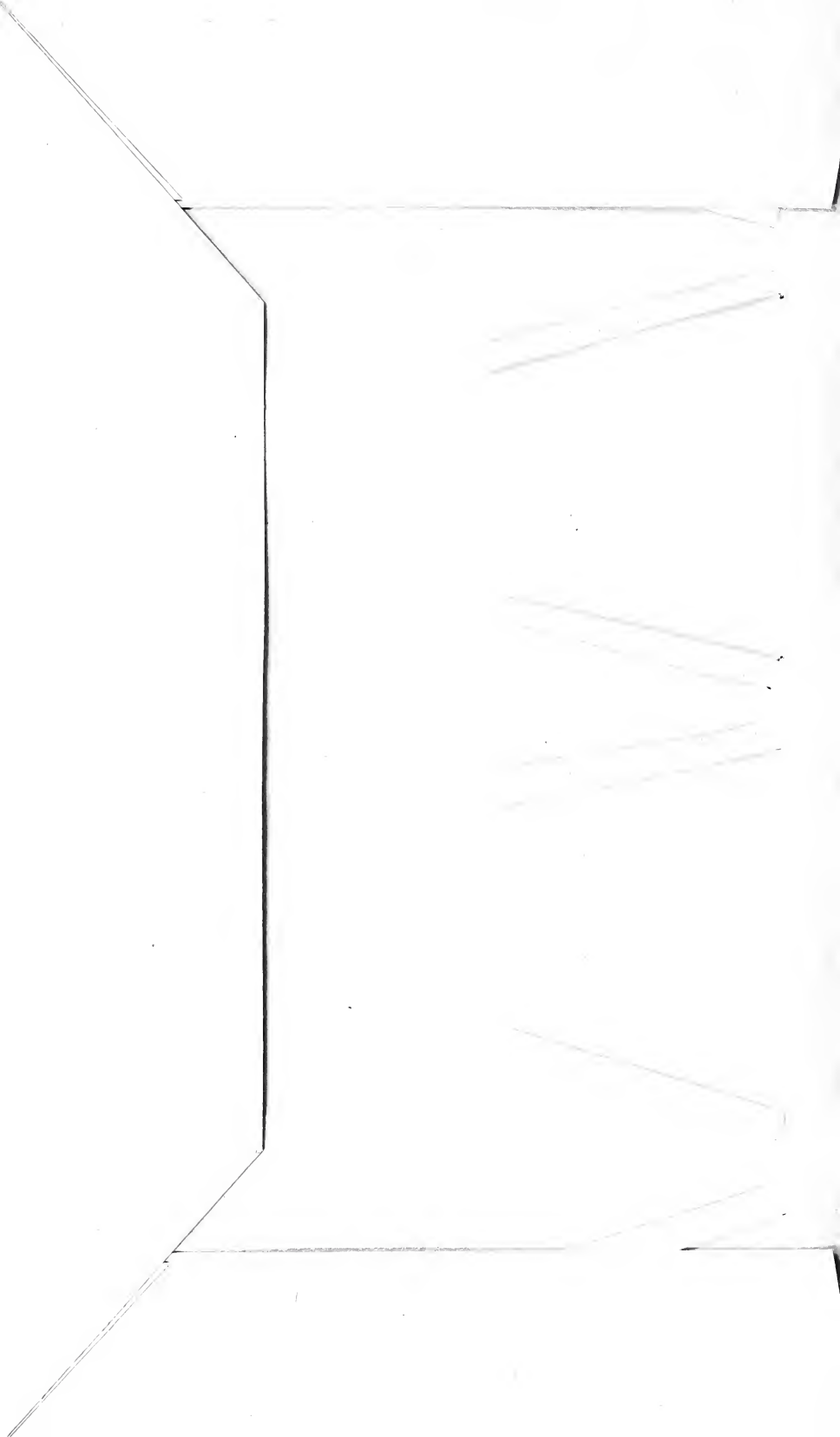


ZOOLOGICAL
MISCELLANY
1831-1844

GRAY



8
7
No.

Sydney

2257
Smith
2

THE
ZOOLOGICAL
MISCELLANY.

TO BE CONTINUED OCCASIONALLY.

BY
JOHN EDWARD GRAY,
F.Z.S., F.G.S., F.R.G.S., M.R.S.L., &c. &c.

London:

PUBLISHED BY TREUTTEL, WURTZ AND CO., SOHO SQUARE; G. B. SOWERBY,
156, REGENT STREET; W. WOOD, 39, TAVISTOCK STREET,
COVENT GARDEN.

E. J. Stirling, Printer, 20, Ironmonger Lane, Cheapside.



THE

NOLOGICAL

AND CHEMICAL

AND DRY OF THE OCEANOGRAPHY

BY

CAPT. JOHN W. G. GRAY

LONDON: RICHARD CLAY AND COMPANY, LTD. 1906.

PRINTED

BY THE UNIVERSITY PRESS, CAMBRIDGE

AND THE UNIVERSITY PRESS, BOSTON

MASSACHUSETTS, U.S.A.

ZOOLOGICAL MISCELLANY.

I. Description of twelve undescribed species of Birds, discovered by JOHN REEVES, Esq., in China.

THE collection from which these Birds are described consisted of sixty-nine species, of which thirty-six species were peculiar to India, and thirty-three common to Europe, or North America, as well as India; of the thirty-three, twenty-seven were aquatic Birds, and six land: and of these six, two (the Kingfisher and Wagtail) seek their food in water, and two are the domestic companions of man, as the Magpie and Tree Sparrow.

White headed Pastor. *Pastor bicolor*, n. s. Black-brown; head, false wing, tips of wing coverts, secondaries, vent and tail feathers, abdomen and rump white; lower part of neck black; sides black streaked; bill and feet black. Length $12\frac{1}{2}$ inches. Inhab. China, India. Dr. Horsfield.

Silky Pastor. *Pastor sericeus*, n. s. Vinaceous brown; rump, sides and chest rather paler; crown yellow white; chin and middle of abdomen reddish white; vent, under wing coverts, outer edge of false wing, and base of primaries white; tail and wing metallic green-black; bill slender, reddish. Length $9\frac{1}{2}$ inches. Inhab. China.

Two-coloured Thrush. *Turdus melaleucus*, n. s. Black; beneath greyish black; head, ears, chin, and spot on the front edge of wing, white; bill and feet yellow; bill compressed at the end; nearly as long as the head. Tarsi and feet small. Tail even. Length 10 inches; wing $4\frac{1}{2}$ inches; bill 9 lines.

Black-billed Myophonus. *Myophonus nitidus*, n. s. Blue black; tips of all the feathers (except the quills and tail) with a polished bright blue spot; a few of the larger wing coverts white tipped; sides under the wings, white streaked; bill and feet black. Length 11 inches. Inhab. China, Reeves. India, Gen. Hardwicke. Like *M. metallicus*, but bill and feet black.

Chinese Butcher Bird. *Lanius Chinensis*, n. s. Crown, and back of neck, ash; forehead orbits and back of ears, wings and tail black; chin and throat white; rump, loins, outer edge of secondaries, outer web of outer, and tips of all, except the two middle tail feathers, bright bay; under wing coverts, chest and abdomen, pale brown; tail much graduated. Length 11 inches. Tarsi $1\frac{1}{4}$ inch.

Reeves's Redstart. *Sylvia*, (*Phænicurus*,) *Reevesii*. Black; crown and nape blue ash; back of neck rather paler, chest, under wing coverts, abdomen, loins, rump, and all, (except the two middle, and outer edge of the outer,) tail feathers, bright red bay; base of outer web of secondaries white. Inhab. China.

Goura Bunting. Emberiza Lathamii, n. s. *Goura Finch*, Lath. Hist. Black; feathers grey edged, the abdominal feather broadest edged; head with a crest of several long linear feathers; upper and under wing coverts, quill and tail feather, (except at the tips,) bright red bay; bill and feet horn-coloured. Length $7\frac{1}{2}$ inches.

Female or Young. Brown; paler beneath; middle of feathers black brown; sides blackish; chin whitish; wing and tail feathers black brown; outer edge of wing coverts, quill and outer tail feathers, inner web of quills, nearly to the top, and band down the shaft of two outer tail feathers on each side, bright red bay; under wing covert bay; bill and feet brown. Inhab. China and India.

Pale Goat Sucker. Caprimulgus pallidus, n. s. Black brown, minutely punctated with pale ash, spotted with bay; abdomen pale bay, black banded; vent rufous; outer quill black brown, spot on inner web of outer, and band across second, third, and fourth quill, and under wing coverts pale bay; inner primaries, secondaries and bastard wing bay and black banded; tail slightly rounded, outer feathers pale bay, middle ones black dotted. Length $10\frac{1}{2}$ inches; tail 4 inches; bill 1 inch, 1 line. Inhab. China, *Mr. Reeves*. India, *Dr. Horsfield*.

Wedge-tailed Partridge. Perdix sphenura, n. s. Blue grey vermiculated and speckled with black; chin, ears, sides of neck, throat and abdomen, bay; sides and epigastrium black spotted; wing coverts and scapulars white speckled and chestnut spotted; secondaries irregularly white banded; outer ones black tipped; tail long, wedge-shaped, obscurely banded; quills brown; bill and feet dark. Length 11 inches. Inhab. China.

Chinese Francolin. Perdix (Francolinus) maculatus. Black with round white spots; loins, rump and tail black, white cross-banded; top of head, nape, scapulars, tips of back feathers, and under tail coverts, chestnut; middle of crown brown, feathers pale edged; chin, upper part of throat and sides of face white, with a band over the eyes, and another from the angle of the mouth to under the ears black; bill, black; feet yellow; spurs blunt. Length 12 inches. Inhab. China.

Chinese Dunlin. Tringa (Pelidna,) Chinensis. Bill, slightly bent down, rather longer than the head, black. Ash-coloured, feathers, white edged; crown and back of neck, brown ash, white streaked; chin, pure white; under wing coverts, rump, and beneath, white; front and side of neck, chest, and sides of body and rump, ash spotted; wing and tail feathers, ash, with narrow white edges; tail quite even; legs, dark green. Length $10\frac{1}{2}$ inches.

Asiatic Snipe. Scolopax Horsfieldii, n. s. *Scol. gallinago*, Horsf. and Raffles. Exactly like the Common Snipe (*Scol. gallinago*, Pl. Enl. t. 883,) in size and plumage; but on each side of the tail there are a series of small ridged filiform arched feathers not found in the European species. Inhab. China, *J. Reeves, Esq.* India, *Dr. Horsfield*.

II. *Description of two new species of Birds discovered by Capt. HAY, in the Phillipine Islands.*

These Birds having been obtained from the Natives, who use them as plumes, were deficient of their wings and feet.

Large Billed Pitta. Pitta macrorhynchus. Green; head, neck, and bill black; rump, blue-green; lower part of abdomen and vent crimson; bill, large, black; head slightly crested; wings—Length $6\frac{1}{2}$ inches. Inhab. Phillipine Islands.

Phillipine Oriole. Oriolus Phillipensis. Head, upper part of neck, back, epigastrium, and tail, coal black; lower part of neck, chest, belly, and rump, bright golden yellow; paler on the back of the neck; bill, yellow; wings, ———? feet ———? Length $7\frac{1}{2}$ inches. Inhab. Phillipine Islands.

III. *Descriptions of three undescribed species of Birds, discovered and drawn by JOHN CRAWFURD, Esq., at Siam.*

Siam Malkoha. Phenicophaus Crawfordii, t. 2. Blue-green, rather paler beneath; vent, red-brown; tips of tail feathers, white; bill and feet, greenish; orbits, moderate, red. Inhab. Siam. Length 16 inches; tail 8; bill $1\frac{1}{2}$ inch.

Bay Cuckoo. Coccyzus badius, t. 1. Pale bay; paler beneath; tail, with numerous narrow, pale, and dark brown bands; end, ($\frac{1}{3}$ an inch long) white; bill, long, green; orbits and lores naked greenish; feet, ash-brown. Length 12, tail 6, and bill 1 inch. Inhab. Siam.

Sumatran Barbet, (Lath. Hist.) Bucco trimaculatus, t. 3. Green; forehead, cheeks, band across the throat, quills, and tail feathers, except the two middle ones, black; nape and chin blue; cheeks with three red spots on each side; bill, black; feet, yellow. Length 6 inches. Inhab. Siam.

IV. *Description of a new species of Hornbill, from Major FARQUHAR'S Drawing.*

Brown-tailed Hornbill. Buceros Farquhari. Black; sides of head and neck, white; tail end, pale brown; bill, compressed; base, with an ovate protuberance; young? sides of face and neck, dark brown; bill, smaller, with an ovate protuberance extending half its length. Inhab. Malacca. It is to Major Farquhar that we are indebted to the knowledge of the *Malay Tapir*, the *Galeated Hornbill*, the *Viverra gymnura*, *Bamboo Rat*, the *Binturong*, and many other animals.

V. *On the Genus ALECTURA of Latham, and the family MENURIDÆ.*

Dr. Latham in the last page of the last volume of his History of Birds, proposed to form his *New Holland Vulture* into a genus under the name of *Alectura*, but he has given no character by which to distinguish it; he very properly observes that this Bird should be placed near *Menura*.

The genus *Alecturus* of Vicillot, is now considered a *Muscicapa*.

Gen. ALECTURA, Lath. (no character.) Fam. *Menuridæ*.

Bill short, strong, convex; culmen, strongly curved from the base;

nostrils, large, suborbicular, basal, in a deep nasal groove; head and neck naked, covered with deflexed bristles; feet large, strong; legs, feathered to the knees; tarsus very strong, long, longer than the middle toe, covered with reticulated scales, and with two larger series of scales in front; spurs, 0; toes 3-1; the front ones unequal, covered with a series of scales above, and with minute scales on the side, the inner ones rather shorter than the outer, which is scarcely shorter than the middle one. The hind toe on the same line as the others; half the length of the middle one; claws, long, (half as long at the toes,) slightly curved, blunt; hinder rather longer; wings moderate, rounded; first, second, third, and fourth quill graduated, the fifth longest; tail, long, rounded, dependant.

Latham's Alectura. Alectura Lathamii. New Holland Vulture, Lath. Hist. 1. t. 6. not good. Black; feathers of belly, pale edged; neck, reddish, when alive. Length 29 inches; tarsus, $4\frac{1}{2}$ inches; middle toe, 2 inches; claw, $1\frac{1}{4}$ inch; together, $3\frac{3}{4}$ inches; hind toes, 1 inch; claw, 1 inch.

The genera *Menura*, Shaw; *Megapodius*, Quoy and Gaimard. *Alectura*, Latham; *Alethelia* and *Talegalla* of Lesson, may with advantage be united together, into a family under the name of *Menuridæ*, characterized amongst the Gallinaceous Birds by the hind toe being placed on the same level as the other toes, and peculiar for the head being more or less naked, and the claws long and slightly curved. They are of a black dull colour, and without spurs. All the genera are peculiar to New Holland and its neighbouring Islands, they appear to unite the Gallinaceous Bird to the rails.

The genus *Alectura* differs from all the others in this family, by the tarsi being reticulated.

VI. *Description of three new species of Fish, including two undescribed genera, discovered by JOHN REEVES, Esq., in China.*

Gen. LEUCOSOMA, n. g.

Fam. *Salmonidæ*.

Head depressed, scaleless; muzzle, very long, acute; mouth, large; two-thirds of the upper edge of the upper jaw formed by the intermaxillary bones, intermaxillas, maxilla, palate, tongue, and lower jaw toothed. Vomer toothless; branchial rays 3? Body long, slender, compressed, scaleless, first dorsal fin just before the front of the anal fin.—This genus should be inserted in M. Cuvier's arrangement directly after *Saurus*.

Chinese White-fish. Leucosoma Reevesii, n. s. Opaque white, when preserved in spirits pale brown, B. 3. P. 10. D. 11—O. A. 25. V. 7. C. 20. Inhab. China. In the British Museum and the collection of Gen. Hardwicke. The muzzle very long and tapering; eyes large, lateral; mouth reaching to the eyes; the maxilla shelving in over the lower jaw; lower jaw narrow, with six or eight larger teeth forming a group in front, which pass through the three holes in the upper jaw. Length 6 inches. Eaten as a relish by the English at Canton.

Gen. SAMARIS, n. g.

Fam. *Pleuronectidæ*.

Pectoral fin small, long only on the side in which the eyes are; ven-

tral fin separate, close together at the base, unequal, the one on the eyes bearing side the largest; dorsal fin commencing over the middle of the upper eye; the first rays long and free at the end. Eye on the right side close together, separated by a ridge; mouth regular; teeth small, velvet-like; body oblong, narrow. This genus is most allied to the *Soles*.

Crested Samaris. *Samaris cristatus*, n. s. Eyes on the right side; body oblong elongate, nearly two and a half times as long as broad; scales rather large, ovate, fringed with minute bristles; lateral line straight and central, first rays of dorsal fin very long, free at the end; right ventral fin lanceolate; anal fin unequal; tail slightly rounded, D. 61. P. 4. V. 5. A. 51. C. 16. Length 6 inches 9 lines; breadth 2 inches.

Zebra Centracion. *Centracion Zebra*, n. s. Skin with four rayed asperities, grey brown, in unequal dark brown cross bands, generally placed in pairs; pectoral and two dorsal fins very long, falcate; the front teeth oblong, short; outer edge rounded, five or six lobed; the hinder one broad, flattened. Inhab. Sea of China. Sometimes found in Chinese Insect Boxes, but not so commonly as *Scylium ornatum*, Illust. Ind. Zool. t. All in the British Museum.

VII. *Description of two new species of Indian articulated Animals (Annelides) discovered by Gen. HARDWICKE, in India.*

Three coloured Glossophore. *Glossophora Tricolor*. *Hirudo tricolor*, Hardw. MSS. Body oval; chestnut edged with pale yellow; back with two broad white between three narrow black longitudinal bands; ocular dots, five pair; submarginal anterior disk, small, lanceolate; hinder, orbicular. Inhab. Ditches, Bengal.

Moonhead Planaria. *Planaria? lunata*. Body linear, lanceolate, blackish, paler beneath; head dilated, twice as broad as the body, semi-circular in front; tail rather tapering, rounder; eyes 0. Inhab. India. Winding round the leaves of coarse grass during the rainy season. Bengal.

VIII. *Description of two new species of Serpula, and an undescribed Coral Barnacle, discovered by SAMUEL PEARCE PRATT, Esq.*

Two-ridged Serpula. *Serpula bicostata*, n. s. Shell attached, testaceous, (upper part free elevated,) polished, very obscurely concentrically wrinkled, white, sub-opaque, gradually enlarging with three distinct deep blunt longitudinal grooves, forming two narrow longitudinal ribs on the upper side of the tube. Mouth round. Inhab. Coral, Indian Ocean. Collection of Mr. Pratt.

Beautiful Serpula. *Serpula elegans*, n. s. Shell attached, testaceous, (upper part free elevated?) white sub-opaque, gradually enlarging with three short elevated longitudinal keels placed on the back, the interspace between them, and the upper surface of the enlarged bases by which the tube is attached, finely, deeply and regularly transversely grooved. Mouth round. Inhab. Indian Ocean. Collection of Mr. Pratt.

Irregular Coral Barnacle. *Pyrgoma (Daracia) Monticulariæ*, n. s. Shell distorted, thin; margin very irregular, lobed, greatly thickened and separated from the rest of the shell by a sharp elevated rim, mouth very small, ovate, thin edged; operculum valves large, completely closing the mouth; opercular sheath, none; tubular support subconical, deep. Inhab. Indian Ocean on *Monticularia*. Collection of the British Museum.

IX. *On the Genus PERIPATUS of Guilding.*

The Rev. Mr. Guilding has described this animal as a genus of Mollusca. Having lately examined a specimen which formed part of Sir Hans Sloan's collection, I am satisfied that it is an *Annelide*, as Dr. Shaw appears to have considered it. In the *Zoological Journal*, IV., 278, Mr. MacLeay, since the above observations were made, has remarked that it is an annulose animal, connecting the Julidæ with the Worms amongst the Amelalolia. What are the Worms of Mr. MacLeay? It appears rather to be the genus which unites the family of Nereidæ with the Lumbrici or Earth-worms.

Peripatus Juliformis, Guilding, *Zool. Jour.* ij. 4, 5, t. 14. *Neries pedata*. Shaw's MSS. *Hunara Shavianum*, Leach's MSS. Brit. Mus. Head, indistinct; tentacula, 2, attenuated, cylindrical, finely ringed; eyes on a short peduncle at the base of the tentacula; mouth below linear; body sub-cymetrical, soft, closely ringed, attenuated behind; rays thirty-three, each formed of several rings, and furnished on each side with a contracted ringed conical foot, ending in several bristles; vent posterior below. Inhab. West Indies, Jamaica. Sloane; Mus. Sloane, n. 3989.

X. *Description of a new species of AMBLYRYNCHUS of Mr. BELL, in the British Museum.*

Short-crested Amblyrynchus. *Amb. subcristatus*. Head with unequal, short, broad, pyramidal scales, (smaller over the eyebrows) back and tail with a series of rather larger, short, broad scales; and a crest of seven or eight large, short, conical processes on the back of the neck, (the base about half as wide as high,) scales short, conical, blunt, smaller on the neck and larger on the tail and limbs. Inhab. Galapagos? Length of head $2\frac{3}{4}$. Body $13\frac{1}{4}$, and tail 8 inches.

Crested Amblyrynchus. *Amb. cristatus*, Bell, *Zool. Jour.* IV. 206, t. 12. Head with high, conical scales; back and tail with a crest of long, cylindrical, conical, recurved scales; scales of back long, triangular, conical, acute. Length of head $2\frac{1}{2}$. Body 16, and tail 16 inches. Mexico.

