— *furcatus* 38
—— *Geoffroyi*, Bourc. et Muls. ... 9
—— Georginæ, *Bourc.* 48
—— Johannæ, *Bourc.* 45
—— *Ludoviciæ*, Bourc. et Muls. ... 45
—— Matthewsii, *Lodd. MSS.* 43
—— *Mazeppa*, Less. 43
—— *Meriphilus*, Less. 44
—— Millerii, *Lodd. MSS.* 43
—— mirabilis, *Lodd. MSS.* 42
—— Mitchellii, *Bourc.* 47
—— *mosquera*, Bourc. et Delatt. ... 17
—— *nigrofasciata*, Gould 44
—— Norrisii, *Bourc.* 47
—— Ruckeri, *Bourc.* 46
—— *ruficollis*, Gmel. 46
—— Schriebersii, *Lodd. MSS.* 43
—— *serrirostris*, Vieill. 8
—— *smaragdinicollis*, D'Orb. 94
—— Spencei, *Bourc.* 46
—— *strophianus*, Gould 46
—— *thalassinus*, Swains. 8
—— *torquatus*, Boiss. 45
—— *uropygialis*, Fras. 17
—— Watertonii, *Lodd. MSS.* 44
—— *Williami*, Bourc. 94
—— Yarrellii, *Bourc.* 45
—— (Calothorax) Calliope, *Gould* .. 11
—— (*Doryfera*) *Louise* 95
—— (——) violifrons, *Gould* 95
—— (Glaucis?) cæruleogaster, *Gould* 96
Trogon temnurus, Temm. 38
Turdus falklandicus, Quoy et Gaim. 53
Tyche emarginata, White 85
—— *lamellifrons*, Bell 85
Tyrannula saya 38
Tyrannus intrepidus 38
Utica, n. g., *White* 85
—— *gracilipes*, White 86

	Page
Valdivia, n. g., *White*	85
—— *serrata*, White	85
Vampyris cirrhosum, Spix	14
Vanellus chilensis	54
Vermivora solitaria	38
Vireo olivacea	38
Xenocarcinus tuberculatus, *White*	119
Zebrida, n. g., *White*	120
—— *Adamsii*, White	121
Zenaida aurita, Temm.	53

END OF PART XV.

Printed by Richard and John E. Taylor, Red Lion Court, Fleet Street.