XI. *Description of some new species of African Birds discovered by Capt. EDWARD SABINE, R. A. in the Collection of the British Museum.*

Yellow-collared Weaver. *Ploceus collaris*. Black; lower part of the back of the neck (aucheneum) bright yellow; chest, abdomen, and beneath chestnut brown; bill black, conical, rounded between the nostrils;

tail slightly rounded, first quill rather shorter than the second, with fourth longest; tarsus black; bill to gape $10\frac{1}{2}$, to forehead $8\frac{1}{2}$; tarsus 10 lines. Total length 6 inches.

Red-breasted Weaver. Ploceus nitens. Shin blue-black, lower part of throat and chest bright crimson; wing and tail, lower part of back and abdomen black brown; bill black, (white at the tip injured,) tarsus black; tail slightly rounded. Total length $6\frac{1}{2}$ inches. Bill to gape $10\frac{1}{2}$, to forehead $8\frac{1}{2}$; tarsus 10 lines.

White Rump Chatura. Chatura bicolor. Blue-black, duller on the throat and beneath; long upper tail coverts, hinder part of chest, abdomen, vent and under tail coverts pure white with black shaft to the feathers; tail even, the shaft longely spinose; under plumage black brown; bill short, depressed. Length $4\frac{1}{2}$; expanse of wing 11 inches; bill to gape 5, to front 2 lines. Inhab. Africa.

Sabine's Thamnophilus. Thamnophilus Sabini. Blue-black; back, rump, chin and beneath, under wing-coverts and base of the inner edge of the quills pure white; quills black, bluish edged; tail obscurely banded; bill large, conical, long; culmen very wide and rounded, extended some distance up the forehead. Young birds in moult with brown feathers intermixed with the black, and the white of the back and chest varied with brown. Length $7\frac{1}{2}$; wings 3 inches; bill 13; tarsus $11\frac{1}{2}$ lines. This bird has very nearly the bill of *Barita*, but longer, and it has the nostrils, nasal groove, the false first quill, the geographical distribution and colouring of the *Lani*, it will probably form a new section of that family.

XII. *Description of a new species of Chameleon discovered by Capt. OWEN, in Africa.*

Three-horned Chameleon. Chameleo Oweni, tab. 4, old and young. Pale brown, marbled and lined with black; head with three long, conical, slightly curved horns covered with a sheath, the front one placed between the nostrils, rather the largest, the side ones on the front of the eyebrows; scales rather large, pentangular; body with small, nearly uniform scales, with a few smaller scales intermingled between them, those of the dorsal line are nearly square; tail slender. The young are more distinctly marbled and the horns shorter. Inhab. Fernandoo Poo, Capt. Owen.

XIII. *Description of twelve new genera of Fish, discovered by Gen. HARDWICKE, in India, the greater part in the British Museum.*

Gen. TEMERA.

Fam. Raiada.

Body orbicular; ventral fins large, produced nearly square; tail very short, end compressed, finned; dorsal fin, none; most nearly allied to *Torpedo*, but differs in having no dorsal fin, in which character it is most nearly allied to *Narke* of Caup; a genus not noticed by Cuvier, which has only one dorsal fin while *Torpedo* has two.

Hardwicke's Temera. Temera Hardwickii, n. s. Plain brown with irregular black streaks. Inhab. Penang. Length 6 inches

Gen. ANACANTHUS.

Fam. *Balistidæ*.

Body long, lanceolate, compressed, covered with small scales; head produced, beak-shaped; mouth small; under lip one bearded; pelvis produced, baglike, with a single rather long spine in front; dorsal fin one, long; anal long; tail long, lanceolate; most allied to *Alutera* (*les Aluteres*, Cuv.)

Bearded Anacanthus. Anacanthus barbatus, Illust. Ind. Zool. Pisc. t. 1. f. 2. Brown, rather paler beneath; under part of the jaws, body and ventral pouch whitish, marbled with black lines; anal fin produced a little beyond the dorsal fin; tail nearly half as long as the body, D. 46. V. 11. A. 60. P. 8? Singapore.

Gen. NANDINA.

Fam. *Cyprinidæ*.

Dorsal fin longer than the anal, the lips with a series of beards, allied to *Cirrhinus*, (*les Cirrhines*, Cuv.)

Hamilton's Nandina. Nandina Hamiltonii. Cyprinus Nandina, Ham Ganges, t. 8. f. 48.

Gen. BOTIA.

Fam. *Cyprinidæ*.

Body ovate, lanceolate, compressed with small scales; head and operculum naked, with a large spine just behind each nostril; mouth small; nose produced; dorsal fin moderate, medial, opposite the ventral fins; anal fin short. All Hamilton's *Cobites* belong to this genus, and so does one of the European species.

Almorah Botia. Botia Almorhæ. Subnasal spines double; brownish with irregular pale spots; fins pale, three or four banded, P. 13. D. 11. V. 8. A. 7. C. 25. Almorah.

Gen. DIPLOPTERUS.

Fam. *Esocidæ*?

Body fusiform, compressed; mouth protractile, (toothless?) eyes large; head scaly; ventral fins placed a little before the pectoral, first ray long; pectoral small; dorsal fin posterior, placed over the second anal; anal fins two, well separated; tail rounded, free.

Beautiful Diplopterus. Diplopterus pulcher, Illust. Ind. Zool. t. 4, f. 1. Olive green, beneath purplish white with a broad purple band on each side, from the mouth passing the under half of the eyes to the centre of the tail; tail, base yellowing, end purple. P. 16. A. 8. 12. C. 16. D. 12. Length 5; height $\frac{3}{4}$; breadth $\frac{1}{2}$.

Gen. ACANTHONOTUS.

Fam. *Siluridæ*.

Dorsal fin small, spineless over the front ray of the anal fin, with a series of small spines before it. Most allied to *Schilba*, but differs in the position of the dorsal fin.

Hardwicke's Acanthonotus, Acanthonotus Hardwickii, Illust. Ind. Zool. t. 2, f. 1. Beards eight, very long; Fish greenish-silvery; dorsal 15.—5. C. 26, P. 15, A. 74?

Gen. AILIA.

Fam. *Siluridæ*.

Body compressed; fins all spineless; fat fin very short and small over the end of the very long anal fin; ventral fin small, nearly under the pectoral; tail forked. Most allied to *Melalapterus* of Geoffroy.

Bengal Ailia. Ailia Bengalensis, Illust. Ind. Zool. Pisc. t. 2, f. 2. Silvery.—Rivers Bengal. Eaten by the natives.

Gen. CHACA.

Fam. *Siluridæ*.

Dorsal fins 2, first anterior short, hinder long, united to the caudal and anal fins; first ray of the pectoral fin spinous, rest of the fins all soft; head very broad. Allied to *Aspredo*.

Hamilton's Chaca. *Chaca Hamiltonii*. *Platysacus Chaca*. Hamilton, Ganges, t. 28.

Gen. RACONDA.

Fam. *Clupeidæ*.

Dorsal fin none; rest like *Pristigaster*.

Russel's Raconda. *Raconda Russeliana*. Silvery; Saugar Roads. A species distinguished from the want of the fin by the fishermen; there are two specimens in the British Museum, neither shewing the slightest indication of that organ.

Gen. COILIA.

Fam. *Clupeidæ*.

Body tapering, compressed; dorsal fin short, over the ventrals; anal and caudal fin united; pectoral fins small; rays five, three upper long and free; rest of the characters like *Thrissa*.

Ramarata Coilia, *Coilia Hamiltonii*. *Mystus Ramarata*. Hamilton, Ganges, 233. Illust. Ind. Zool. t. f. yellowish. Indian Ocean.

Gen. RATABOURA.

Fam. *Muraenidæ*

Body cylindrical, lateral line straight, central; head short, mouth small; teeth conical in both jaws, equal; dorsal, anal, and caudal fin distinct; dorsal fin short, behind the middle of the body; caudal fin rounded; pectoral fin small; gill apertures small just before the pectoral fins.

Hamilton's Rataboura. *Rataboura Hamiltonii*, *Muraena Rataboura*. Ham. 25. Dorsal fin 22, anal 50, and caudal 60-rayed.

Hardwicke Rataboura. *Rataboura Hardwickii*. Illust. Ind. Zool. t. 11, f. 2. Dorsal fin 26, anal 32, and caudal 36-rayed.

Gen. MORINGUA.

Fam. *Muraenidæ*.

Body cylindrical; lateral line straight, inferior; head short; mouth small; jaws subequal; teeth of the upper jaw conical, acute, recurved, with a central row along the palate, in the lower jaw short, blunt, equal; dorsal, anal, and caudal fins united; dorsal fin commencing just before the front of the anal fin; pectoral fins small; tail compressed; vent behind the middle of the body.

Linear Moringua, *Moringua Linearis*, *Anguilla linearis*, Hardw. MSS. Illust. Ind. Zool. t. 11, f. 1.

Description of three Species of TRICHIURUS in the British Museum.

Armed Trichiurus. *Trichiurus armatus*. Sawala, Russel, Ind. fish, t. 41? not good. Head long, compressed, more than $\frac{1}{2}$ the length of the animal; forehead depressed; jaws obliquely truncated in front; front teeth very large, barbed behind, obliquely produced; intermargillary bones very long, reaching to under the middle of the eye; body compressed, with a series of minute spines beneath; lateral line arched over the pectoral fin, and then continued below the middle about $\frac{2}{3}$ the height of the body. Indian Ocean. Brit. Mus.

Intermediate Trichiurus. *Trichiurus intermedius*, n. s. Head rather short, tapering in front, compressed on the sides, rather less than one-ninth the length of the body; forehead sloping, arched, sharply keeled; jaws conical, and slightly produced in front; front teeth very long, barbed, hinder ones moderate, rather distant, equidistant, front ones small, and close set; chin slender, rounded at the end; intermaxillary bones sharply curved in front, reaching as far as under the front edge of the eye; body compressed, lateral line nearly straight, continued along rather below the centre of the body; the vent with a short broad spine behind it, and a series of very minute spines along the ventral line of the body, and partly along the tail; tail rather short, thickish. Length $15\frac{1}{2}$ inches.

Armless Trichiurus. *Trichiurus Muticus*, n. s. Head short, tapering in front, rather rounded on the sides, rather less than one-tenth the length of the body; the forehead sloping, arched, sharply keeled, jaws conical, and slightly produced in front; front teeth long, incurved, simple; the hinder teeth small, close set; chin slender, slightly produced; intermaxillary bone short, curved, scarcely reaching to under the front edge of the eye; body compressed, lateral line nearly straight, continued along just below the centre, five-sevenths of the height of the body; vent without any spine behind, with a series of very minute spines at the end of the body, near the base of the tail.

Cuvier has indicated three species of Regne Animal, but so shortly that I cannot determine if any of these belong to them; when he was in this country he believed these to be new to him; nor are the descriptions of other naturalists more easy to make out.

Description of some new Species of fresh-water Shells discovered by Capt. OWEN, R.N., on the Coast of Africa.

Dr. Maton's Melania. *Melania Matoni*. n. s. *Murex fuscatus*, Maton, Linn. Trans. VIII., t. 4, f. 6, not Linn. Shell turreted, truncated, brown; upper whorls with four spiral grooves crossed by waves grooved, forming small round tubercles; lower whorl smooth, with two high, sharp, spiral keels, the upper the highest; the front of the last whorl spirally grooved; mouth ovate, narrow, slightly grooved in front; outer lip rather expanded, crenulated. Axis, 1 inch, diam. $4\frac{1}{2}$ lines.

Four-pearled Melania. *Melania quadriseriata*. Shell turreted, truncated, brown; whorls nearly flat, each with four spiral ridges, crossed by transverse grooves, which form the ridges into roundish tubercles, of which those of the hindermost series of the lower whorl are the largest; the front of the last whorl smooth, spirally grooved; mouth ovate, narrow, slightly grooved in front; outer lip expanded, rounded, crenulate. Is it a variety of *M. Matoni*, as it is exactly like the apex of that species? Axis 12, diam. 4 lines.

Capt. Owen's Melania. *Melania Owenii*, Gray, Ency. Metrop. t. , f. . *Strombus Byronensis*, Wood. Suppl. t. 4, f. 23. Shell turreted, ventricose, subtruncated; brown varied with black; whorls flatish, with two rows of large conical, truncated tubercles on each whorl,

placed alternately with each other, the front of the last whorl with spiral ribs, the hinder of which are nodulose; mouth ovate, front rather expanded, dilated; outer lip expanded, rounded, crenulated; axis $2\frac{1}{2}$ inches, diam. 10 lines; operculum ovate, horny; apex subspiral.

Freeth Melania. Melania Freethii. Shell ovate turreted, truncated, black, smooth, polished; whorls nearly flat; suture scarcely impressed; mouth ovate, slightly expanded in front; throat brown; axis 17, diam. 7, mouth 7 lines. Young, conical, black, turreted, truncated, very minutely spirally striated, last whorl subcarinate; axis 8, diam. 4 lines. Fernandoo Poo, dedicated to Colonel Freeth, through whose kindness I received these and many other shells. Like *M. lavigata*, but not white nor white and yellow.

Black Neritina. Neritina atra. Shell ovate, globose, thick, smooth, black; spire short, conical; apex grooved; mouth white, very oblique with regard to the axis; inner lip finely denticulated in the middle; outer lip slightly expanded, margin horizontal; axis and diam. 7 lines. Most like *N. Virginea* (and *N. reclinatus*, Say), but uniform black, and the outer lip not bent up towards the last whorl. Inhab. Fernandoo Poo.

Owen Neritina. Neritina Owenii. Nerita Oweniana, Gray. Wood, Cat. Suppl. t. 8, f. 8, and *N. Owenii*, f. 16? imperfect. Shell ovate, then pellucid, brown netted; mouth half ovate; inner lip smooth, the front and hinder angle of the outer and the inner lip becoming much expanded, making the shell distorted by age; spire very small, lateral often carious; operculum, thin shelly.

Description of some Birds discovered by EDWARD BLOXAM, Esq., during the Voyage of Capt. Lord BYRON, R.N., now in the British Museum.

Ruddy Finch. Fringilla rufa. Bloxam, Byron, Voy. 250. *F. coccinea*, Lath.?? Body red-foxy; lores blackish; wing and tail olive-brown; wing-covert, quills, and tail red-edged, inner edge of quills, and under wing-covert white; bill short, triangular, conic, tip straight, acute, whitish; feet brown; tarsus 9 lines. Mr. Bloxam describes "the tongue as short, tubular, and divided filaments at the end!" Inhab. Sandwich Islands.

Bloxam Crested Warbler. Sylvia Bloxami. Olive-brown; sides of neck, throat, and chest white, with a black streak down the shaft of each feather; head and ears black; forehead white-streaked, crown with a crest of from four to six long, slender, recurved feathers; outer web of the outermost, and tip of second tail-feather; the edge of the outer larger wing-coverts and of the primaries, white; belly, vent, and under wing-coverts yellowish-white; bill slender, black, end compressed, slightly nicked; base depressed, above keeled; wing short, first quill short, second rather shorter than the third and longest; tail rather long, rounded; tarsi long; toes short. Length $4\frac{1}{2}$ inches; bill 6; tarsus 9; middle toe 6; wing 23 lines. Inhab. Chili. *Parus Chilensis*, Bloxam MSS. This bird should range with *Regulus Omnicolor*, Viellot, which

differ from the true *Reguli* in wanting the pinnated feather over the nostrils.

Lord Byron Parrot. Psittacus (Aratinga) Byroni. Children's MSS. Brit. Mus. Green; forehead lores to the orbits bright-red; tail-feather rufous, brown; shaft greenish black, larger quills bluish, with shaft and inner edge black; tips of crown-feathers blackish; upper mandible elongate, produced; apex acute; culmen produced. Length 17 inches; wing 9; bill $1\frac{1}{4}$ inches. Inhab. Chili.

Crimson Drepanis. Drepanis Byronensis. Bill black, about as long as the head, dilated at the base, slightly curved, culmen rounded the whole length; plumage bright scarlet; wing and tail black, outer quill white-edged; secondaries scarlet-edged; vent and abdomen white; under plumage lead-colour, under wing-coverts grey. Length 6 inches; bill 9; tarsus 10; middle toes $7\frac{1}{2}$ lines. (This may be *Nectarinea Byronensis* of Bloxam MSS.) Byron's Voy. 249, but is not *Fringilla coccinea*, Linn.

Yellow Drepanis. Drepanis flava. Nectarinia flava. Bloxam, Byron, Voy. 249. Bill brown, as long as the head, curved, end slender, subulate; culmen rounded, raised between the nostrils. Yellow-olive; wing and tail pale brown; feathers greenish-edged; lores brownish. Female dark olive, beneath yellowish grey; large wing-coverts, white tipped.

Drepanis coccinea, female. Yellow-olive, brighter above; head and upper part of neck red-orange, with front of the shoulder-feather black-tipped; wing and tail black; larger wing-coverts black, yellow-edged, lower wing-coverts white; bill rather longer than the head, much compressed; culmen rounded, perhaps *Certhia ebrura*, Lath. Ind. *Hooked Billed Honey Eater*, Lath. Hist. v. 192, t. 71, f. 1.

Description of three African Birds, in the Collection of the British Museum.

Stanley Bustard. Otis Stanleyi. Above vermiculated, black and white (reddish near the neck, more minutely marked on the smaller wing-coverts) chin, abdomen, and beneath white; primaries black, inner web of the inner primaries, middle, and larger wing-coverts black and white varied; tail black, with three or four broad white bands; sides of face, neck, and chest grey, black speckled and banded; sides of the crown black; lower part of the back of the neck bright bay. Length 32 inches; bill to gape $3\frac{1}{2}$; tarsus $5\frac{1}{4}$ inches. Cape of Good Hope.

Luzonian Spoon Bill, Lath. Hist. Platalea Tenuirostris, Temm. Man. (from). Sonn. Voy. t. 51, adult, 52. Young Var. A. Lath. Crested, white; face and throat red, naked to behind the eyes; bill greenish, with a red margin, and an impressed line near the edge; very dilated at the base, narrow in the middle, broad and rounded at the end; feet bright red; claws black. Length 3 feet; tarsus $6\frac{1}{4}$; naked part of thigh 4 inches; bill 9 inches; middle $\frac{3}{4}$; end $2\frac{1}{4}$ inches wide. Central Africa, Major Denham.

*Description of three apparently new Species of Corn Crakes, (CREX.)
In the Collection of the British Museum.*

Red-neck Corn Crake. Crex ruficollis. Head, neck, chest, and upper part of back bright chestnut; back, wing-coverts, and abdomen, black, white-streaked; tail black, white spotted; quills and secondaries plain brown, outer quill short, with a narrow white outer edge; bill and feet brown. Bill to gape 6, to front 5, tarsus, 11 middle toe 14 lines. Length $6\frac{1}{2}$ inches. Inhab. Cape of Good Hope?

Beautiful Corn Crake Crex pulchra. Head, neck, chest, upper part of back and tail bright chestnut-brown; chin rather paler; body black, with small round, white spots above, and larger beneath, placed in pairs; quills brown, white-spotted principally on the outer edge; bill and feet brown. Bill to gape $8\frac{1}{2}$, to front 7; tarsus 15; and middle toe 15 lines. Length 7 inches.

Brown-eared Corn Crake. Crex aurita. Above olive-brown; crown of head, front of neck, and beneath, bright chestnut; lores, orbits, and ears brown; bill rather thick, to gape 10, to front 9; tarsus $16\frac{1}{2}$; middle toe 18 lines. Length 7 inches.

*Description of a new Genus of CIRRIPIDES, allied to BALANUS. In
the British Museum.*

Gen. ELMINIUS.

Fam. Balanidæ.

Shell subcylindrical; valves thin, solid, shelly, four, the front one narrow, involute, arched, overlapping the front edge of the wide lateral ones, (which occupy the width of the two lateral ones of the genus Balanus) the hinder one the narrowest, with a broad wing on the upper part of its sides, which are overlapped by the hinder edges of the side valves; operculum four valves; valves articulated together, exactly closing the mouth; case membranaceous. This genus agrees with Balanus in shape, and with *Conia* in the number of its valves, but the valves are not porous as in that shell.

King's Elminius. Elminius Kingii. Shell subcylindrical, truncated; valves white, smoothish, covered with a pale brown periostraca, the front opercular valves, smooth, very obscurely grooved.

In the Zoological Journal, ij. 210, Dr. Leach has established a genus under the above name, with the character *Testa quadripartita solida*, but the species which bears the name of *Elminius petrosus* in the British Museum, distinctly shews six valves, all so very closely soldered together as to be very difficult to divide; under these circumstances I have adopted his generic name, as the character agrees with that of my shell, but the species for which he formed it must be referred to *Balanus*.

Note on a peculiar structure in the Head of an Agama. By J. E. GRAY.

In a skull of an animal allied to *Agama*, or *Uromastix*, in the College of Surgeons, I have observed that the Ramus (*Os. Complementaire*, Cuv. *Os. Fos. fig. c.*) of the lower jaw rubs against the lateral processes of the

pterygoid bones, so as to prevent the lower jaw from moving from side to side, and that in the species under consideration the hinder teeth of the upper jaw has a series of teeth about half the length of the outer series placed on a ridge just on the inner edge of the outer teeth, leaving a groove between the two series for the lower jaw to fit into. This Skull will doubtless form the type of a new genus, which I propose to call *Sphænodon*.

Description of a new Genus of Ophisaurean Animal, discovered by the late JAMES HUNTER, Esq., in New Holland.

Gen. DELMA.

Fam. *Scineida*.

Head narrow, covered with four pair and three odd central plates; chin and throat with small scales; ears distinct, pervious; body and tail tapering, subcylindrical, covered with moderate nearly uniform, smooth, regular, six-sided, slightly, imbricate scales; abdomen with four series of plate, the two central series being the broadest; vent with three subanal scales; subanal pore none; fore-feet none; hind-feet rudimentary, conical, compressed, placed in a groove by the side of the vent; tail tapering, with three series of cross plates beneath.

Fraser's Bipes. Delma Fraseri. Bright olive-brown, beneath paler; head and lips black, with four narrow cross lines, one between the nostril and the eyes, two just behind the eyes, the third broader over the eyes, and the last edging the occiput. Length of head 4 lines; of head and body 2 inches, 8 lines; of tail (and reproduced) 3 inches, 8 lines. Inhab. New Holland. British Museum.

Description of the Species of PORCELLANA, in the Collection of the British Museum.

Polished Porcellana. Porcellana polita. Purplish brown polished punctulate; carpus above flat, front edge with three long serrated teeth; hinder edge with a spiny ridge near the end; forehead triangular, produced, the margin rather concave. Length of the thorax 7; breadth $7\frac{1}{2}$ lines.

Hairy Porcellana. Porcellaria hirsuta. Red brown, rugulose velvety; leg and abdomen fringed with long hairs; caspus above flat, centre rugulose, front edge with five acute triangular teeth; hinder edge with a series of conical, incurved, short spines; front edge of claw crenulate at the base; forehead triangular, bent down, with a small spine over the front edge of each eye. Length of thorax 11; breadth 11 lines.

Squamose Porcellana. Porcellana Galathina, Bosc. crust. 1, t. 6, f. 2. Red brown, with close-set cross wrinkled, edged with short rigid hairs; carpus and claws convex; front edge of carpus with six blunt, incurved, triangular broad teeth; hinder edge with a series of small protuberances; forehead triangular, truncated, concave, with a raised denticulated edge, and a spine over the back of each eye. Length of thorax $7\frac{1}{2}$; breadth 7 lines. North America.

Green Porcellana. *Porcellana viridis.* *Pisidia viridis*, Leach MSS. Green, with closish, cross wrinkles, edged with short, rigid hairs; legs fringed with hairs; carpus and claws rather convex, slender, the front of the carpus with four low, triangular, serrated teeth, and with a series of spines on the outer hinder edge; forehead rounded, with a central longitudinal groove.

Lamarck Porcellana. *Porcellana Lamarckii.* *Pisidia Lamarckii*, Leach MSS. Pale brown; thorax nearly smooth; legs and claws rugose, subquamoso, subciliated; forehead triangular, bent down, with a central groove, and a slight nick before each eye; carpus short, convex, with a central tubercular ridge, front edged with three triangular teeth, those near the base largest, the hinder edge with two or three obscure teeth near the tip; one specimen only.

Asiatic Porcellana. *Porcellana Asiaticus.* *Pisidia Asiaticus*, Leach MSS. Red brown, pale; thorax and limbs with obscure ciliated scales, with an incurved spine behind each eye; forehead slightly produced, triangular, side edges concave, with a centre longitudinal groove; carpus rather long, convex, equal, with three long distant serrated teeth, those near the base largest (very like former, but with the spine on the side of the thorax)

Say's Porcellana. *Porcellana Sayii.* *Pisidia Sayana*, Leach MSS. Pale brown, punctulate, smooth; limbs fringed with hair; forehead three-lobed, the central lobe triangular, acute, margin denticulated; thorax roundish; carpus short, triangular, with a broad angular lobe near the base in front; nearly allied to *P. Platychelas*, but the carpus shorter, and the lobes larger.

Flat-clawed Porcellana. *Porcellana platychelas.* *Cancer*, Linn. Pale brown; hirsute smoothish; forehead rather produced, three-lobed, central lobe longest, smooth edged, with a central furrow; limbs fringed with hair; carpus convex, rather longer than broad, with a single triangular projection at the base of the front edge. Inhab. English coast, common.

Common Porcellana. *Porcellana Leachii.* *Pisidia Linneana*, Leach MSS. *Cancer hexapus*, Linn. Pale brown, smooth; forehead three-lobed, centre lobe broad, smooth edged, with a central groove; limbs smooth, carpus convex, rather longer than broad, with a rather produced even edge in front, rounded and smooth behind (with sometimes a slight nick near the inner edge, forming an obscure lobe). Inhab. English coast.

Allied Porcellana. *Porcellana affinis.* Pale brown, smooth; forehead scarcely produced, obscure, three-lobed, central lobe broad, smooth edged; carpus convex, longer than broad, with a rather produced even edge, hinder side edged with an obscure elevated subsquamoso ridge. Inhab.

Tubercular Porcellana. *Porcellana sociata*, Say, Jour. Acad. N. S. Phil. I. 456. *Pisidia sociata*, Leach MSS. Pale brown; thorax subquadrangular, smoothish; limbs with large globular warts, pilose; forehead

rounded, scarcely produced, with a central groove; carpus short, with a large tubercle on its inner edge. North America.

The *cubitus* of most of the species ends in a spine, so that the front of the fore-leg often appears to have a spine added to those on the carpus.

Risso describes two Mediterranean species, *P. Bliciteli* and *P. longimana*, which I have not seen.

Description of three species of Notopterus, found by Gen. HARDWICKE, in the Indian Seas.

Ornamented Notoptere. Notopterus ornatus. Olivegreen, side of tail many (eight or nine) spotted, lateral line slightly curved over the pectoral fin, ventral fin, each three rayed; back low. D. 8, P. 9, V. 3, A. 130.

Chitala Notoptere. Notopterus Chitala, n. s. Mystus Chitala, Ham. Gan. Hist. 236 Cheetel, Penn. Ind. Tracts, t. 11. Olive green, white banded, side of tail with four or five spots; upper jaw unarmed; lateral line curved, ventral fin, each four rayed; back very convex just behind the head, D. 9, P. 14, V. 4, A. 120? 130?

Kapirat Notoptere. Notopterus Kapirat. Mystus Kapirat, Ham. Gymnotus Notopterus, Pallas, Spic. Zool. VI. t. 6, f. 2. Lateral line straight, ventral fins united, two rayed, D. 2, 7, P. 12, V. 1, A. 110? Cuvier has only described this species.

Description of a new species of Snipe discovered by CHARLES HARDWICKE, Esq., in Van Dieman's Land.

Van Dieman's Land Snipe. Scolopax Hardwickii. Tail feathers sixteen, the four outer on each side lanceolate, becoming gradually broader, white with (four or five) black cross bands, tips subacute, the inner web of the outermost feather scarcely wider than the outer one; general colour like *Scol. Gallinago*; back rather darker and the white streaks rather broader and purer; secondaries and scapulars more acute with some oblique, pale, longitudinal bands on their tips; shaft of first quill white, the others black at the base, with a subterminal broad, pale bay band. Length 12, bill $2\frac{3}{4}$, tarsus $1\frac{1}{3}$, and middle toe $1\frac{1}{2}$ inches.

On the Genus SPIROGLYPHUS of Daudin.

This genus, which was established by Daudin in his *Recueil de Memoires*, and noticed by Bosc. in his *Vers*, I., p. 86, although exceedingly common, appears to have been overlooked by all succeeding naturalists. It is doubtless nearly allied to *Vermetus*, but the habit of boring, its tube in the surface of the shell, must require it to be separate.

Gen. SPIROGLYPHUS, Daud. Fam. *Vermetidæ*, Animal. ———? forming a groove for its shell in the surface of univalve shells. Tube shelly, sub-cylindrical, attenuated, irregularly spirally twisted, the upper surface alone exposed, thick, the lower surface which lines the groove formed in the shell, thin and smooth; mouth round; operculum horny, orbicular, subspiral.

Wonderful Spirogyphus, Spirogyphus mirabilis, n. s. Chemnitz. IX. t. 116, f. 999. Jun. *Serpula spirorbis*, var. Dillw. from Chemn.)

The shell, when young, is brown and pellucid, nearly regularly spiral, the animal clearing a cavity before the mouth of the shell as it proceeds; when it gets older it becomes white and opaque, transversely ridged, and at length the shell takes a curved course of considerable extent, and gradually rounds in till it gets the mouth into the centre of the spire, where it appears to remain stationary. In my collection. On *Haliotis splendens*. This may be the *Spirogyphus annulatus* of Daud, Mem. t. 28, cop. in to Bosc. l. t. 7, f. 5, but his account is so short, and his figure so indistinct, that it is impossible to determine; he describes a second species, *S. politus*, which is equally doubtful, perhaps the young of this.

Lamarck *Vermilia subcrenata*, Lam. Hist. V. 370, perhaps belongs to this genus, if so, he describes the operculum as very shortly conical. The *Spirorbis ambiguus* of Fleming, Edin. Phil. Jour. XII. t. 9. A fossil appears also to belong to this genus.

Description of two species of Mammalia, one forming a genus intermediate between VIVERRA and ICTIDES.

Gen. PAGUMA.

Teeth like *Viverra* in number, the grinders bluntly tubercular; the true carnivorous teeth of upper jaw with an internal lobe; the tubercular grinders nearly square, the first rather narrower externally, the last tubercular; false grinders small. The hind feet plantigrade, inflexed, sole, bald, callous; tail long, tapering. This genus has much of the colouring of the genus *Ictides* with the odour, and the teeth like the *Viverra*, but not so sharply lobed.

Masked Paguma. Paguma larvata. Viverra larvata, Spicileg. Zool. *Gulo larvatus*, Hamm. Smith, Griffith. Trans. Anim. King. t. Grey; band across the forehead, and one down the centre of the face, white; end of tail, blackish. China

Pale Genette. Viverra pallida. Neck, yellow grey brown, browner on the middle of the back and over the back of the neck, edged on each side with a narrow blackish band; and with six or seven indistinct longitudinal blackish bands on the back, and small indistinct blackish spots on the flanks and thighs; feet, purplish brown; chin and beneath, dirty white; tail, tapering, yellow brown, with seven narrow purplish brown rings and a whitish tip. Length 32; tail, 12 inches. China. Like *Viverra Rasse*, but paler; band and spot fewer, more indistinct; tail, longer and more bushy; under part of body not spotted or banded.

Description of two species of painted Snipe, (RYNCHÆA.)

Many authors have been induced, from the variation of the colour that the plumage of these birds undergo, to consider them as several species; but recently Herr. Temminck, and after him M. Cuvier has

considered them all as one. The two species here described appear to undergo the same changes of colour; the wing coverts in the young birds being yellow spotted, while in the adults they are olive, with black cross lines; but the length of the tarsus and the colouring of the quill appear to be permanent in all ages.

Beautiful Painted Snipe. Rynchæa picta. Primary quills rather broad, the outer one graduated, with seven broad yellow bands, the under side vermiculated, grey and black, the inner ones obsoletely yellow banded, tips and the last band like spots on the outer web, and bands on the inner web of the secondaries, white. Length $10\frac{1}{2}$ inches; tarsus $19\frac{1}{2}$; middle toe 19; bill $33\frac{1}{2}$ lines. China, India and Africa. Young, wing coverts, yellow spotted, Brit. Mus.

Cape painted Snipe. Rynchæa capensis, Savigny Ois Egypt, t. 14, f. 4, young, pl. Enl. t. 881? Primary quills narrow, the outer ones with five broad yellow bands, under side grey, vermiculated with black and yellow banded; the spots on the outer and the bands on the inner web of the secondaries, yellow. China and India. Young, wing coverts yellow spotted, Brit. Mus.

Description of a new species of TRICHOPHOROUS, from Brazil.

Mooned Trichophorus. Trichophorus lunatus. Bright olive green; feathers of head, blackish edged; chin, throat and beneath, bright straw yellow, with broad black lunules; under wing coverts, pale yellow; quills, brown, outer edge greenish, inner yellow, especially near the base; crown and nape with long scattered bristles. Brazils. Forms a section of the genus which before was considered as peculiar to the old world. Distinguished by the third quill being the longest, by which character it forms a passage between the *Trichophori* and the genus *Procnias*. Collection of Mr. Deitrichschen.

Description of two new species of WOODPECKERS, discovered by CAPT. SABINE in Africa.

Olive Woodpecker. Picus olivaceus. Yellowish olive, darker on the sides: top of head, black and pale brown spotted; chin, throat, side of face and neck pale brown, black spotted; chest and abdomen, pale yellowish green, black banded; quill and tail, brown, outer web of outer primaries, white spotted, base of inner webs of quills and secondaries whitish black banded; under wing coverts yellowish white; scapes of quill and tail feather, above brown, beneath whitish; bill, short, conical, culmen three keeled. Africa, Capt. Sabine. Length 8; wing 4 inches; bill to front $7\frac{1}{2}$, to gape $9\frac{1}{2}$; tarsus 6 lines.

African Woodpecker. Picus Africanus. Golden olive brown; top of head, streak from angle of mouth and from lower edge of lower jaw down side of neck, black; chin and throat, side of head and neck, white; crest and rump, scarlet; chest and beneath, blackish olive, white spotted;

tail and quill, black brown, dots on outer web and spots on inner web of quills and under wing coverts, white; bill, cestriform, culmen three keeled. Length $8\frac{1}{2}$; wing $4\frac{1}{2}$ inches; bill to gape 15, to front 13; tarsus $7\frac{1}{2}$ lines.

Description of some PARTRIDGES, (PERDIX,) from India, among the Drawings of Gen. HARDWICKE.

Hepburns Francolin. Perdix Hepburni, male? ———? female?

Black with large white roundish spots; head and upper part of neck pale brown; crown, nape, and middle of the neck black streaked; middle of back, loins and rump closely black and white banded; sides of thighs, quills, and larger wing coverts pale brown, black banded; secondaries ovate lanceolate, black with a black band between two pale brown marginal ones; vent, dark red brown; legs, pale yellow; bill, black. Length 9 inches; bill $\frac{3}{4}$; tarsus, $1\frac{1}{4}$ inches. Inhab. Odyore or Oudipore, Leut. Hepburn.

Perdix Hepburni, var. Amongst General Hardwicke's drawings, there is a second figure taken from a bird sent from the same part of India by the same gentleman, which differs in being all over of a pale yellow brown colour, rather redder and darker on the head and upper part of the neck, and all the parts of this specimen, which in the other bird is black, is here pale brown, except the band across the quills and the streaks on the neck which are blackish, the front of the chest is marked with a few obscured pale brown cross lunules and the feet are rather stronger and darker coloured.

Concentric banded Francolin. Perdix Concentrica, female? Dusky brown; feathers of upper part of body with a central and two arched white bands, parallel to the margin, often edged with darker brown, of the lower part of the body white, with a central and one (or rarely two) brown arched bands parallel to the margin; chin and sides of the face behind the ears white, black streaked; ears brown, top of head and nape with short black bands; neck, black spotted; feathers brown, white edged; chest, black dotted; quills, tail, and upper tail coverts, brown and white banded, the tail band narrowest and whitest; legs and feet, yellow brown; claws black; spurs none; bill brown. Length 12; bill 1; tarsus, 2; middle toe and claws, $2\frac{1}{4}$ inches. Inhab. India.

Description of three new species of HERON, (ARDEA,) discovered by General HARDWICKE, in India.

Black billed Heron. Ardea nigrirostris. Pure white; feathers of the back, and base of the throat, elongated, rigid with very loose webs, reaching considerably beyond the tail; bill, black; lores, base of bill to beyond the nostrils and round the base of lower mandibles yellow green; thighs, tarsus, feet and claws, black. Length 26; bill to gape, $4\frac{1}{4}$; tarsus, $4\frac{1}{2}$; middle toe and claw, 4 inches. Feathers of the neck, 6 to 8; of the back 12—13 inches long.

Pure white Heron. Ardea modesta. Pure white; feathers of the back elongated, rigid with a very loose web, reaching considerably

beyond the tail; bill, black; lores, base of the upper jaw to the nostrils, and a short band at the base of the lower jaw, green; thighs and sides of legs, pale brown; shields on the front and hinder part of the tarsus and on the top of the toes, and the claws black. Length about 33 inches; of bill to gape, $5\frac{1}{2}$; thighs, $4\frac{1}{2}$; tarsus, 5; middle toe and claws, $4\frac{1}{4}$ inches.

Indian white Heron. Ardea Orientalis. Snow-white; crown, plain; feathers of lower part of neck, long, lanceolate; of loins, long, with a very loose web, rather longer than the body and recurved; bill, slender, black; lores and base of both jaws for a short distance yellow green; thighs, tarsus and claws uniform black; toes, flesh colour. Length 19; bill to gape, 4 inches; thighs, $2\frac{1}{2}$; tarsus, $4\frac{1}{4}$; middle toe and claw, 3 inches.

These species differ from *Ardea candissima*, of America, and from *Ardea Garzetta*, of Europe, in their larger size, in the relative proportions of their parts, and in the colour of their bill and legs.

Description of a new Genus of Percoid Fish, discovered by Mr. SAMUEL STUTCHBURY, in the Pacific Sea, and now in the British Museum.

Gen. 1. MICROPUS.

Body ovate, compressed, skin thick, naked, with minute filiform processes, lateral line slanting, subdorsal; head ovate, suborbital bone ending in a strong spine; pre-operculum strongly toothed; opercula with two teeth; the interoperculum ending in a spine; mouth small, protractile; jaws with velvet-like teeth; palate toothless; gill rays 5; dorsal fin large, single deeply nicked, or double, hinder rays, two cut: pectoral fins, small, slightly pedicelled, upper rays very thin, lower ones short, strong, simple and jointed; ventral fins minute under the pectorals; anal fin long; tail short, rounded; allied to *Blepsias* and *Apistes*.

Spotted Micropus. Micropus maculatus. Dorsal fins two, close together; body covered with bristle-like processes, yellow red spotted; operculum obscurely spinose; preoperculum, 4 toothed; D. 8—12. C. $\frac{8}{5}$, A. 11, V. $\frac{1}{3}$, P. 14. Length $1\frac{1}{2}$, height $\frac{3}{4}$ inches. Island of Hao.

One finned Micropus. Micropus unipinna. Dorsal fin 1, with a slight lobe between the spinous and dorsal rays; body villose, brown, spotless, beneath paler; operculum distinctly spined; preoperculum 4 toothed; D. 8—12, P. 14, C. $\frac{8}{5}$, A. 11? V. $\frac{1}{3}$.

Synopsis of the new species of Nepal Insects in the collection of Major General HARDWICKE, by Rev. F. W. HOPE, M.A.

Cicindela Dejeanii. Obscure purpurea, elytris punctatis vittaque flava inæquali ornatis. Long. lin. 11. Lat. lin. $3\frac{1}{2}=4$.

Cicindela flavomaculata. Supra viridi obscura, elytris macula humerali, secunda fere rotundata, tertiâque biloba ornatis. Long. lin. $7\frac{1}{2}$; lat. $2\frac{1}{2}$.

Cicindela pulchella. Species *C. bicolori*, Fabr. proxima. Viridis, elytris obscure cyaneis immaculatis, marginibus elytrorum purpureis abdomineque nigro-purpurascenti. Long. lin. $7\frac{1}{2}$; lat. $2\frac{1}{2}$.

Cicindela chloris. Viridiænea, elytris confertissime punctatis, tribus punctis albis marginalibus. Long. lin. $5\frac{1}{2}$; lat. $1\frac{3}{4}$.

Cicindela assimilis. Præcedenti affinis. Supra nigro olivacea, elytris punctatis, tribus punctis albis marginalibus. Long. lin. $6\frac{1}{2}=7$; lat. $2\frac{1}{2}$.

Desera Nepalensis. Viridi cuprea, elongata, thorace cylindrico cæruleo. Long. lin. $5\frac{1}{4}$; lat. $1\frac{1}{4}$.

Scarites Geryon. Niger, tibiis anticis tridentatis elytrisque profunde striatis. Long. lin. 20; lat. 5.

Percus Nepalensis. Totum corpus supra nigro-æneum, elytra nigro-ænea lineisque punctis impressi. Long. lin. $7\frac{1}{2}$; lat. $2\frac{1}{2}$.

Calosoma Indicum. Totum corpus nigro-æneum, elytris rugosis punctisque auratis triplici serie fortiter impressis. Long. lin. 11; lat. $4\frac{1}{4}$.

Carabus Wallichii. Oblongo-ovatus, supra niger, elytris crenato-striatis punctisque impressis in striis despositis granulisque oblongis triplici serie prominentibus. Long. lin. $10\frac{1}{2}$; lat. $3\frac{1}{2}$.

Chlænium Nepalensis. Niger, capite, thorace, elytrisque nigris maculâ irregulari flavâ notatis. Long. lin. $8\frac{1}{4}$; lat. $3\frac{1}{4}$.

Colpodes Hardwickii. Viridibrunneus, nitidus ore ferrugineo, antennarum tribus primis articulis rubris, cæteris fuscis et ciliatis. Long. lin. $7\frac{1}{2}$; lat. $2\frac{1}{2}$.

Colpodes Buchannani. Viridiæneus, nitidus, ore ferrugineo, antennâ rufâ articulis ciliatis. Long. lin. 5; lat. $1\frac{3}{4}$.

Omasus Indicus. Niger, thorace convexo glabrato elytrisque fortiter sulcatis. Long. lin. 7; lat. $2\frac{1}{2}$.

Omasus æratus. Æneovirens, thorace convexo posticeque aurato elytrisque fuscis et pubescentibus. Long. lin. 7; lat. $2\frac{1}{2}$.

Platisma gagates. Nigrum, thorace convexo glabrato elytrisque fortiter sulcatis. Long. lin. $8\frac{1}{2}$; lat. 2.

Sphodrus brunneus. Depressus, elytris brunneis striatis, corpore infra brunneo, femoribus, tibiis, tarsisque rufescentibus. Long. lin. $7\frac{1}{2}$; lat. $3\frac{1}{2}$.

Necrophorus Nepalensis. Ater, duabus fasciis ferrugineis undulatis, fasciaque quasi quatuor nigris maculis notatâ. Long. lin. $8\frac{1}{2}$; lat. $3\frac{1}{2}$.

Silpha melanura. Atra, elytris punctatis, lineisque tribus elevatis lævibus, clypeo antice truncato. Long. lin. 8; lat. 4.

Erotylus rubens. Ruber, elytris striatis pedibusque nigerrimis. Long. lin. $3\frac{1}{2}$; lat. $2\frac{1}{4}$.

Languiria Nepalensis. Violacea, nigris antennis elongatis, thorace miniato, elytris chalybeo violaceis, pedibus nigris tarsisque flavis. Long. lin. 8; lat. $1\frac{3}{4}$.

Eumorphus Hardwickii. Affinis Eumorph. immarginato, *Fabr.* Violaceus, thorace emarginato elytrisque quadrimaculatis. Long. lin. $6\frac{1}{2}$; lat. 3.

Lucanus Nepalensis. Niger, mandibulis valde exsertis intusque denticulatis. Fœmina mandibulis solummodo bidentatis cornuque brevi in medio capitis erecto, capiteque antice variloso differt. Long. lin. 24; lat. 6, (mandibulis inclusis.)

Lucanus similis. Præcedenti similis, magnitudine et madibulis differt varietas forsitan præcedentis. Long. lin. 22; lat. 6.

Lucanus villosus. Pubescens brunneus, mandibulis exsertis unidentatis apice bifurcatis labroque deflexo. Affinis L. cervo, *Fabr.* Long. lin. 24; lat. 7.

Lucanus castanopterus. Niger, mandibulis porrectis arcuatis et denticulatis, elytris pallide castaneis scutelloque nigro. Corpus subtus nigrum. Mas adhuc latet. Long. lin. 12; lat. 5.

Lucanus Atratus. Supra totus niger, mandibulis valde porrectis, corporeque subtus nigro. Long. lin. $11\frac{1}{2}$; lat. 5.

Lucanus lineatopunctatus. Totus supra niger, elytris striatopunctatis, suturaque elevata conspicuis. Long. lin. 11; lat. $4\frac{1}{2}$.

Sisyphus Indicus. Niger, thorace convexo, clypeo sexdentato pedibus quatuor posticis longioribus femoribusque clavatis. Long. lin. 4; lat. $2\frac{1}{2}$.

Copris Brahminus. Ater, exscutellatus, capitis clypeus lunatus bidentatus posticeque thoracis dentibus affixus. Long. lin. $13\frac{1}{2}$; lat. $7\frac{1}{2}$.

Onthophagus rubricollis. Niger, exscutellatus, thorace rubro, tibiis tarsisque nigris. Long. lin. 7; lat. 4.

Onthophagus Gagatinus. Ater, exscutellatus, occipite spina erecta gemina. Long. lin. 6; lat. $3\frac{1}{2}$.

Onthophagus gagates. Ater, exscutellatus, nitidus, clypeo rotundato et integro. Long. lin. $5=5\frac{1}{2}$; lat. $2\frac{1}{2}$.

Onthophagus mergacerus. Viridiæneus, occipite bicorni, antennis pedibusque fulvis, cornu thoracis ad mergam clypei protenso elytrisque testaceis. Long. lin. 4; lat.

Onthophagus Capella. Ater, thorace inermi, occipite spinâ erecta gemina, corpore nigroque nitido. Long. lin. $3\frac{1}{4}$; lat. $13\frac{1}{4}$.

Oryctes Haworthii. Brunneus, scutellatus, antennis flavis, cornu capitis recurvo apice trilobato. Long. lin. 9; lat. $4\frac{1}{2}$.

Dynastes Hardwickii. Niger, scutellatus, thorace quadricorni, cornu capitis erecto recurvo, elytris castaneis pedibusque nigris. Long. lin. 25; lat. 13.

Dynastes Childreni. Præcedenti affinis. Niger, thorace bicorni, cornu capitis brevi recurvo, elytris castaneis pedibusque nigris. Long. lin. 20; lat. $10\frac{1}{2}$.

Dynastes Kirbii. Niger, thorace bicorni anticeque acuminato, cornu capitis recurvo et trilobato. Long. lin. 25; lat. 14.

Melolontha Indica. Testaceus, corpore toto villosa caudo inflexo, abdominis lateribus albo maculatis. Long. lin. 13; lat. 7.

Melolontha abdominalis. Testacea, thorace obscuro purpureoque coloreo elytris testaceis, tincto abdomineque grosso. Long. lin. 10; lat. $4\frac{1}{2}$.

Melolontha serricollis. Niger, clypeo emarginato, thoracis margine serrato anterioribus tibiis 3-dentatis. Long. lin. 10; lat. $4\frac{1}{2}$.

Melolontha coriacea. Picea, clava triphylla, antennis, et femoribus rufis elytris que lineis tribus elevatis. Long. lin. $6\frac{1}{2}$; lat. 3.

Geniates testacea. Testacea pilis griseis oppressis, pedibus subferrugineis tuberculo apicali, femoribus tibiisque testaceis et denticulatis. Long. lin. 5; lat. $1\frac{3}{4}$.

Geniates assimilis. Testacea, pedibus ferrugineis, abdomineque piceo. Long. lin. 6; lat. $2\frac{1}{2}$.

Euchlora dimidiata. Supra tota viridis, punctata subtusque cyanea. Long. lin. 11; lat. $6\frac{1}{2}$.

Mimela splendens. Supra tota aureo viridis, nitissima, subtus testacea, tarsis nigro-brunneis. Long. lin. 7; lat. $3\frac{1}{2}$.

Mimela bicolor. Supra tota testacea subtusque viridis. Long. lin. 6; lat. 3.

Mimela similis. Præcedenti affinis, testacea elytris pallidioribus tarsisque viridibus. Long. lin. $5\frac{1}{2}$; lat. 3.

Apogonia migricans. Nigra, clypeo reflexo, thorace elytris punctatis et nigro-æneis. Long. lin. $4\frac{1}{2}$; lat. $2\frac{1}{2}$.

Apogonia ænescens. Ænea, clypeo, thorace, elytris que punctatis æneo-brunneis. Long. lin. 4; lat. 2.

Apogonia brunnea. Præcedenti similis, thorace virescenti, elytris brunneis differt, illius forsitan mera variatas. Long. lin. $3\frac{1}{2}$; lat. $1\frac{3}{4}$.

Popillia smaragdula. Smaragdina, capite, thoraceque viridiæneis, elytris cupreis, abdominisque apice punctis duobus albis. Long. lin. 6; lat. $3\frac{1}{4}$.

Popillia formosa. Cuprea, thorace roseoaurato, elytris que cupreis. Long. lin. $5\frac{1}{2}$; lat. 3.

Popillia cyanea. Supra tota cyanea, elytris striatopunctatis. Long. lin. $5\frac{1}{2}$; lat. 3.

Popillia Beryllina. Præcedenti affinis. Supra tota viridi-cyanea. Long. lin. $3\frac{1}{2}$; lat. $2\frac{1}{4}$.

Popillia cupricollis. Cuprea, thorace viridiæneo elytris que testaceis. Long. lin. $5\frac{1}{2}$; lat. 3.

Popillia virescens. Viridis, thorace smaragdino elytris que testaceis. Long. lin. 5; lat. $2\frac{1}{2}$.

Popillia marginicollis. Viridis, lateribus thoracis marginatis elytris que testaceis. Long. lin. $5\frac{1}{2}$; lat. 3.

Popillia nitida. Virescens, thorace viridi, elytris que virescentibus. Long. lin. $4\frac{1}{2}$; lat. $2\frac{1}{4}$.

Popillia minuta. Viridis, elytris testaceis marginatis. Long. lin. $2\frac{1}{2}$; lat. $1\frac{3}{4}$.

Serica marginella. Rubra, elytris nigromarginatis. Long. lin. $2\frac{3}{4}$; lat. $1\frac{1}{2}$.

Serica pruniosa. Affinis *S. mutabili*, *Fabr.* Atro-brunnea, elytris striatis pubescentibus tomento tenuissimo versicolori tectis. Long. lin. 3; lat. $1\frac{3}{4}$.

Serica bimaculata. Nigra, elytris testaceis, bimaculatis, suturâque nigricanti. Long. lin. $2\frac{1}{2}$; lat. $1\frac{1}{4}$.

Hoplia squamigera. Squamosa, corpore supra flavovirescente, subtusque subaurato, tibiis anticis bidentatis. Long. lin. $3\frac{3}{4}$; lat. $1\frac{3}{4}$.

Anomala lateralis. Viridis, elytris testaceis, laterali tuberculo armatis. Long. lin. $4\frac{1}{2}$; lat. $2\frac{1}{4}$.

Anomala testacea. Totum corpus supra subtusque testaceum. Long. lin. 4; lat. 2.

Anomala variegata. Testacea, thorace maculato, elytrorum marginibus apicalibus nigricantibus. Long. lin. $3\frac{3}{4}$; lat. $1\frac{3}{4}$.

Acanthurus pictus. Niger, elytris abbreviatis, in medio flavis lateribusque nigerrimis. Long. lin. $3\frac{1}{2}$, lat. $1\frac{1}{2}$.

Trichiis quadrilineatus. Niger, thorace quadrilineato, elytrisque flavomaculatis. Long. lin. 7; lat. 3.

Dicranocephalus Wallichii. Pallide flavo-viridis clypeo binis curvis spinosis cornubus armato apicibus attenuatis et denticulatis. Thorax rotundatus in medio binis lineis subarcuatis et nigris marginibusque atris notatis. Elytra marginibus lineisque quatuor nigris, duabus humeralibus binisque ad apicem positis. Corpus subtus concolor ultimo segmento abdominis nigro. Pedibus rubro corallinis maculis flaveolis notatis. Long. lin. 13; lat. $5\frac{1}{2}$.

Cetonia opalina. Supra tota opalina-viridis, scutello suturaque elytrorum atris. Long. lin. 14; lat. 6.

Cetonia Hardwickii.* Supra tota nigra, clypeo duobus cornubus armato, femoribus tibiisque miniatis anticis unidentatis. Long. lin. 14; lat. 6.

Cetonia Nepalensis. Præcedenti similis, differt postico cornu clypeo triangulo, maxillis rubris et pubescentibus, thorace nigro-olivaceo, elytrisque viridibus. Long. lin. 14; lat. 6.

Cetonia neglecta. Obscure chalcea, thorace punctato elytrisque cæno aspersis. Long. lin. $9\frac{1}{2}$; lat. 5.

Cetonia nigrirarsis. Obscure smaragdina, clypeo cornuto, elytris viridibus femoribus igneo-opalinis. Long. lin. 10; lat. 5.

Cetonia Dalmanni. Nigra, elytris apice rubris, pedibusque nigris. Long. lin. 9; lat. 5.

Cetonia mutabilis. Cæruleo-viridis, elytris lineis elevatis pedibusque piceis. Long. lin. 8; lat. $3\frac{3}{4}$.

Cetonia Bengalensis. Supra tota nigra, clypeo cornuto, elytrisque striato-punctatis. Long. lin. 9; lat. 5.

Cetonia auripes. Smaragdina, elytris cretaceis maculis pedibusque aureis. Long. lin. $8\frac{1}{2}$; lat. $4\frac{1}{2}$.

* This is the type of a new genus, *Trigonophorus*.

Cetonia Horsfieldi. Affinis *Cetoniæ tricolori*, Oliv. Nigra, thorace sanguineo marginato, elytris fascia interrupta flavâ. Long. lin. 6; lat. 3.

Cetonia prasina. Supra tota viridis thorace marginato, elytris que maculis sparsis pallideque flavis. Long. lin. 6; lat. 3.

Cetonia sanguinalis. Præcedenti affinis. Viridis, thorace marginato, elytris que cruentatis alboque maculatis. Long. lin. $5\frac{3}{4}$; lat. 3.

Cetonia spilota. Præcedenti affinis. Obscure viridis, thorace marginato, elytris que maculis sparsis flavis. Long. lin. 5; lat. $2\frac{1}{2}$.

Cetonia confinis. Præcedenti affinis at paulo major differt elytris viridi-purpurascensibus et punctato-striatis, maculis sparsis albis, anoque tribus maculis notato, varietas forsitan. *Cet. spilota*? Long. lin. $5\frac{1}{2}$; lat. 3.

Cetonia Klugii. Thorace nigro lateribus flavo marginatis, elytris que flavis maculis ornatis. Long. lin. 5; lat. $3\frac{1}{2}$.

Campsiura Xanthorhina. Lutea, elytris flavis, tribus lineis lateralibus nigris haud apicem attingentibus. Long. lin. 9; lat.

Coilodera penicillata. Nigra, thorace excavato, aurata pubescenti, quatuor lateralibus lineis cupreis ornato, elytra atra auratis maculis penicillis lateralibus obsita, cauda aurantia et pilosissima Corpus subtus atropiceum pedibus concoloribus, segmentis abdominis utrinque maculis auratis ornato. Long. lin. 8; lat. 4.

Buprestis superba. Aurea, elytris serratis bidentatis, punctatissimis, corporeque depresso. Long. lin. 11; lat. 5.

Buprestis 10-spilota. Elytris bidentatis, striatis, nigro-æneis flavisque maculis decem notatis. Long. lin. $7\frac{1}{2}$; lat. $2\frac{3}{4}$.

Buprestis bifasciata. Nigro-cærulea, elytris bidentatis, binisque fasciis sanguineis. Long. lin. $6\frac{1}{4}$; lat. $2\frac{1}{4}$.

Buprestis aurofasciata. Aurato-purpurea serrata, elytris que binis fasciis aureis. Long. lin. $7\frac{1}{2}$; lat. 2.

Buprestis cingulata. Viridis, corpore cylindrico, elytris bidentatis fasciisque tribus cyaneis. Long. lin. $4\frac{1}{2}$; lat. $\frac{1}{2}$.

Buprestis marginicollis. Nigro-ænea, marginibus thoracis cupreis, elytris que bidentatis. Long. lin. $4\frac{1}{2}$; lat. $\frac{1}{2}$.

Elater Stephensii. Viridi-olivaceus, thorace sanguineo marginato elytris que acuminatis. Long. lin. 16; lat. $4\frac{1}{2}$.

Elater elongatus. Totus supra brunneus elytris elongatis et striato-punctatis. Long. lin. $8\frac{1}{2}$; lat. $1\frac{3}{4}$.

Elater canosus. Fuscus, thorace obscure cinereo elytris que cinereo-nubulosus. Long. lin. $6\frac{1}{2}$; lat. 2.

Elater miniaticollis. Similis *Elater ruficollis*. Niger, thorace miniato nitido capite, elytris, corporeque nigris. Long. lin. $5\frac{1}{2}$; lat. $\frac{1}{2}$.

Elater tetraspilotus. Niger, elytris quatuor flavis maculis notatis. Long. lin. $4\frac{1}{2}$; lat. $1\frac{1}{2}$.

Elater trimaculatus. Niger, thorax ruber tribus maculis nigris, elytris que striato-punctatis. Long. lin. 5; lat. $1\frac{1}{4}$.

Elater miniatus. Ruber, thorace lineâ nigra longitudinali, femoribus que nigris. Lon. lin. $4\frac{1}{2}$; lat. $1\frac{1}{4}$.

Elater Eschscholtzii. Flavo-brunneus, elytris margine flavo notatis binisque luteis maculis. Long. lin. 5; lat. 2.

Elater pulverosus. Totus supra brunneus, elytris pubescentibus, corpore subtusque ferrugineo. Long. lin. 5; lat. $1\frac{1}{2}$.

Elater crocopus. Niger pedibus croceis. Long. lin. $4\frac{1}{2}$; lat. $1\frac{1}{4}$.

Lycus triangularis. Sanguineus, thorace nigro, pedibusque nigris. Long. lin. $8\frac{1}{2}$; lat. 4.

Lycus similis. Præcedenti similis magnitudine et antennis antice multo crassioribus solummodo differt. Long. lin. 5; lat. 2.

Omalysus maculicollis. Sanguineus, thorace nigro-maculato, corpore subtusque nigro.

Omalysus lineato-collis. Præcedenti similis magnitudine, lineâque tenui longitudinali nigra, et pedibus brunneo ferrugineis differt. Long. lin. 6; lat. 2.

Omalysus lineatus. Sanguineus, thorace tuberculato elytrisque lineatis. Long. lin. 6; lat. $1\frac{3}{4}$.

Omalysus apicalis. Niger, elytris apicalibus sanguineis. Long. lin. 6; lat. 2.

Lampyris Nepalensis. Obscure nigra, thorace marginato luteo elytris que nigris. Long. lin. $8\frac{1}{2}$; lat. $3\frac{1}{2}$.

Lampyris marginella. Oblonga, fusca, thorace macula nigricanti, elytris que marginatis. Long. lin. $6\frac{1}{2}$; lat. 2.

Lampyris ovalis. Nigra, thorace flavo elytris que marginatis. Long. lin. 5; lat. 2.

Telephorus Nepalensis. Cyaneus, capite rufo, elytris que cyaneis, femoribus rufis, tibiis tarsisque nigro-cæruleis. Long. lin. 8; lat. $2\frac{3}{4}$.

Telephorus rubricollis. Violaceus, thorace rubro, femoribusque rufis. Long. lin. $6\frac{1}{2}$; lat. $1\frac{3}{4}$.

Telephorus cyanurus. Flavo-rufus, elytris que postice violaceis. Long. lin. $6\frac{1}{2}$; lat. $1\frac{1}{2}$.

Telephorus trimaculatus. Ruber, thorace rufo, elytris que trimaculatis, apicibusque violaceis. Long. lin. 5; lat. $1\frac{1}{6}$.

Telephorus unipunctatus. Testaceus, thorace rubro elytris que postice cyaneis. Long. lin. 5; lat. $1\frac{1}{4}$.

Telephorus purpurascens. Violaceus, thorace rubro elytris que purpureis. Long. lin. $4\frac{1}{2}$; lat. 1.

Telephorus assimilis. Luteus, antennis flavis elytrorumque apicibus nigris. T. Melanuro, Fabr., proximus. Long. lin. 5; lat. $1\frac{1}{4}$.

Anisotelus lividus. Lividus, totum corpus supra testaceum. Long. lin. 4; lat. $1\frac{1}{2}$.

Anisotelus bimaculatus. Lividus, elytris bimaculatis. Long. lin. 4; lat. $1\frac{1}{2}$.

Anisotelus bispilotus. Testaceus, elytris bispilotis.

Malachus bifasciatus. Ruber, thorace in medio viridi, elytris que maculatis binisque fasciis cyaneis. Long. lin. 3; lat. $1\frac{1}{4}$.

Macrocephalus hieroglyphicus. Affinis Macrocep. cinereo, Oliv. Cinereus, nigro varius, rostro sulcato, antennisque longissimis. Long. lin. $6\frac{1}{2}$; lat. $1\frac{3}{4}$.

Anthrribus quadrituberculatus. Fusco cinereoque varius, elytris quatuor tuberculatis. Long. lin. $3\frac{1}{2}$.

Apoderus 6-spinosus. Rubroferrugineus, elytris 6-tuberculis maculisque nigris sparsis. Long. lin. $3\frac{1}{2}$; lat. $1\frac{1}{2}$.

Apoderus spinosus. Præcedenti affinis. Totum corpus rufo-testaceum, elytris spinosis tuberculisque nigris sparsis. Long. lin. $3\frac{1}{2}$; lat. $1\frac{1}{2}$.

Apoderus flavipes. Violaceus, antennis pedibusque testaceis. Long. lin. $3\frac{1}{2}$; lat. $1\frac{1}{2}$.

Apoderus cyaneus. Cyaneus, capite nigricanti pedibusque nigris. Long. lin. 3; lat. 1.

Rhynchites cyaneus. Totum corpus cyaneum, et pubescens, tarsis nigricantibus. Long. lin. $3\frac{3}{4}$; lat. $1\frac{1}{2}$.

Sitona bispilota. Nigra, thorace lateribus flavis elytrisque duabus maculis flavis. Long. lin. $3\frac{3}{4}$; lat. $1\frac{1}{4}$.

Calandra 14-maculata. Ferruginea, thorace maculato elytrisque octomaculatis. Long. lin. 5; lat. $1\frac{1}{2}$.

Calandra 4-maculata. Corpus supra ferrugineum maculis elytrorum exceptis femoribusque spinosis. Long. lin. 8; lat. 2.

Calandra trilineata. Ferruginea, thorace tribus lineis, elytrisque maculis nigris notatis femoribusque spinosis. Long. lin. $9\frac{1}{2}$; lat. $2\frac{3}{4}$.

Calandra Goliathus. Fusco-brunnea cinereoque sericea, elytris striatis pedibusque nigris. Rostro excepto, lin. 27. long. lin. rostro incluso $36\frac{1}{2}$; lat. 10.

Trogosita nigricans. Affinis T. mauritanicæ. Nigra elytris striatis femoribusque rubris. Long. lin. $3\frac{3}{4}$; lat. 1.

Trogosita cylindrica. Ferruginea, thorace punctato elytrisque striato punctatis. Long. lin. $4\frac{1}{2}$; lat. 1.

Cucujus sanguinolentus. Rufo sanguineus, thorace serrato elytrisque sanguineis depressis. Long. lin. $8\frac{1}{2}$; lat. 2.

Paussus Hardwickii. Castaneo-rufus, elytris plagâ longitudinali nigra antennarum clava elongata lineari, subconvexa, basi externe in hamum producto, apiceque rotundato.

Prionus Indicus. Niger, thorace lævi bidentato mandibulisque unidentatis. Affinis Pr. Orientali, Oliv. at minor. Long. lin. 19; lat. 7.

Prionus subcoriaceus. Brunneus, elytris striatis abdomineque elongato. Long. lin. $10\frac{1}{2}$; lat. $3\frac{3}{4}$.

Monochamus cervinus. Fuscus, thorace spinoso, antennis longissimis elytrisque fusco cervinis. Long. lin. 7; lat. 2.

Lamia horridula. Rufobrunnea, antennis penicellatis, thorace, spinoso elytrisque pilis horridulis. Affinis C. reticulatori, Fabr. Long. lin. 14; lat. 5.

Lamia Wallichii. Viridisericea, antennis penicillatis elytrisque tribus fasciis nigris, binisque penicillis dorsalibus ornatis. Long. lin. 16; lat. 5.

Lamia lateritia. Obscure rubra, thorace subspinoso antennisque penicillatis. Long. lin. 12; lat. 4.

Lamia cretifera. Nigra, antennis penicillatis, thorace inermi elytrisque fascia cinerea notatis. Long. lin. $5\frac{1}{2}$; lat. 2.

Lamia penicillata. Nigro-brunnea, thorace spinoso elytris que depressis et flavomaculatis articuloque quarto antennarum fasciculato piloso. Long. lin. 9; lat. $2\frac{1}{4}$.

Lamia Germarii. Fusco et testaceo-pubescentis, thorace pectoreque testaceo villosis elytris que basi scabris bidentatis. Long. lin. 22; lat. 8.

Callidium cretaceum. Fusco brunneum, thorace maculis albis elytris que variis cretaciis maculis notatis. Long. lin. 8; lat. $2\frac{1}{4}$.

Callidium leucostictum. Precedenti affine. Fusco ferrugineum, thorace lineâ albâ longitudinali elytris que maculis albis notatis. Long. lin. $5\frac{3}{4}$; lat. $1\frac{1}{2}$.

Saperda rubescens. Pallide rubens, thorace quatuor nigris maculis elytris que rubescentibus. Long. lin. $8\frac{1}{2}$; lat. 2.

Saperda 14-maculata. Sulphurea, thorace 6-maculato elytris que octomaculatis pedibusque testaceis. Long. lin. $4\frac{1}{2}$; lat. $1\frac{1}{4}$.

Clytus leucoscuteellatus. Rufus, thorace globoso, elytris que strigis tribus undatis et albis. Long. lin. 6; lat. $1\frac{1}{4}$.

Clytus annulatus. Thorace rotundato virescenti elytris que bidentatis subvirescentibus fasciisque tribus nigris primâque annulari. Long. lin. 6, lat. $1\frac{1}{4}$.

Clytus bicinctus. Rufus, capite nigro, thorace globoso elytris que strigis tribus undatis et albis. Long. lin. 6; lat. $1\frac{1}{4}$.

Clytus undulatus. Rufus, thorace rotundato, elytris que fascia irregulari flava ornatis. Long. lin. $5\frac{1}{4}$; lat. $1\frac{1}{4}$.

Clytus assimilis. Summa affinitas, Call. Verbasco, Fabr. Virescens thorace trimaculato elytris que maculatis. Long. lin. 5; lat. $1\frac{1}{4}$.

Clytus albicinctus. Niger thorace gibboso elytris que tribus fasciis albis. Long. lin. 3; lat. 1.

Clytus testaceus. Testaceus, elytris duabus strigis albis vix distinctis. Long. lin. 4; lat. $3\frac{1}{4}$.

Molorchus Indicus. Niger elytris subulatis femoribus posticis valde clavatis abdomineque flavo. Long. lin. 4; lat. $1\frac{1}{4}$.

Megalopus 7-maculatus. Rufus, thorace trimaculato elytris que quadrimaculatis. Long. lin. 4; lat. $1\frac{1}{2}$.

Crioceris unicolor. Rubra elytris punctato striatis pedibusque rubris. Long. lin. $3\frac{1}{2}$, lat. $1\frac{3}{4}$.

Adorium scutellatum. Testaceum, apicibus antennarum fuscis, abdomineque nigro. Long. lin. $4\frac{3}{4}$; lat. 3.

Galleruca trifasciata. Pallide flava antennis pedibusque elytris que trifasciatis. Long. lin. $5\frac{1}{2}$; lat. $3\frac{1}{4}$.

Galleruca spilota. Prædecentibus affinis. Fuscotestacea, thorace flavo elytris que maculatis. Long. lin. 6; lat. $3\frac{1}{2}$.

Galleruca quadrifasciata. Flava, antennis tibiisque nigris, elytris que quadrifasciatis. Long. lin. 5; lat. $2\frac{3}{4}$.

Galleruca grossa. Nigricans, antennis thorace pedibusque testaceis, elytris que nigricantibus. Long. lin. 8; lat. $4\frac{1}{4}$.

Galleruca chalybea. Chalybeo violacea thorace scutello pedibusque flavis. Long. lin. $6\frac{3}{4}$; lat. 3.

Galleruca purpurascens. Violacea, thorace testaceo elytris que purpurascens. Long. lin. 5; lat. 3.

Galleruca rubricollis. Cyanea thorace rubro elytris que cyaneis pedibus que rubris. Long. lin. $3\frac{1}{2}$; lat. $2\frac{1}{4}$.

Galleruca Vigorsii. Cyanea, duabus fasciis auratis pedibus que violaceis. Long. lin. 5; lat. 3.

Galleruca cærulans. Oblonga, violacea, thorace viride antennis tarsisque nigris. Long. lin. 4; lat. $2\frac{1}{4}$.

Galleruca Bennettii. Thorace rubro, elytris que cæruleo testaceis. Long. lin. 4; lat. 3.

Galleruca bicolor. Rubrotestacea, thorace bimaculato elytris que nigromaculatis. Long. lin. $3\frac{1}{4}$; lat. $2\frac{1}{4}$.

Galleruca cervina. Totum corpus cervinum. Long. lin. $4\frac{1}{3}$; lat. $2\frac{1}{2}$.

Galleruca scutellata. Testacea, antennis nigris ano pedibus que flavis. Long. lin. $3\frac{3}{4}$; lat. 2.

Galleruca consentanea. Affinis Gal. simili, Fabr. Ovato-oblonga testacea pectore nigro, abdomine rufescente pedibus que testaceis. Long. lin. 3; lat. $1\frac{1}{2}$.

Galleruca tetraspilota. Fulva thorace rufo elytris que quatuor maculis nigris pedibus que testaceis. Long. lin. 2; lat. $1\frac{1}{4}$.

Galleruca flavocincta. Nigra, thorace rubro, elytris que flava fascia ornatis. Long. lin. $2\frac{3}{4}$; lat. $1\frac{3}{4}$.

Galleruca miniaticollis. Atra, thorace rubro elytris nigris, pedibus que testaceis. Long. lin. 3; lat. 2.

Galleruca Indica. Testacea, thorace quadrimaculato elytris que quadrivittatis. Long. lin. $3\frac{1}{4}$; lat. $2\frac{1}{2}$.

Auchenia viridis. Virens, thorace testaceo elytris que viridibus. Long. lin. 4; lat. $1\frac{3}{4}$.

Auchenia cyanura. Testacea, capite thorace que maculatis elytris que apicibus cyaneis. Long. lin. $4\frac{1}{2}$; lat. $2\frac{1}{4}$.

Auchenia sexmaculata. Testacea, antennis fuscis elytris que sexmaculatis. Long. lin. $3\frac{1}{2}$; lat. $1\frac{1}{4}$.

Auchenia æruginosa. Viridis, thorace nigro elytris que æruginosis. Long. lin. 3; lat. $1\frac{1}{2}$.

Auchenia marginata. Atra elytris sanguineo marginatis pedibus que nigris. Long. lin. 3; lat. $1\frac{1}{2}$.

Egelocerus mirabilis. Ovato-oblongus, thorace luteo elytris que chalybeo violaceis. Long. lin. $5\frac{3}{4}$; lat. 3.

Haltica rubra. Rubra, antennis tibiisque nigris. Long. lin. $2\frac{3}{4}$; lat. $1\frac{1}{2}$.

Haltica purpurascens. Violacea, antennis nigris tarsisque subtus flavis. Long. lin. $2\frac{1}{4}$; lat. $1\frac{1}{4}$.

Haltica miniaticollis. Nigro cyanea thorace miniato pedibus que ferrugineis. Long. lin. 2; lat. $1\frac{1}{4}$.

Chrysomela cyanicollis. Ovato-oblonga gibbosa, thorace cyaneo elytris que testaceis et immaculatis. Long. lin. 6; lat. 4.

Chrysomela Indica. Ovato-oblonga, viridis elytris rubris et immaculatis. Long. lin. 6; lat. $2\frac{3}{4}$.

Chrysomela Nepalensis. Nigro violacea thorace purpurascenti elytris æneoviolaceis et punctatis, punctis majoribus quibusdam seriatis et atris. Long. lin. $4\frac{1}{2}$; lat. 3.

Chrysomela Vishnu. Ænea, elytris margine sanguineo fuscatis? Long. lin. 4; lat. $2\frac{1}{3}$.

Chrysomela Mahesa. Aurea, thorace tribus vittis puniceis elytrisque gibbosis, sutura binisque vittis puniceis fasciaque antice interrupta concolori. Long. lin. $3\frac{1}{2}$; lat. $2\frac{1}{2}$.

Chrysomela mutabilis. Violacea, antennis pedibusque nigricantibus. Long. lin. $3\frac{1}{2}$; lat. $2\frac{1}{4}$.

Chrysomela miniaticollis. Viridi ænea thorace miniato, elytris viridibus pedibusque rufotestaceis. Long. lin. 3; lat. $2\frac{1}{4}$.

Colaspis variolosa. Ænea, antennis pedibusque nigris elytrisque æneis et variolosis. Long. lin. $3\frac{1}{2}$; lat. $2\frac{1}{4}$.

Eumolpus nitens. Viridis nitens thorace elytrisque punctatis antennisque compressis. Long. lin. $4\frac{3}{4}$; lat. $2\frac{1}{2}$.

Eumolpus lateralis. Præcedenti affinis, viridis, thorace elytrisque punctatus binisque lateralibus lineis elevatis. Long. lin. $4\frac{3}{4}$; lat. $2\frac{1}{2}$.

Eumolpus rutilans. Igneus, thorace nigrocyaneo pedibusque nigris elytrisque igneorubidis. Long. lin. 3; lat. $1\frac{3}{4}$.

Eumolpus splendens. Præcedenti affinis, Igneus, thorace nigro antennis pedibusque nigris. Long. lin. $2\frac{3}{4}$; lat. 2.

Cryptocephalus Orientalis. Rubrotestaceus, thorace nigrofasciato elytrisque duobus fasciis atris. Long. lin. 3; lat. $1\frac{3}{4}$.

Cryptocephalus spilotus. Flavotestaceus, capite atro, thorace nigro-lineato elytrisque quatuor punctis fasciaque lata notatis. Long. lin. $2\frac{3}{4}$; lat. $1\frac{3}{4}$.

Cryptocephalus ensifer. Testaceus, thorace punctis duobus, elytrisque quatuor maculis fasciaque undulata notatis. Long. lin. $2\frac{1}{2}$; lat. $1\frac{1}{2}$.

Cryptocephalus triangularis. Rubrotestaceus thorace bimaculato elytrisque decemmaculatis. Long. lin. 2; lat. $1\frac{1}{4}$.

Cryptocephalus rubripes. Viridis, antennis testaceis femoribusque rubris. Long. lin. 2; lat. $1\frac{1}{4}$.

Cassida trilineata. Pallida thorace tribus lineis confluentibus elytrisque flavo nigroque maculatis. Long. lin. $2\frac{2}{3}$; lat. 2.

Cassida pallida. Rotunda, capite supra pallide testaceo subtusque nigro. Long. lin. $2\frac{1}{2}$; lat. $2\frac{1}{4}$.

Coccinella miniata. Subhemisphærica, nigra, thorace macula laterali flava elytrisque miniatis. Long. lin. $5\frac{1}{2}$; lat. 5.

Coccinella 6-spilota. Rubra, thorace macula laterali flava elytrisque sexmaculis nigris notatis. Long. lin. $4\frac{1}{2}$; lat. $4\frac{1}{2}$.

Coccinella 15-maculata. Affinis C. versicolori, Fabr. Hemisphærica, rufa thorace macula media nigra elytrisque quatuor decim maculis nigris notatis. Long. lin. 4; lat. $3\frac{1}{4}$.

Coccinella 15-spilota. Præcedenti affinis. Rufa, thorace immaculato elytrisque quatuordecim punctis nigris notatis. Long. lin. 4; lat. $3\frac{1}{4}$.

Coccinella dimidia. Affinis C. dimidiatæ, Fabr. at duplo major subhemisphærica, elytris rubris apice atris. Long. lin. 4; lat. $3\frac{1}{2}$.

Coccinella bicolor. Præcedenti affinis at minor. Rubrotestacea thorace macula media nigra elytris que rufis apice atris. Long. lin. $3\frac{1}{2}$; lat. $3\frac{1}{2}$.

Coccinella 12-spilota. Flava, thorace maculis duabus, elytris que octomaculatis duobus communibus. Long. lin. $3\frac{1}{2}$; lat. $3\frac{1}{4}$.

Coccinella pubescens. Affinis C. innubæ, Oliv. Obscure lutea thorace maculato pubescenti, elytris que septem maculis majoribus punctisque quinque in singulis notatis. Long. lin. 3; lat. $2\frac{1}{2}$.

Coccinella marginicollis. Nigra, thorace lateribus flavis elytris que septem maculis flavis notatis. Long. lin. $3\frac{1}{4}$; lat. $2\frac{1}{2}$.

Coccinella Straminea. Lutea, thorace maculato elytris que quatuor maculis fulvis in singulis notatis. Long. lin. $3\frac{1}{4}$; lat. $2\frac{3}{4}$.

Coccinella vulnerata. Lutea, thorace elytris que tribus pallide flavis maculis notatis. Long. lin. $2\frac{1}{2}$; lat. $2\frac{1}{4}$.

Coccinella uniramosa. Flava, thorace fulvo elytris que vitta nigra notatis. Long. lin. $2\frac{3}{4}$; lat. $2\frac{1}{4}$.

Coccinella univittata. Hemisphærica, elytris rubris sutura margine lineaque abbreviata nigris. Long. lin. $1\frac{1}{2}$; lat. $1\frac{1}{2}$.

Coccinella cincta. Rubra, thorace nigro antice margine testaceo elytris que rubris latoque margine atrato cinctis. Long. lin. $2\frac{1}{4}$; lat. 2.

Coccinella 11-spilota. Rubra, thorace margine testaceo elytris que maculis nigris decem notatis. Long. lin. $2\frac{1}{2}$; lat. $1\frac{1}{4}$.

Coccinella tetraspilota. Rubra, capite binis albis punctis notato, thorace marginato, elytris que punctis nigris maculatis. Long. lin. $2\frac{3}{4}$; lat. $1\frac{3}{4}$.

Coccinella virescens. Supra viridibrunnea, subtus que rubrotestacea. Long. lin. 3; lat. $2\frac{1}{4}$.

Coccinella subglobosa. Brunneoviridis, elytris punctatis corpore que subtus testaceo. Long. lin. $2\frac{1}{2}$; lat. 2.

Chilocorus rubidus. Ruber, thorace nigro elytris que concoloribus nigroque marginatis. Long. lin. $2\frac{3}{4}$; lat. $2\frac{1}{2}$.

Cyrtoscelis piceus. Piceus, thorace nigro, convexo elytris que lineato-punctatis. Long. lin. 6; lat. $2\frac{1}{2}$.

Opatrum tuberculatum. Elongatum, thorace tuberculato elytris que striatis fulvoque griseis. Long. lin. $4\frac{3}{4}$; lat. 2.

Tenebrio rubripes. Oblongus, niger, elytris striatopunctatis pedibus que rubris. Long. lin. 6; lat. $2\frac{3}{4}$.

Tenebrio longipes. Ater, thorace punctato, elytris punctatostriatis, pedibus longissimis. Long. lin. $9\frac{1}{2}$; lat. 3.

Tenebrio glaber. Nigro-brunneus, thorace glabro, elytris que substriatopunctatis. Long. lin. $11\frac{1}{2}$; lat. $4\frac{1}{2}$.

Blaps Bengalensis. Nigra, scutello flavopubescenti, elytris que substriatopunctatis et acuminatis. Long. lin. 16; lat. $6\frac{1}{2}$.

Blaps Indica. Nigra, thorace depresso et marginato, elytris que subacuminatis et costatis. Long. lin. 7; lat. 3.

Cistela lutea. Sulphurea, antennis, tibiis, duobus ultimis segmentis abdominis atris. Long. lin. $5\frac{1}{2}$; lat. 2.

Amarygmus cyanopterus. Oblongus, thorace nigro elytrisque purpureo-cyaneis. Long. lin. $5\frac{1}{2}$; lat. 3.

Lagria basalis. Villosa, cyaneo thorace antice parte dimidio elytrorum posticaque concolori testacea. Long. lin. 8; lat. 4.

Lagria Nepalensis. Villosa, thorace cyaneo elytrisque aurovirescentibus, pedibusque nigris. Long. lin. $6\frac{1}{4}$; lat. 2.

Lagria quadrimaculata. Rufa, antennis nigris, thorace rubro elytris-que testaceis et quadrimaculatis. Long. lin. $6\frac{1}{2}$; lat. 2.

Lagria ruficollis. Fusca, antennis nigris thorace rufo elytris-que fusco-brunneis. Long. lin. $4\frac{1}{2}$; lat. 2.

Ripiphorus Indicus. Ruber, antennis pedibusque nigris. Long. lin. 4. lat. 2.

Lydus melanurus. Niger, elytris rubrotestaceis fasciaque apicali nigra. Long. lin. 9; lat. $3\frac{1}{2}$.

Lytta Nepalensis. Nigra, capite postice miniato, elytris pedibusque nigerrimis. Long. lin. 11; lat. $3\frac{3}{4}$.

Lytta rubra. Rubens, thorace nigro elytris-que rubris. Long. lin. 7; lat. $2\frac{1}{4}$.

Staphylinus flavipennis. Ater, capite thoraceque nigro, elytris-que villosa aureis abdomineque nigro. Long. lin. $7\frac{1}{2}$; lat. 2.

Staphylinus unipunctatus. Niger, capite rubro, thorace nigro elytris-que violaceis. Long. lin. 5; lat. $1\frac{1}{4}$.

Descriptions of eight new species of Indian Butterflies, (PAPILIO, Lin.) from the collection of General HARDWICKE, by GEORGE ROBERT GRAY, Esq.

Papilio Glycerion. P. alis flavescentibus, fasciis nigris; posticis caudatis, apice nigro, lunulis marginalibus cæruleis, angulo ani striga flava. Expansio alarum 3 poll. Habitat in Nepaul.

Papilio Philoxenus. P. alis repandis nigris; anticis strigis albidis; posticis dentatis, caudatis, apice maculâ albâ, lunulis 5 strigâque ad angulum ani rubris. Expansio alarum, $4\frac{3}{4}$. Habitat in Nepaul.

Papilio Minereus. P. alis repandis nigrescentibus, strigis nigris; posticis caudatis, nigris, maculâ albâ suturis divisâ et lunulis 4 rubris. Expansio alarum, $4\frac{3}{4}$. Habitat in Nepaul.

Papilio Agestor. P. alis griseis, venis margineque exteriore nigris, griseo punctatis; posticis corticinis, disco punctato griseis. Expansio alarum, $3\frac{1}{2}$. Habitat in Sumatra

Parnassius Hardwickii. P. alis integerrimis albidis, basi nigris; anticis fasciis tribus nigris, quarum ultimâ maculis tribus rubris, ocello rubro nigro-circumdato in medio marginis posterioris; posticis medio ocellis duobus rubris nigro circumdatis, margine posteriore ocellis quinque nigris pupillis albis, subtus pallidioribus, basi rubris. Expansio alarum, $2\frac{3}{4}$. Habitat in Nepaul.

Pieris Horsfieldii. P. alis suboblongis, integerrimis, nigris, maculis albidis triangularibus, anticis subtus maculis apicalibus tribus

flavis; posticis basi, margineque interiore flavis, subtus maculis ad marginem posteriorem flavis. Expansio alarum $3\frac{1}{4}$. Habitat in Nepaul.

Pieris Agathon. P. alis suboblongis integerrimis nigris, basi strigis albidis transversis, fasciis macularibus duabus flavis ad marginem posteriorem; posticis subtus basi maculâ flavâ. Expansio alarum . Habitat in Nepaul.

Argynnis Childreni. A. alis subrotundatis, subdentatis, fulvis, nigro maculatis; posticis margine posteriore viridi-cæruleo, subtus flavescenti viridi, strigis argenteis. Expansio alarum, $3\frac{1}{4}$. Habitat in Nepaul.

Description of three new species of Fish from the Sandwich Islands, in the British Museum.

Arched Holocanthus. *Holocanthus arcuatus*. Oblong, tail and fins rounded. Brown, paler beneath; a broad black arched band from the eye to the caudal end of the dorsal fin; the anal and caudal fin with a white edged broad black band. P. 14, D. 12—21 or 22? C. 16 or 18, A. 3—11, V. 1—6.

Ornamented Chatodon. *Chatodon ornatus*. Oblong, orbicular, greenish, (when dry;) head with four transverse black bands; sides with six or seven black edged broad yellow oblique longitudinal bands; hinder part of the dorsal, anal, and caudal fin with a black edged yellow marginal band; tail end slightly rounded. Length 8, height 5 inches. P. 18, D. 12—27, C. 16, A. 3—22? V. 1, 5.

Four-spotted Chatodon. *Chatodon 4-maculatus*. Oblong, olive black; beneath whitish, (when dry) with a white cross band before and behind the eyes, and a white spot on the middle of the back, and another near the tail; tail rounded; tail, anal fin, and edge of the dorsal fin yellow; anal and dorsal fin with a black edged longitudinal submarginal, arched band; cheek with two narrow cross bands. Length $5\frac{3}{4}$, height 3 inches. P. 11, D. 14, C. 16, A. 2—27, V. 4—5.

Description of five new species of Indian Birds.

Hay's Bucco. *Bucco Hayii*, n. s. Bill short, very strong, smooth, toothless, horn coloured; head rusty black, feathers pale edged, shafts rigid acute; above, black brown, feathers of back and rump obscurely pale edged; cheeks and ears rusty brown; orbits naked; chin brownish white; chest and beneath dirty silky white; thighs black behind; feet reddish. Length 6, of wing 3, of tarsus $\frac{3}{4}$ inches, of bill to forehead 7, to gape 15 lines. Inhab. Molucca. Collection of Capt. Hay.

Molucca Chloropsis. *Chloropsis Moluccensis*, n. s. Back verditer green; secondaries rather bluer; quills and tail blue green; beneath, very pale yellow green; smaller wing coverts bright metallic blue green; forehead, sides of the throat bright straw colour; occiput and back of neck greenish yellow; face from the nostrils to the front angle of the

eye and throat fine velvety black; a spot on the side of the lower jaw fine dark blue; inner edge and under side of quills dusty black; under side of tail glaucous blue. Length $5\frac{1}{2}$, of wing $3\frac{1}{4}$, of tarsus 7 inches, of bill 5 lines. Inhab. Molucca. Collection of Capt. Hay.

Olive Pachycephale, *Pachycephalus olivaceus*. Above yellowish olive brown; head blackish grey; throat, chin, and sides of the face white varied with black; breast pale brown; sides of the abdomen and vent white; quills and larger wing coverts dark brownish with yellowish edges; feet strong; bill thick, and short; whiskers rather long, black. Length $7\frac{1}{2}$ inches, tarsus 1 inch, 4 lines; bill to gape 8 lines. Inhab. ———. Collection of the British Museum, given by Gen. Hardwicke.

Nepaul Pomatorhine. *Pomatorhinus nepalensis*. Olive brown; sides of neck and abdomen paler; chin, throat, and beneath white; bill and feet pale horn colour. Nepaul. Collection of the British Museum.

Crishna Drongo. *Edolius barbatus*. Crishna Crow, Lath. Hist. 3. 51. t. 40. Black with green reflections, especially on the wing, tail, and breast; tail divaricate, even; the outer feathers bent upwards; forehead with three or four long reflex bristles; bill very large, as long as the head; only slightly bent down at the tip; quills, first, second and third graduated, the fourth and fifth longest and equal. Length $11\frac{1}{4}$, wing $6\frac{1}{2}$, bill $1\frac{1}{2}$ inches.

Description of a new genus of Hemipterous Insect, discovered by Major General HARDWICKE in India.

Gen. PTILO CERUS.

Fam. *Reduviadae*.

Antennæ setaceous, moderate, inserted at the inner angles of the eyes, of four joints, first, thick, short, bent, bald; second, very long, linear; third, very short; fourth, rather longer; all covered with two-rowed hairs; beak short; exposed; head moderate; neck, narrow, distinct; eyes prominent; body short, convex; thorax narrow in front, dilated, and two lobed behind; scutellum moderate; elytra longer than the abdomen, nerved; wings short; legs moderate, fringed with a series of long hairs.

Brown Ptilocerus. *Ptilocerus fuscus*. Pale brown; head, thorax, and body dark; base of wing yellowish. Length $4\frac{1}{2}$ lines. Most allied to *Holoptilus* of Serville, but the antenna is 4-jointed.

Description of two new species of Celliferous Corals, discovered by MISS ELLIOT in the Harbour of Kinglade, near Cork.

Elliot's Hippothoa. *Hippothoa Elliotæ*. Coral attached; irregularly branched; pearly white; cells ovate; base contracted; mouth, large, roundish, placed near the apex of the cell. Attached to *Pinna ingens*, Montagu; when alive appears like dew drops; and is easily separated from the shell by a pin; but is strongly attached when dry.—

The genus *Alecto* of Lamouroux, Expos. t. 81, f. 12, 14, (not Leach) appears to differ by the cell being cylindrical. At the same time was found *Obelia tubifera*, an interesting addition to the British Fauna.

Lanceolate Hippothoa. *Hippothoa lanceolata*. Coral attached, slender, dichotomously and divaricately branched, pearly white, cells slender, linear, ovate, base filiform, generally emitting a cell at right angles from the middle of each side; mouth small, round, with a raised margin, placed near the top of the cell. On *Pinna ingens*.

This species is very like *Hippothoa divaricata*, t. 10, f. 15, 16, Lamouroux Expos. but he describes and figures the cells as fusiform, and not ovate, lanceolate, and his is from a *Fucus*.

Description of some new species of Cowries, as an addition to the Monograph in the Zoological Journal.

Friend's Cowry. *Cypræa Friendii*. Shell ovate; back rather gibbous, pale reddish brown, with large red brown spots; spire elongated, conical, prominent, acute. Base, black brown, convex, rounded, produced at each end, as long as the spire behind, and attenuated in front; margin rounded; mouth, white, narrow, slightly widened in front, inner lip nearly toothless, with a few rather large conical teeth in front, the outer lip with rather large regular teeth. Columella concave in front, flat behind, without any plaits; inside white.

When worn; back with transverse wavy streaks interrupted by three narrow spiral bands. Inhab. New Holland near Swan River. My collection. Dedicated to Capt. Friend, F.R.S. to whom I am indebted for several new shells from this habitat. Length of mouth $2\frac{3}{4}$; diameter of shell $1\frac{1}{2}$; length of spire $\frac{1}{2}$ an inch.

This shell has a good deal the colour and form of a *Cypræa stercoraria*, but the base is not so dilated and is coloured like *Cypræa Talpa*, and the spire is more elongated than in any Cowry that I know. The worn shell has three broad interrupted spiral bands occupying nearly the whole of the shell, the middle band being double.

Two-warted Cowry. *Cypræa bicallosa*. Shell oblong, ovate, pinkish brown, with large irregular bay spots; the base orange, shelving at the sides; the extremities produced, recurved, with a rather large callous tubercle over each end; the teeth large, deeply separated, twenty-two or twenty-three on each side; the outer margin rather produced, sharp, slightly pitted on each side of both extremities. Length $1\frac{1}{2}$ inch, breadth 10 lines. When worn orange yellow. Differs from *Cyp. helvola* by being larger, with two callosities, and in the teeth being longer and more numerous. My Collection, Col. Freeth's, and that of Mr. Swainson and Mr. Tucker.

I may also remark that I have lately received from Mr. Turner two specimens of *Cypræa gangrenosa* of a large size; covered with a milk white enamel, leaving a subcentral yellowish dorsal line, but agreeing in all other respects with the common state of the species.

Doubtful Cowry. Cypræa dubia. Shell, back speckled with chestnut brown, the spots closer together and forming a kind of band along the back, and at the extremities are a series of black irregular spots; the sides just above the margin rather thickened and wavy; purplish white with a large square purplish spot on the centre of the outer margin; outer lip and base flattish; inner side rather convex, obscurely shelving inwards, with four rather large teeth in front extending without interruption over the convex front of the columella, and nine or ten blunt teeth behind, the outer lip flat with twelve rather large conical teeth. Inhab———. My collection.

Very like *Cypræa erronea*, but rather larger, the teeth rather less numerous, otherwise exactly similar; the sides over the margin with scattered unequal black spots; the spire is flattish, partly exposed; front extremity slightly margined on each side. It differs from *C. erronea* in the spotting of the margin, and from *C. felina* in the number of its teeth.

Allied Cowry. Cypræa similis. Shell ovate; back pale pinkish brown, with a very obscure broad, rather darker central band; spire flat; suture distinct, covered by a thin callosity; margin pale whitish brown, thickened on the outer side, and especially on both sides of each extremity, obscurely waved on its upper edge; base pale whitish brown, convex, smooth, with three unequal plaits in the front; mouth rather wide, and wider in front; columella short and flat in front; teeth of the inner lip about twenty, rather large, unequal, and close together, especially on the hinder side, whitish. The outer lip much inflexed, and rather thickened, with eighteen or nineteen rather large distinct fulvous brown teeth, extended over two-thirds of the breadth of the lip.

Axis 1 inch 5 lines. Diam. 11 lines. Inhab.———. In the collection of Mr. G. B. Sowerby.

It agrees with *C. Algoensis* and *C. fusco-dentata* in shape, and in the three or four irregular plaits in the front extremity of the base, but differs from the first in the colour, breadth, and strength of the teeth of the outer lip, and from *C. fusco-dentata* in the large size, distinctness, and shortness of the teeth of the inner lip, which are not extended over the base, and in the teeth of the outer lip being more numerous and rather closer together.

Rose-spotted Cowry. Cypræa exigua. Shell oblong, pellucid, white, with pellucid rose-coloured spots and streaks, with transverse ridges, which are branched near the margin; the interspaces between the ridges smooth, polished; the extremities rather produced, rounded. Dorsal ridge none. Length $2\frac{1}{2}$ lines. My collection. Allied to *Cypræa rugosa*, but is smaller, rose-spotted, and the ridges fewer, larger, and the interspaces between them smooth.

Description of a new Genus of Star-bearing Corals.

Gen. STYLASTER.

Coral subcylindrically branching with scattered cells; cell deep cylindrical, base with a central, subcylindrical tubercle with a rounded end

about one half the height of the cell; edge with a raised rim, with numerous small notches in its inner edge, each ending in a pore; surface of the coral scattered with minute simple pores and vesicular tubercles.

The structure of the cell of this genus is very particular; for in *Fungia*, *Caryophyllia*, and many of the allied genera, the cell is completely divided into several cells by numerous radiating plates. In *Porites* the internal parietes of the cells are furnished with longitudinal laminae, and the centre is filled up with perpendicular columns, whilst in *Pocillopora* the cells have the longitudinal fold of the last genus but the centre is simple and hollow, and in this the internal parietes of the cells are smooth, with the centre half filled by a long protuberance, and instead of the laminae round the parietes the margin is rounded, and furnished with pores, each communicating with the cell by a slit.

This coral has very little affinity with the genus *Oculina*, with which it has been always placed, as that genus has the same kind of cell as the *Caryophyllaei*; it must be nearly allied to *Stylophora*, but the centre column is not produced beyond the surface of the coral, which is also differently formed. Two species may be referred to this genus.

Oculina rosea. Rose coloured, with the cells scattered on the whole surface.

Oculina stabelliformis. Pale yellowish red. The coral fanshaped, the branches compressed, with the cells forming series along each side.

In *Oculina hirtella* the laminae of the star occupy nearly the whole of the cells, while in *Oculina virginea* and its allies the cells are very deep, the laminae funnel-shaped, leaving a cavity, while another *Oculina* in the Museum has very shallow laminae like those of *Pocillopora*.

Descriptions of some new genera and species of Bats.

Hardwicke's Rhinopome. *Rhinopoma Hardwickii*. Dark brown, rather paler beneath; tail longer than the body, more than two-thirds free. Inhab. Bengal. Gen. Hardwicke's collection; the collection of the British Museum.

Gen. ISTIOPHORUS, PIT-NOSE BAT. *Vespertilionidæ*.

The nose-plates extended behind into a lanceolate leaf, with a deep pit in the centre of the front part between the nostrils; tragus lanceolate, toothed; interfemoral membranes only margining the legs; tail none; rest like *Megaderma*.

Pale Pit-nose Bat. *Istiophorus flavescens*. Pale yellowish, the hairs long, irregular and silky. Length of body and head 19, of fore-arm bone 18 lines, expanse 10 inches. In the collection of the British Museum.

Gen. HIPPOSIDEROS.

Nose plate like *Rhinolophus* but shorter in front with rounded nostrils and with an elevated cross ridge behind, over which is produced a reflexed nose-leaf attached to the cross rib by three longitudinal membranaceous ridges. This genus is separated from *Rhinolophus* in not having any longitudinal caruncle, and in the nose-leaf being more complicated. It contains eight species, two of which have a pore on the forehead, as

H. speoris and *H. elongatus*, and the rest are without it as *H. diadema*, *H. larvatus*, *H. vulgaris* and *H. deformis*, all from Asia, and *H. tridens* from Africa.

Gen. BARBASTELLUS. BARBASTELLE.

The ears large and united together at the base over the forehead which has a bare longitudinal furrow with inflexed bald edges; the nostrils terminate with a lunate groove on their outer side extending behind the nostrils, and with a small elevated membranaceous ridge extending across the nose and uniting the back edges of the grooves together.

The Australasian Barbastelle. Barbastellus Pacificus. Blackish; the ears very long, nearly twice as long as the head. Inhab. the Islands of the Southern Pacific, Mr. Stutchbury. Collection of the British Museum; in spirits. I have also observed in the collection of the Linnean Society a stuffed Bat apparently of this genus, it is mouse-coloured above, and rather paler beneath, with dark membranes. It differs from the above in the ears being much shorter, and may be indicated as the *New Holland Barbastelle, B. Novæ Hollandiæ.*

Gen. PLEOCOTUS, Geoffroy. LONG-EARED BAT.

This genus was proposed by Geoffroy, but has not been generally adopted, however it has a very good external character in the form of the nostrils, which at once distinguish it from the common Bats, they being like the above genus furnished with a groove on the outer side, their forehead is also naked. The *P. auritus* and *P. Barbastellus* both have this character.

The Bats, the *Vespertiliones* of Geoffroy, might for convenience be divided into three genera, the true Bats, *Vespertilio*, with thin ears and membranes and a hairy face, the *Pachyotus* with thick ears and membranes and bald swollen cheeks, including the genera *Nycticejus* and *Scotophilus* and the hairy-tailed species of America, (*Lasiurus.*)

Description of two new genera of Frogs discovered by JOHN REEVES, Esq. in China.

Gen. HOULEMA.

Fam. *Ranidæ.*

Body subcylindrical; rather depressed; skin minutely warty; head small; upper jaw minutely toothed; parotids and ears indistinct; legs short; fore toes quite free, tapering to a point; hind toes long webbed to the tips. It has the teeth of a Frog, the feet of a Pipa, and the skin of a Toad. Only a single species is known.

The *Lurid Houlema. Houlema obscura.* Olive, beneath pale olive, blackish marbled.

Gen. KALOULA.

Fam. *Bombinatoridæ.*

Body gibbous, mouth beneath tubercular; head small; teeth none. tympanum and parotids none; legs short; toes 4-5, free to the base, subcylindrical; the last joint of the front ones dilated, ovate, truncated, of the hind ones like the lower joints, blunt.

Beautiful Kaloula. Kaloula pulchra. Black brown; black spotted; beneath pale; with a broad band across the forehead and the fore legs, and one on each side extending from the eye to the groin, rose red.

Description of a new species of Bombyx from Nepaul, discovered by Dr. WALLICH. In the collection of Major General HARDWICKE.

Wallich's Bombyx. Bombyx Wallichii. Wings rounded, upper wings above bay; black spotted; black cross banded at the base; the hinder half of the outer end with numerous parallel slightly waved, narrow lines; hinder wing above black, with a broad yellowish margin; varied with numerous parallel wavy blackish lines; wings beneath black, with a broad yellow margin, varied with very narrow obscure wavy lines; antennæ pale brown, strongly bipectinated; body black; abdominal rings brown-edged. Length 2; expanse of wings 6 inches. Very like *Phalæna maxima Chusan*, Petiver Gaz. t. 18, f. 3. but in that figure the wavy marginal lines extend to the front edge of the wing, and the band of the base of the wing does not extend to the whole breadth.

Description of a new genus, and some undescribed species of Crustacea.

GOMEZA.

Thorax ovate, convex, gradually converging behind; with long spines over the eyes, and the margins denticulated. The *outer antennæ* longer than the body, ciliated above and below; eyes enclosed in a pit, longer than the stems; outer double feet palpi, with the second joint of the inner foot stalk shorter than the first, rounded, triangular, produced on its outer angle; the first joint subcylindrical; the outer foot stalk, with the first joint broad, compressed; legs 10, the first pair longest, didactyle, shorter than the body; other legs compressed, the claws slender, elongate, ciliated; abdomen of the male very slender, 5-jointed; joints short, narrow; of the female ————?

This genus is apparently intermediate between *Corystes* and *Atelecydus* of Leach, having the long antenna of the first, and the short claws, the pedipalpi, and somewhat the shape of the latter.

Two-Horned Gomeza. Gomeza bicornis. Pale yellow; (dry), thorax ovate convex, polished, with thick-set white granules, the front rather produced, bifid, with a long conical subulate horn over each eye; the side margin with nine or ten tubercles on each side; the front one acute and distant; the hinder ones short, blunt and approximated; the fore claws convex, external, granular. Length 11; diam. 7 lines. Inhab. Indian Ocean. Gen. Hardwicke.

Eyed Corystes. Corystes ocellata. Pale brown, with two red rings in the middle and two smaller in the hinder part of the sides of the thorax; thorax convex, punctate, front rather produced, slightly nicked; front of margin with four distant acute teeth; carpus of fore legs convex, with a single strong spine on its front upper edge and thumb of claw spineless grooved. British Museum. It differs from *Corystes Cassivelanus* which has the side of the thorax three-toothed, two in front and one behind.

Spinous-footed Xantho. Xantho spinosa. Thorax dark red, covered with close set short hairs; rather convex, covered with small roundish

granules; the front semilunar and bifid in the centre; the fore feet rather compressed, rounded, externally covered with rather larger rounded tubercles, the feet depressed, with acute subulate spines, placed along the upper ridge of the first, and scattered over the upper surface of the other joints. Length $3\frac{1}{2}$; breadth $4\frac{1}{2}$ lines. Inhab. New Holland. My collection.

New Holland Inachus. Inachus Australis. The beak produced, linear, bifid, with an acute broad lobe before each eye; thorax depressed; back flattish, convex in the middle and concave over the beak, with an expanded bifid lamina on each side; legs subcylindrical, the carpus, especially of the front pair ending in three compressed spines. Length 10; diam. $8\frac{1}{2}$ lines. Inhab. Seas of New Holland. My collection.

The second joint of the legs compressed crested, the right fore arm longest; somewhat allied to *Inachus Arabicus*, Rüppel, t. 5, f. 4; but the beak is bifid; the back smooth, and the sides expanded.

Four-toothed Ebalia. Ebalia 4-dentata. Thorax small, convex, tubercular; front rather produced, truncated, four-toothed, the outer teeth largest; the side margin four-tubercled, the first and fourth tubercles largest and highest; the hinder edge convex, rather produced, with two tubercles placed in a central line. Legs————? Inhab. New Holland. My collection. Tubercles of back placed 1. 2. and 5. in a cross line, and 1. 1. 1. longitudinally; abdominal joints 3 to 6 united.

Side-toothed Dromia. Dromia lateralis. Thorax subglobose; back evenly convex; front rather produced, deeply two cut, with a central tubercle beneath; sides rather produced with two large and one hinder smaller denticulation, sides of the front edge concave, with a small tubercle over the centre of each eye. Length 7; breadth $6\frac{1}{2}$ lines. Inhab. New Holland. My collection.

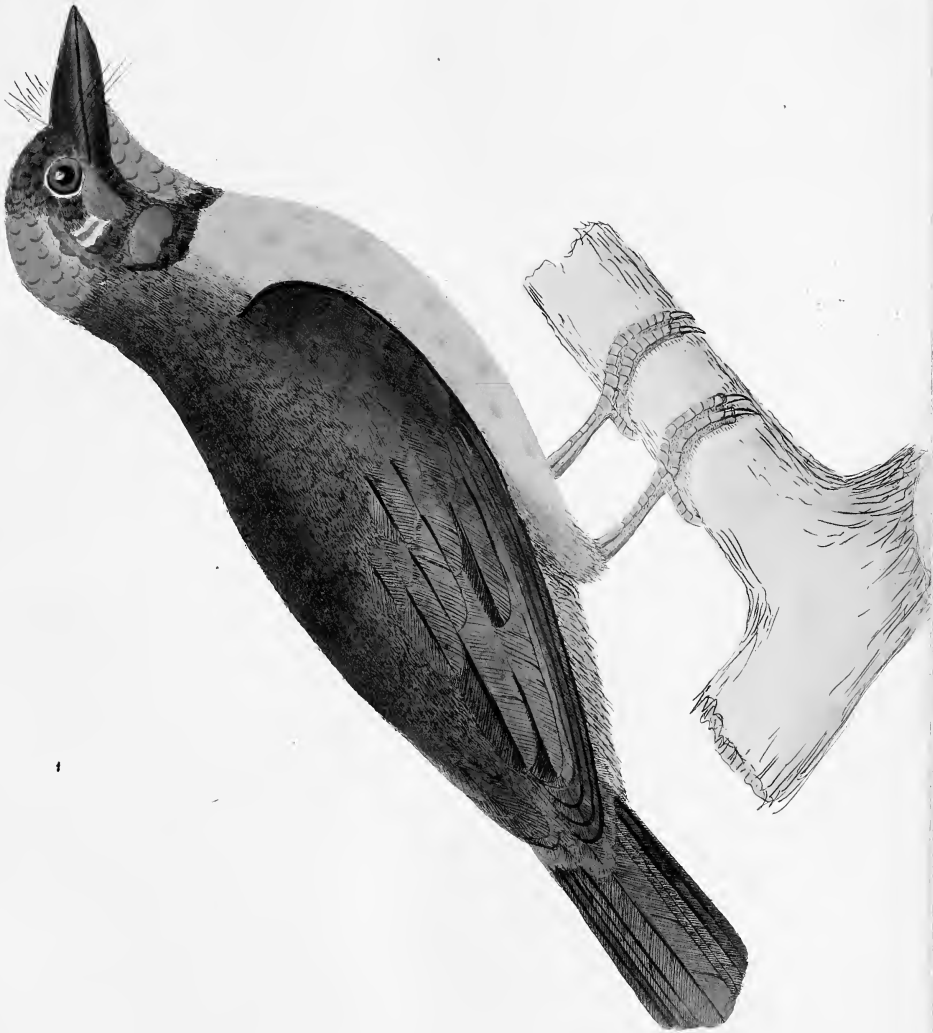
Indian Dromia. Dromia Indica. Thorax subglobose; back smooth, evenly convex, covered with short hairs; front bifid with an obscure central inferior tubercle; each side with five roundish tubercles, the three front on each side closest together and equidistant: upper edge of front, and of carpus tubercular. Length 19; breadth 18 lines. Inhab. Indian Ocean. Collection of Gen. Hardwicke.

Very like *Dromia Caput Mortuum*, but in it the back is grooved, the second and third tubercles on the front margin are close together, and the carpus is smooth.

Hardwicke's Crab. Cancer Hardwickii. Red brown; thorax convex, smooth behind, tubercular and grooved in front; front six lobed, neck with two smaller tubercles over the central, one on each side; the side slightly produced and reflex denticulated, divided into four rather distant teeth, the front and two hinder acute; the claws large subinequal; the hand convex; above granular; legs fringed; the eyes with a broad lobe before and behind below, and a small one in front above. Length $1\frac{1}{2}$; breadth 2 inches. Inhab. Indian Ocean. Collection of Gen. Hardwicke.

Very like *Cancer tenax*, Rüppel, t. 2, f. 1, but front different.

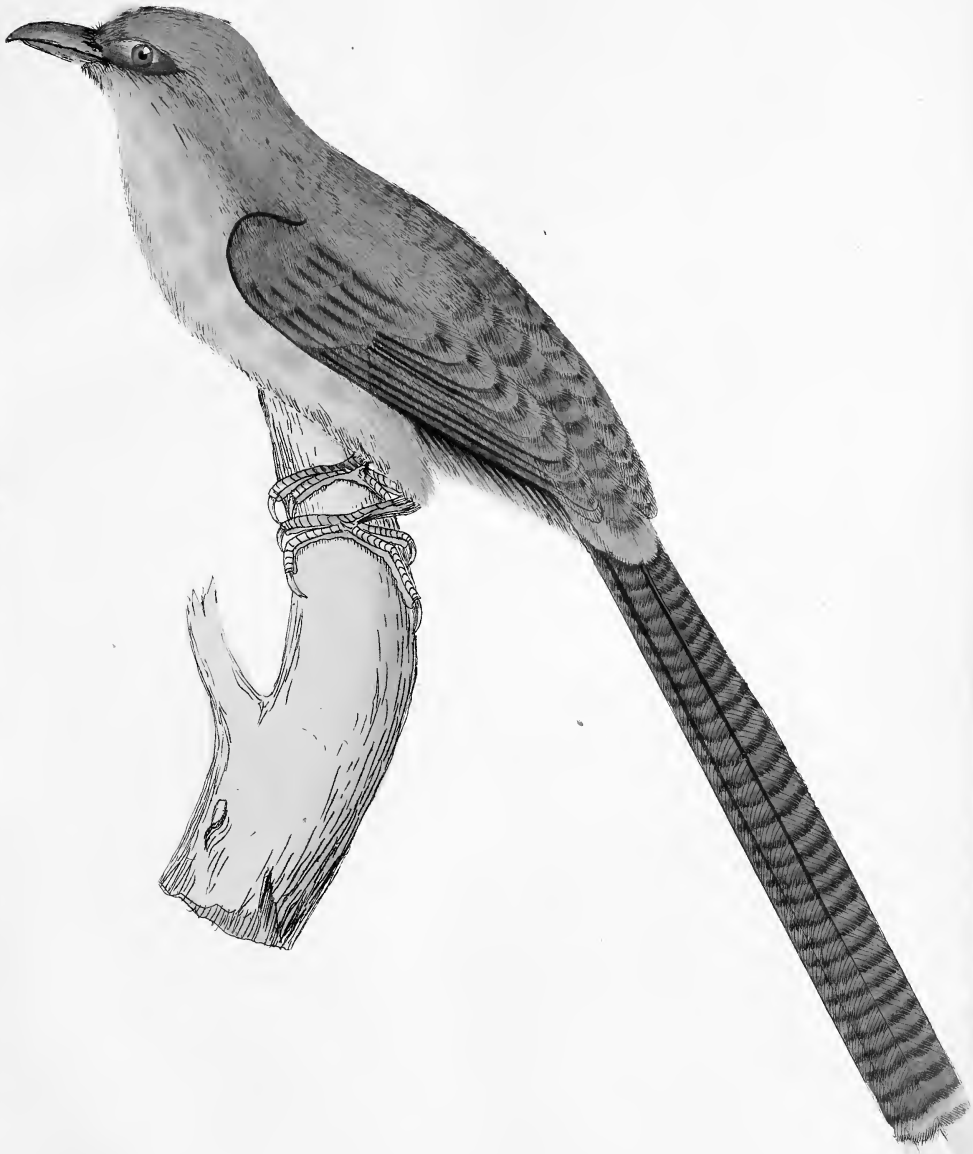




20









*Synopsis of the species of prehensile-tailed Snakes, or
Family BOIDÆ.* By J. E. GRAY, F.R.S., &c.

Fam. BOIDÆ. — The ventral shields narrow, transverse, band-like, often six-sided; the hinder limbs developed under the skin, formed of several bones and generally ending in an exerted horny spur, placed one on each side of the vent. Tail short, prehensile. The pupil oblong, erect. — Killing their prey by pressure.

This family contains 20 genera and 32 species: of these 8 genera and 10 species are confined to Tropical America; 4 genera and 5 species are found in Africa; 6 genera and 8 species are found in Asia; 4 genera and 8 species are found in New Holland; and 1 species is found in Europe. The species of the genus *Python* are found both in Africa and Asia, but each species has its peculiar country; one species of *Eryx* is common to the South of Europe and North Africa. Schlegel described 19 species; of those here described 25 species are from the British Museum collection, 1 from the Museum of the Edinburgh University, 2 from the Leyden Museum, and 4 from the Paris collection; the latter is chiefly known to me through the works of Schlegel.

I. *The rudimentary hinder limbs ending in distinct horny spurs, exposed on the side of the vent. Eyes nocturnal; pupil oblong, erect.*

A. *Head elongate, distinct, muzzle truncated. Tail strongly prehensile.*

a. *Subcaudal plates entire; scales smooth. America. Boina.*

They live in marshy places in South America; fixing themselves by the tail to some aquatic tree, they allow their bodies to float, and thus entrap the animals which come to drink. The spurs were first noticed by Dr. P. Browne. (Hist. Jam. 1789, 461).

I. BOA. Body fusiform: muzzle scaly in front: labial shields not pitted, short, narrow: eyes surrounded with small scales.

1. *Boa constrictor*, Linn. Mus. Adolph. i. t. 17, fig. 3. *B. ophryus*, and *B. ophryas*, Linn.

Tropical America. Brit Mus.

II. EUNECTES, Wagl. Body fusiform: muzzle shielded, labial shields not pitted, the front ones high and narrow, hinder lower two-rowed: loreal shields two, front small, hinder large: eyes with small shields above and behind, and a large ocular in front: superciliary plate distinct.

1. *Eunectes murina*. *Boa murina*, Linn. *Boa Scytale*, Linn. *B. anaconda*, Daud. *B. aquatica*, Niewied. *B. gigas*, Latr.

Inhabits Brazils. Brit. Mus. There is a specimen 20 feet long in the Berlin Museum; the unhatched young in the British Museum are 2 feet long.

III. EPICRATES (and *Enygris*), Wagler. Body fusiform: muzzle shielded: labial shields flat, short, slightly pitted on each side, with a large loreal over the labials, a large anterior and four small posterior oculars; superciliary shield distinct.—Rarely entering the water.

1. *Epicrates Cenchria*. *Boa Cenchria*, Linn. *B. annulifer*, Daud. *Columber dubius*, Gmel. Seba, t. 56, fig. 4. *Boa maculata*, Guilding, MSS.

Inhabits Central America: Trinidad. Brit. Mus.

Var. 1.—Spots confluent. *Boa regia*, Shaw. *Boa lateristriga*, Boie.? *Enygris regia*, Wagler.

Inhabits Martinique. Mus. Leyden.

Var. 2.—Loreal shields short, high, dorsal rings with a central spot.

Inhabits Chagres. Brit. Mus.

IV. XIPHOSOMA. Body short, thick, compressed: head large: muzzle six-shielded, all the labial plates concave above, with a deep pit on the hinder edge: tail rather short.

1. *Xiphosoma canina*. *Boa canina* and *B. Hypnale*, Linn. *B. exigua*, Laur. *B. aurantiaca* and *B. thalassina*, Lacèp. Seba, ii. t. 34, fig. 1.

Green. Inhabits Central America. Brit. Mus.

2. *Xiphosoma olivacea*. Olive (when alive): back with three series of angular marks, the central ones broadest: loreal plates 2, large, front largest: inter-loreal 5, small.

Inhabits ———? Surrey Zoological Gardens, 1840.

V. CORALLUS, Daud. Body elongate, compressed: head moderate; muzzle two-shielded; upper labial shields two-rowed, lower anterior labial shields flattish, hinder ones very deeply pitted: tail elongate, slender: loreal shields 2 or 3, with a large anterior ocular plate, rest of the eyes surrounded with small scales. Brown and variegated.

* *The front upper labial shields nearly flat, loreal shields three, middle small.*

1. *Corallus maculatus*. Pale brown, with white spotted, dark brown spots; crown with three diverging, white-edged, brown streaks; lips and beneath pale yellowish.

Inhabits Berbice. Brit. Mus.

** *The front upper labial shields slightly pitted, two loreal shields.*

2. *Corallus Hortulanus*. *Boa Hortulana*, Linn. *Col. Hortulana*, Linn. *Vipera bitis*. *V. Maderensis*, Laur. *V. cærulescens*, Merrem. *V. Maderensis*, Daud. *Boa elegans*, Daud. *B. Merremi*, Schn. *Xiphosoma dorsalis*, Wagler. *Corallus obtusirostris*, Daud.

Young; *Xiph. ornatum*, Wagler. Var.? *Boa modesta*, Reus.

Inhabits Central America. Brit. Mus.

3. *Corallus Cookii*. Pale brown, with variously shaped pale-edged (sometimes white-eyed) dark spots: head regularly brown-spotted and lined, 2 round spots on the occiput, a small brown spot at the back angle of the eye, with a larger oblong spot behind it.

Inhabits America. Brit. Mus. Edw. Cooke, Esq.

VI. HELEIONOMUS. Body fusiform (compressed?): tail short: head moderate; muzzle shielded; frontal shields 3, 3; cheeks scaly, with some

large shields in front; eyes surrounded with scales, the two or three in the front angle of the eyes largest: labial shields flat? front upper low, broad, hinder high.

1. *Heleionomus variegatus*. Brown? varied with irregular black-edged spots, often marked with a pale eye, or variously confluent: crown with a black-edged triangular spot and a streak on each side from the nostrils to the temple, enclosing the eyes and becoming wider behind. nape with an oblong, longitudinal, black-edged spot on each side. Body and head 13 feet, tail 18 inches.

Inhabits ———? Brit. Mus.

b. *Subcaudal plates entire, scales keeled*. Old World.

VII. CASAREA. "Body elongate, compressed, scales small, strongly keeled: head elongate, depressed; muzzle rather angular, covered with two pairs and an obliquely truncated rostral plate, a row of small loreal and a large anterior and 4 or 5 posterior ocular plates; labial plates flat: tail rather slender, slightly prehensile."

1. *Casarea Dussumieri*. *Boa Dussumieri*, Schlegel, Phys. Serp. 396.— "Brownish grey, beneath yellow: tail black-spotted."

Inhabits Mauritius. Mus. Paris."

VIII. CANDOIA. "Scales keeled: head very depressed, covered with small scales, largest near the conical elongate muzzle, which is angular on the sides: labial plates 11, rostral plates nearly square, chin-shields large triangular.

"1. *Candoia carinata*. *Boa carinata*, Merrem, Ann. Wetter. ii. t. 9.

"Inhabits Amboina. Mus. Leyden. Is this allied to *Eryx*?"

c. *Subcaudal plates 2-rowed*. Old World. Pythonina.

† *Head with small scale-like plates*.

IX. MORELIA. (*Python* part, Cuv.) Head-shields small, frontal plates distinct, 3 pairs: vertical plate small, single rostral shield with a pit on each side; three front upper and the hinder lower labial plates pitted. scales smooth. Australia.

* *Vertical plate indistinct*.

1. *Morelia punctata*. *Python punctatus*, Merrem, Wagler, Amph. t. *P. Peronii*, Cuv. *Australian Snake*, Shaw. *Coluber spilotes*, Lacép. Inhabits New Holland. Brit. Mus.

** *Vertical plate distinct*.

2. *Morelia variegata*. Whitish (in spirits), with numerous irregular black-edged olive cross bands, with irregular serrated and torn edges: head olive, varied with 2 or 3 white spots in the centre of the crown, and a broad short band behind each eye.

Inhabits North Australia: Port Essington, Mr. Gilbert. Brit. Mus.

Var? with a pale (sometimes interrupted) streak along each side.

Inhabits Moreton Bay: called *Carpent snake*. Mus. Edinburg.

X. HORTULIA. Head-shields small; frontal plates distinct, (3) pairs; vertical plates indistinct or 2, very small, one behind the other: the 2 front upper labial shields pitted behind: the hinder lower labial shields not or very obscurely pitted. Africa. "Pupil circular," A. Smith.

1. *Hortulia Natalensis*. *Python Natalensis*, A. Smith, Illustr. Zool. S. Africa, Rept. t. 9. Olive, back with irregular, unequal, black-edged, yellow cross bands and spots: head with an arrow-shaped spot; side of face and beneath yellow, with a dark streak from the back of the eye.

Inhabits South Africa; Port Natal. Brit. Mus.

†† Head shielded to behind the eyes.

XI. *PYTHON*. *Python* and *Constrictor*, Wagler. Rostral shield with a pit on each side; the front upper labial shields pitted on the hinder edge; the hinder lower labial plates more or less pitted; vertical plates 2, scales small.

a. The hinder lower labial shields with a cross groove, and each marked with a pit. India.

* Two front upper labial plates pitted.

1. *Python molurus*. *Python bivittatus*, Kuhl. *P. Poda*, Boie. *P. Javanicus*, Kuhl. *P. Tigris* and *P. Bora*, Daud. *Coluber molurus*, Linn. *C. Boæformis*, Shaw. *C. speciosus*, Bonnat. *C. Seba*, Gmel. *Boa hieroglyphica*; *B. cinerea*; *B. castanea*; *B. albina*; *B. orbiculata*, Schn. *Seba*, i. t. 37, fig. 1. Russell, Ind. Serp. t. 22. 23.

Inhabits India: Java. Common in our menageries, called *Boa* or *Rock Snake*. Brit. Mus.

2. *Python Jamesonii*. Black, white-varied: back with a central series of transverse, broad, black-edged, white spots; sides with a similar series of smaller spots; the front ones longitudinal, the hinder roundish; scales black, with a whitish central streak: belly and sides white varied with blackish.

Inhabits India? Mus. Univer. Edinb.

** Four front upper labial plates pitted.

4. *Python reticulatus*. *P. Schneideri*, Merrem. *Boa reticulata* and *B. rhombeata*, Schn. *B. phrygia*, Shaw. *B. Javanica*, Kuhl. Russell, Ind. Serp. t. Head with a narrow, longitudinal, brown stripe.

Inhabits India. Brit. Mus.

b. Three hinder lower labial shields very obscurely pitted; the four front upper labial shields with a pit behind. Africa. *Constrictor*.

6. *Python Bellii*. Black; middle of the back with a series of oblong longitudinal white spots, largest in front: sides with a series of very large white spots, with one or two oblong black spots on their upper part: head black, a streak over the nostril and the top of the eyes, another from the lower edge of the eye; the lips, chin and beneath, white.

Inhabits Western Africa. Brit. Mus. and Mus. Bell.

XII. *LIASIS*. Rostral, upper labial and front lower labial plates flat, hinder lower labial plates pitted; vertical plate single.

1. *Liasis Childreni*. Purplish brown: back with a central series of oblong, transverse, dark spots; sides with two series of roundish black spots, beneath white: upper lip with a dark streak to the angle of the mouth.

Inhabits ———? Brit. Mus.

2. *Liasis amethystinus*. *Python amethystinus*, Schn. Schlegel, Phys. Serp. t. f.

Inhabits India. Mus. Leyden.

2. *Liasis olivacea*. Pale olive green, (in spirits): upper lip and beneath pale yellowish: post-ocular shields 3; occiput scaly, with 1 pair of larger shields; four hinder labial shields on each side pitted. Length of body and head, 38 inches, tail, $6\frac{1}{2}$, = $44\frac{1}{2}$ inches.

Inhabits North Australia; Port Essington, Mr. Gilbert. Brit. Mus.

XIII. *NARDOA*. Head regularly shielded: vertebral plate single, moderate, six-sided; occipital elongate; the last lower labial plates only pitted: body depressed: scales square, smooth: tail prehensile, slender; three first subcaudal plates entire.

* *Hinder frontal very large, front one small, rostral much depressed.*

1. *Nardoa Schlegelii*. *Tortrix Boa*, Schlegel, Ph. Serp. 22. Loreal scales small; anterior ocular 1, large, 2 posterior.

Inhabits New Ireland; Lesson. Mus. Paris.

** *Frontals moderate: middle largest.*

2. *Nardoa Gilbertii*. Pale, (in spirits): back with 5 longitudinal series of dark olive spots, which are more or less confluent, forming cross bands, closer together on the hinder part of the body, appearing olive with irregular whitish lines: head with a black streak above the lip through the eye to the side of the neck: head-shields brown, with a black spot: loreal shield square: anterior ocular large, posterior oculars 3, small: inter-loreal scales 2, small. The front of the body has a narrow longitudinal streak on each side, between the spots.

Inhabits North Australia; Port Essington, Mr. Gilbert. Brit. Mus.

B. *The head indistinct, short, oblique, covered with scales; muzzle shelving, rather produced, truncated: tail short, slightly prehensile.* Eryxina.

XIV. *GONGYLOPHIS*, Wagler. Head covered with small keeled scales; rostral plate broad; frontal plates 1 pair, moderate: pupil ———? body fusiform, scales of back keeled: jaws of nearly equal length.

1. *Gongylophis conica*. *Boa conica*, Schn. *B. ornata*, Daud. *B. viperina*, Shaw. Russell, Ind. Serp, t. 4.

Inhabits India; Dr. Russel. Brit. Mus.

XV. *ERYX*. Head covered with small scales, rather shielded in front; upper jaw rather the longest: pupil oblong, erect: scales of the back smooth, of the hinder parts of the body and tail keeled.

1. *Eryx Jaculus*, Daud. *E. Turcica*, Daud. *Tortrix Eryx*, Schlegel. Inhabits S. Europe and N. Africa. Brit. Mus.

2. *Eryx scutata*. Head covered with large, unequal, subsymmetrical, smooth scales; cheeks with 2 alternating series of smaller shields between the eyes and the lips.

Inhabits N. Africa; Egypt, Sir J. G. Wilkinson. Brit. Mus.

See also 1, *Eryx Bengalensis*, Mus. Paris, with more strongly keeled scales, from Pondicherry; and 2, *E. Indica*, Mus. Paris, paler, with the scales over the muzzle more extended and symmetrical.

XVI. *CLOTHONIA*, Daud. Head covered with smooth scales; upper jaw rather the longest; pupil round: body cylindrical: scales smooth, the two lower series the largest: tail short.

1. *Clothonia Johnii*. *Boa Johnii*, Russ. Ind. Serp. ii. t. 16. *Clothonia*

anguiformis, Daud. *Tortrix Eryx*, adult, Schlegel. *Amphisbæna*, Penny Cycl. art. Amphib. fig. . Young bright-coloured. Russ. Ind. Serp. ii. t. 17. Inhabits India. Mus. Paris.

M. Schlegel considers this as the adult of *Eryx Jaculus*; he appears to have overlooked Dr. Russel's figure of the young, which has no resemblance to that species.

XVII. BOLYERIA. "Head small, depressed; muzzle conical; crown shielded with 2 pairs of frontals, the first pair only divided by an imperfect suture; occiput scaly: body compressed; scales keeled, small, rhombic: tail elongated, prehensile: abdominal plates nearly as broad as the abdomen: spurs ———?"

1. *Bolyeria Pseudo-Eryx*. *Tortrix Pseudo-Eryx*, Schlegel, Ph. Serp. 19. Inhabits New Holland; Port Jackson. Mus. Paris."

II. *The rudimentary hinder limbs entirely hidden under the skin, (not showing any spurs.)*

C. *The head small, indistinct, shielded; eyes small, vertical, pupil round; nostrils lateral, small. Body cylindrical; scales smooth; ventral shields like the scales, but rather broader. Tail short, scarcely prehensile; subcaudal plates.* Intermediate between the Boæ and the Bungaroid Colubridæ.

XVIII. ILYSIA, Hempr. *Tortrix*, Linn. *Anilius*, Oken. *Torquatrix*, Haworth. Tail conical and rounded: nasal plates small; frontal plates large: eyes in the centre of a large plate. America.

1. *Ilysia Scytale*, Wagler, Amph. t. 5, fig. 2. *Anguis Scytale*, Linn. *A. corallina*, *A. atra*, *A. annulata*, *A. fasciata*, *A. cærulea*, Laur. *A. rostrata*, Weigel. *Tortrix Scytale*, Schlegel. Seba, ii. t. 73, fig. 2, 3.

Inhabits Central America. Brit. Mus.

XIX. CYLINDROPHIS, Wagler. Tail compressed: nasal plates large; frontal plates moderate: eyes surrounded by the labial, superciliary and temporal plates, and sometimes by a small posterior ocular plate. India.

1. *Cylindrophis rufa*. *Anguis rufa*, Schn. *A. Scytale*, Russ. Ind. Serp. ii. t. 28, f. 1. *Tortrix rufa*, Schlegel. *Eryx rufa*, Daud. *Scytale Scheuchzeri*, Merrem.

Inhabits India. Brit. Mus.

Var. 1. *Cylindrophis melanotus*, Wagler, t. 27. Java.

2. *Cylindrophis maculata*. *Anguis maculata*, Linn. Mus. Adolph. t. 21, fig. 3. Russel, I. S. t. 19, fig. 1. *A. tessellata* and *A. decussata*, Laur.

Inhabits India. Brit. Mus.

D. "Head elongate, depressed, covered with plates; muzzle tapering, obliquely truncated; pupil ———? body fusiform, compressed, strong; back keeled; belly rounded; scales equal, strongly keeled: tail very short, conical, prehensile: anal spurs none." Intermediate between *Eryx* and true *Boa*?

XX. UNGALIA. "Nasal shields 2, long; two anterior frontals with the lower angles extending to the side of the muzzle; occipital plates small."

1. *Ungalia melanura*. *Boa melanura*, Schlegel, Phys. Serp. 399.

Inhabits Cuba; M. Ricourt. Mus. Paris.

Synopsis of the species of Rattle-Snakes, or Family of
CROTALIDÆ. By J. E. GRAY, F.R.S., &c.

Fam. CROTALIDÆ. — Face with a large pit on each side, placed between the eye and the nostril. The head large behind, crown flat, covered with scales or small shields (except *Sepdon* and *Caudisona*); the jaws weak, the upper with long fangs in front and no teeth. The belly covered with broad band-like shields: anal spurs none.—Venomous.

This family consists of 10 genera and 30 species; of which 6 genera and 11 species are confined to America; 2 genera and 16 species to Asia and its islands; 1 genus is common to Asia and Africa; 1 genus and 2 species are peculiar to Africa. Schlegel, in his work recently published, describes only 17 species, two or three of which I have not been able accurately to determine: and of the 30 species here noticed, 23 species are in the national collection.

I. *Head scaly, with small shields on the edge of the forehead and eyebrows: tail ending in a spine; subcaudal plates 2-rowed: cheeks scaly.*

a. *Subcaudal plates extending to the tip; (Bothropina).*

I. *BOTHROPS*, Wagler. *Craspedocephalus*, Kuhl. Scales lanceolate, keeled: hinder labial shields largest. Confined to the New World.

* *Head with keeled scales, with 1, 2 or 3 minute shields between them; hinder nasal and front edge of suborbital pit with a small shield immediately under the nostril.*

1. *Bothrops Megara*. Yellow-brown, dotted and clouded; scales ovate-lanceolate.

Inhabits South America. Brit. Mus.

** *Head with rather thick smooth scales in front; rest like **

2. *Bothrops subscutatus*. Slate-coloured, paler beneath

Inhabits Demerara; Capt Sabine. Brit. Mus.

3. *Bothrops Sabini*. Young, pale brown, with 4 series of brown spots; back of head brown, with a dark streak to the gape, and beneath pale.

Inhabits Demerara. Brit. Mus.

*** *Head with keeled scales, with 1, 2 or 3 minute shields between them, but without any shield immediately under the nostril, it being edged beneath by a process of the anterior nasal shield.*

4. *Bothrops cinereus*. Pale brown, with dark subalternating cross bands; crown, nape and temporal streak dark brown: scales lanceolate.

Inhabits America. Brit. Mus.

II. TRIMESURUS. Scales lanceolate, keeled: hinder labial shields small; head-scales convex or keeled; superciliary shield single, half-ovate or linear. Confined to the Old World.

* *Second labial plate very high, forming the front of the suborbital pit: back uniform, with a white line on each side.*

† *Superciliary shield half-ovate.*

1. *Trimesurus viridis*, Lacep. *Cophius viridis*, Merrem. *Vipera viridis*, Daud. Russel, Ind. Serp. t. 9, ii. t. 20. *Coluber gramineus*, Shaw. *Trigonocephalus viridis*, Schlegel, 544, t. 19, fig. 12, 13. Head-shields smooth, scales obscurely keeled.

Inhabits India. Brit. Mus.

2. *Trimesurus albolabris*. Green; upper and lower lip, the upper part of the supra-abdominal row of scales, and the lower edge of the row above them, white: belly yellowish green, bluish on the sides: head-shields smooth, convex, scales obscurely keeled.

Inhabits China. Brit. Mus.

3. *Trimesurus carinatus*. Green? scales large, strongly keeled, the supra-abdominal series with a white central streak; head-shields convex, rounded.

Inhabits India. Brit. Mus.

†† *Superciliary shield linear, rudimentary.* *Tropidolæmus*, Wagler.

4. *Trimesurus purpureus*. *Trigonocephalus purpureo-maculatus*, Gray Illust. Ind. Zool. t. Purple, (in spirits red brown); lateral streak and beneath whitish; head-shield convex, smooth.

Inhabits Singapore. Brit. Mus.

** *The second labial plate much smaller than the third, with a square shield above it, which forms the front edge of the suborbital pit: head large: back spotted or banded, without any continued pale lateral line.*

6. *Trimesurus maculatus*. Green, with a series of small, distant, white spots on each side; temporal streak white: head-shields keeled: end of tail rufous, curled.

Inhabits Singapore. Brit. Mus.

Var. 1, with distant white spots on the side of the belly.

Inhabits the Philippine Islands; Mr. Cuming. Brit. Mus.

7. *Trimesurus subannulatus*. Green, with a series of distant, narrow, white cross bands, edged with black in front, and ending in a spot at the side of the abdomen: occiput with 2 black spots: abdomen whitish, hinder part with a few black spots: end of tail green, black and white ringed: head-shields keeled.

Var? Young, the white bands varied with brown in front, and the spots on the side and hinder part of the belly brown; tail dark red-brown.

Inhabits the Philippines; Mr. Cuming. Brit. Mus.

8. *Trimesurus Philippensis*. Green, with a series of black spots on each side of the back; lips and beneath yellow, with distant, small, black spots on each side, near the edge of the abdominal plates: temporal streak blackish: tail black-banded, end red, compressed and curved; head-shields keeled.

Inhabits Philippine Islands; Mr. Cuming. Brit. Mus.

9. *Trimesurus Sumatranus*. *Coluber Sumatranus*, Raffles. *Trigonocephalus ornatus*, Gray. *Cophias Wagleri*, Boie. *Trigon. Wagleri*, Schlegel,

542, t. 19, fig. 16—18. Black; dorsal scales marked with a yellow or greenish spot; lateral scales yellow, black edged; lips and throat orange; head-shields keeled.

Inhabits Singapore, Hardwicke: Sumatra, Raffles. Brit. Mus.

10. *Trimesurus strigatus*. Olive, with large dark spots on the back; crown with 2 white spots on the hinder part, with a broad streak from the back of the eyes and 2 triangular bands on the white upper lip; beneath white, marbled with dark olive.

Inhabits Cape of Good Hope? Madras? Mus. Army Med. Board, Chatham.

11. *Trimesurus? Ceylonensis*. Olive, with dark spots and marks; and a white streak from the back edge of the eye on each side of the neck.

Inhabits Ceylon. Mus. Army Med. Board, Chatham.

III. *ATROPOS*, Wagler. "Vertebral scales keeled, lateral ones smooth: superciliary scales small, in a prominent arched series."

1. *Atropos acontia*, Seba, ii. t. 64, fig. 1. *Atropos puniceus*, Wagler. *Vipera acontia*, Laur. *Coluber acontia*, Gmel. *Echidna acontia*, Merrem. *Trigonocephalus puniceus*, Schlegel, 545, t. 19, fig. 10, 11.

Inhabits Java.

IV. *MEGÆRA*, Wagler. Scales lanceolate; of head and body smooth, of crown unequal; forehead edged with shields; hinder labial plates small.

* *Superciliary scales double*. African.

1. *Megæra trigonocephala*, Wagler. *Vipera trigonocephala*, Daud. Scheuch. P. S. t. 749, fig. 11.; Lacep. Quad. Ov. ii. t. 5, fig. 2. *Cophias trigonocephalus*, Merrem. *C. nigromarginatus*, Kuhl, Beitr. 90. *Trigon. nigromarginatus*, Schlegel, 541, t. 19, fig. 14, 15. Glauous green, paler beneath; upper part of head with regular black markings; middle of the back marbled with black; lips, chin, and front of belly white: head-shields flat, smooth.

Inhabits Africa: Ceylon, Lesch. Cape of Good Hope, Smith. Br. Mus.

2. *Megæra olivacea*. *Vipera olivacea*, Edwd. W. Gray, MSS. 1800; (Brit. Mus.) *Coluber olivaceus*, Shaw, Zool. Yellow-olive, with a brown horizontal streak on each side of the back of the head; lips and beneath yellow. 149 + 55.

Inhabits ———? Brit. Mus.

** *Superciliary shield single, elongate; sides with a series of spots*. Asiatic.

3. *Megæra flavomaculatus*. Olive-green, nearly uniform (in spirits); beneath paler, varied with yellow; chin yellow, varied; sides with a series of large orange-yellow spots on the lowest series of scales: tail brown-banded; head-shield large.

Var.? Young? green (in spirits), with close white spots forming nearly a continued band on each side. Smaller.

Inhabits the Philippine Islands, Mr. Cuming. Brit. Mus.

4. *Megæra ornata*. Olive-green (in spirits); back with a series of irregular brown spots forming a band across the tail: sides of the body with a

lower series of brown and an upper of white spots, forming together a broad band: beneath paler green, chin whitish green.

Inhabits the Philippine Islands, Mr. Cuming. Brit. Mus.

5. *Megara variegata*. Green (in spirits); head black varied; back with rather narrow black cross bands; sides with an interrupted series of indistinct yellow spots; beneath rather paler: tail yellow, black-banded, compressed.

Inhabits the Philippine Islands. Brit. Mus.

b. *End of tail with 4 rows of scales beneath.* Lachesina.

V. LACHESIS. Head ovate, crown scaly.

1. *Lachesis muta*, Daud. *L. rhombeata*, Neuw. Abbild. t. *Bothrops Surucua*, Wagler. *Crotalus mutus*, Linn. Seba, ii. t. 76, fig. 1, t. 91 & 92. Schlegel, 570, t. 20, fig. 19, 20. *Boa muta*, Lacép. *Scytale catenatus* and *S. Ammodytes*, Latr. *Boa crotalina*, Shaw. *Col. Alecto*, Shaw. *Trigonocephalus rhombifer*, Cuv. *Cophias crotalinus*, Merrem.

Inhabits South America. Brit. Mus.

II. *Head more or less shielded, cheeks not scaly?*

a. *Subcaudal plates two-rowed: tail ending in a spine: head-shield with some small additional plates in front.* Trigonocephalina.

VI. TRIGONOCEPHALUS, Wagler. Dorsal scales keeled.

1. *Trigonocephalus Halys*, Boie. *Coluber Halys*, Pallas. *Col. Aspis*, E. W. Gray, MSS. Brit. Mus. *Echidna Aspis* var. *Pallasii*, Merrem.

Inhabits Tartary? Brit. Mus.

2. *Trigonocephalus Blomhoffii*, Boie, MS. 1826, 214; Fauna Japon. Ophid. t. 6; Schlegel, 552, t. 20, fig. 8, 9.

Inhabits Japan. Mus. Leyden.

Boie and Wagler refer, 1. *Trigon. Hymale*, Schlegel, 550, t. 20, fig. 6, 7; *Cophias Hymale*, Merrem: Russell, ii. t. 22; 2. *Trigonocephalus Rhodostoma*, Reinw.; Schlegel, 547, t. 20, fig. 1—3; 3. *Trig. pretextatus*, Hempr. Seba, ii. t. 68, fig. 6; *Vipera pretextata*, Gravenh.; Russell, Ind. Serp. ii. t. 21; to this genus.

Coluber No. 21, Russell, Ind. Serp. ii. t. 21, from Java, appears to form a new genus allied to this, but I have never seen a specimen.

b. *Subcaudal plates one-rowed: tail ending in a spine: head shielded.* Cenchrina.

VII. CENCHRIS, Daud. *Angkistrodon*, Beauv. *Tisiphone*, Fitz.

1. *Cenchrus contortrix*. *C. Mokeson*, Daud. t. 70, fig. 3, 4; t. 60, fig. 25. *Coluber Tisiphone*, Shaw. *Cenchrus marmorata*, Boie. *Pelias niger*, Merrem. *Col. Cacodemon*, Shaw. *Col. constrictor*, Linn. *Boa contortrix*, Linn. *Trigonocephalus Cenchrus*, Schlegel, 553, t. 20, fig. 10, 11. *Black and brown Viper*, Catesby, Carol. t. 44, fig. 5. *Tisiphone cuprea*, Fitz. *Trigonocephalus contortrix*, Holbrook, N. Amer. Erpet. t. 14. *Heterodon contortrix*, Cuv.

Inhabits North America. Brit. Mus.

2. *Cenchrus piscivorus*. *Trigonocephalus piscivorus*, Holbrook, N. Amer. Erpet. t. 13.

Inhabits North America.

c. *Subcaudal shields one-rowed: tail ending in a rattle: head more or less shielded.* *Crotalina*.

VIII. *CAUDISONA*, Fitz. *Crotalophorus*, Gray. Head with 9 large shields behind the eyes.

1. *Caudisona miliarius*. *Crotalus miliarius*, Linn. Schlegel, 569, t. 20, fig. 17, 18. *C. tergeminus*, Shaw.

Inhabits North America. Brit. Mus.

IX. *UROPSOPHUS*, Wagler. "Superciliary shields large; crown of head covered with scales."

1. *Uropsophus triseriatus*, Wagler. *Crotalus durissus*, var. Schlegel, 565. Inhabits Mexico.

X. *CROTALUS*, Linn. Head with small shields before the eyes; occiput covered with scales.

* *Nose with three pairs of symmetrical plates.*

1. *Crotalus horridus*, Daud. *C. cascavella*, Spix; Schlegel, 561, t. 20, fig. 12—14.

Inhabits North America. Brit. Mus.

** *Nose with one pair of symmetrical plates.*

2. *Crotalus atricaudatus*, Latr. *Crot. durissus*, Daud. v. t. 68, fig. 1, 2. Schlegel, 565, t. 20, fig. 15, 16. *Crot. horridus*, Guérin, Icon. t. 23, fig. 2. *Crot. confluentus*, Say?

Inhabits America. Brit. Mus.

See also Holbrook, N. Amer. Erpet. t. 15, 16, 17.

Description of some hitherto unrecorded species of Australian Reptiles and Batrachians. By J. E. GRAY, F.R.S., &c.

In the Appendix to Capt. Grey's Narrative of two excursions in Australia, I published a list of the species of reptiles then recorded as inhabiting that country. The following new species have since fallen under my notice; they are chiefly from a collection made by Mr. Gilbert, Mr. Gould's collector, at Port Essington, which has been purchased from the latter gentleman by the British Museum; two of the others were some time ago presented to the Museum collection, with a number of other Australian animals, by Mr. Buchanan. This makes the number of species now known to inhabit Australia 138.

Tiliqua Essingtonii. Pale brown, in spirits: sides black, with a very distinct, narrow, silvery streak from the back angle of the eye to over the

base of the tail, and with a broader more indistinct band from the front to the hinder legs: sides of throat brown, white-spotted: chin, underside of limbs and beneath yellow: tail elongate, brown, with a narrow black streak on each side: limbs brown, with three indistinct black dotted lines: ears large, with 3 small scales on the front edge: scales smooth.

Inhabits North Coast of New Holland; Port Essington, Mr. Gilbert.

Lialis Burtoni, Gray, Proc. Zool. Soc.; Grey's Travels, t. Above grey olive in spirits, with 5 rather interrupted brown longitudinal streaks, the central streak divided into two over the nape and united together again over the nose; the outer lateral streaks narrowest and more interrupted, edged with the two colours: beneath blackish grey, with large white spots; lips and streak under ear and along the side of the neck white.

Inhabits Western Australia, J. Gould, Esq. The *L. Burtoni* described in the Proceedings had lost its colour, but it appears to belong to this species.

Lialis bicatenata. Above brown grey, in spirits, with a series of distant black spots (one on the centre of each scale) along each side of the back; top of the head and nape with an indistinct double band, forming an elongated loop: beneath blackish grey, whitish dotted; chin and throat blackish, white-spotted; lip shields brown.

Inhabits North Coast of New Holland; Port Essington, Mr. Gilbert.

Var.—Throat like the rest of under side.

Inhabits Western Australia? May be only a variety of *L. Burtoni*, but very differently coloured.

Lialis punctulata. Brownish grey, very minutely black-dotted, beneath darker brownish grey, the two colours separated by a very narrow brown edge and a distinct white line; side of the head and neck dark chocolate brown, edged above with a very narrow, and beneath by a broader white band: front upper and side lower labial plates white, the rest dark brown.

Inhabits North Coast of New Holland; Port Essington, Mr. Gilbert.

The body is much thicker and shorter than either of the other species: the tail is reproduced, so that it is not possible to refer to its comparative length.

Gecko verus, Merrem.

Inhabits North Coast of New Holland; Port Essington, Mr. Gilbert.

GEDURA, Gray. Fam. *Geckotidae*. Toes 5.5, dilated, free, scaly beneath at the base, ends rather broader, under surface with two rows of transverse folds, the last fold on each toe larger and more expanded: claws 5.5, hid in the groove between the folds: back and belly with ovate, convex, equal, and sides with smaller scales: tail ovate-lanceolate, very thick, depressed, with an acuminate tip, covered with rings of rather large scales: pre-anal pores in a lunate line.

Gedura marmorata. Above black, in spirits, spotted and banded with white, beneath white: head and limbs above black spotted with white, a whitish band across the nape, one over the shoulder, two across the back, and one over the hind legs: tail marbled black and white, end with one or two black bands and a white tip: sides of the head whitish; chin and under sides of the body and limbs white.

Var. with bands of spots between the four white bands on the back.

Inhabits North coast of New Holland; Port Essington.

PHYRIA, Gray. Fam. *Geckotidæ*. Toes moderate, base scaly above and below, dilated, ends expanded into a rounded disk, with two series of diverging plates beneath, last joint free, compressed, clawed; thumb of fore and hind feet smaller, clawless: back covered with small granular, belly with rather larger scales: labial and chin shields distinct: tail round, tapering, with a series of large hexagonal plates beneath: preanal pores distinct, in an angular line.

Like *Ptyodactylus*, but the toes are shorter, thicker, dilated at the base, and it has preanal pores.

Phyria punctulata. Olive grey, in spirits: scales minutely black-speckled: lips, sides of throat, chest, belly and underside of tail, yellow.

Inhabits North coast of New Holland; Port Essington.

Diplodactylus spinigerus, Gray. Above olive, with a darker edged irregular dark mark on the crown, nape and back, beneath paler: scales small, granular, with a series of black spines along each side of the back and tail, and a group of spines at the base of the latter: labial scales oblong, higher in front: toes 5.5, under side with short, oblong, 4-sided, transverse scales, ends with 2 square lobes.

Inhabits Van Diemen's Land. Mus. Zool. Soc. No. 383.

Chlamydophorus Kingii, Gray, King's Voy. Aust. ii. t. 1. The frill increases in size compared with the size of the animal as it grows in age; in the young it does not reach to the base of the fore limbs, in the adult it becomes much fuller, and reaches considerably beyond the axilla.

Young, length of body and tail, 16; frill from ear, 1 3.

Adult, - - - 35; frill from ear, 6 0.

A very young specimen in spirits is grey, with narrow irregularly waved and twisted black streaks, forming broad bands across the back, limbs and tail; the bands are indistinctly marked on the body, but more distinct on the limbs and tail, where they are to be seen of a brown colour on a much more grown specimen: the head and face of the young specimen are also marked with symmetrical twisted and curved lines.

LOPHOGNATHUS, Gray. Fam. *Agamidæ*. Head elongate; forehead shelving, nearly flat, covered with keeled scales; eyebrows keeled: back covered with keeled rhombic scales, placed in oblique ascending series: limbs, tail, chest and belly with larger scales placed in longitudinal series: nape and parotids with a crest of short compressed scales; the nuchal crest is continued into a slight keel down the back: tail elongate, tapering: femoral pores 2 or 3, rather irregular; 2 preanal pores on each side, near the base of the lower side of the thigh.

This genus differs from *Calotes* only in being furnished with pores.

Lophognathus Gilberti. Olive-green; chin and throat greener; upper lips, a broad streak under the ears, bent up and continued along the sides, becoming narrower near the hind legs, and a second small streak on sides of the throat, white: tail obscurely black-ringed: nuchal crest short, low, continued by a very slightly raised keel to the base of the tail: scales of the back small, keeled, of the limbs, tail, chest and belly longer, lozenge-shaped.

Inhabits North coast of New Holland; Port Essington.

DIPORIPHORA, Gray. Fam. *Agamidæ*. Head short; forehead shelving,

nearly flat, covered with small keeled scales; eyebrows keeled: back covered with keeled rhombic scales: limbs, tail, chest and belly with larger keeled rhombic scales, all placed in longitudinal series: back slightly keeled on each side; nape with a very obscure keel: tail elongate, tapering, subangular: femoral pores none; 1 preanal pore on the side, near the base of the lower side of the thigh.

This differs from *Grammatophora* in only having 2 preanal pores; in form it is intermediate between that genus and *Calotes*.

Diporiphora bilineata. Pale brown, in spirits, with black spots forming 7 cross bands on the body and black rings on the tail; a narrow streak on each side of the neck and front of the body, and a few scales in cross series on the sides of the body, yellow: throat grey; chest, belly and under side of limbs and base of tail, yellow; feet pale: a group of 2 or 3 small conical spines in front, one over the top and one or two on the parotid behind the ear.

Inhabits North coast of New Holland; Port Essington, Mr. Gilbert.

Tropidonotus australis. Dark brown, in spirits; upper lip and beneath whitish; the hinder edge of the ventral and of the subcaudal plates olive, clouded, especially on the sides: the dorsal scales ovate, strongly keeled; the side one broader, less keeled, the lowest series very broad, rhombic: tail tapering: back 7-keeled: loreal shield square: anterior ocular high, band-like, 3 posterior subequal, small: throat shielded; chin-shields 2 pair, long. Length of body and head 17, tail 6, = 23 inches.

Inhabits North coast of New Holland; Port Essington.

Lycodon reticulatus. *Demansia reticulata*, Gray MSS. B. M. (1836) Pale yellow, in spirits; edges and interspaces between the scales of the back black: head and hinder part of the body and tail above, uniform pale yellowish olive: anterior frontal small, posterior nasal elongate, narrow, small: loreal none: anterior ocular 1 large, 2 posterior, small: temples shielded: eyes large, pupil round.

Inhabits Australia; Mr. Buchanan. Brit. Mus.

Lycodon olivaceus. Dark olive green, in spirits; interspaces between the scales blackish: tail paler: lips and beneath white: scales of the throat olive-edged: the front ventral shields with a transverse central band: cheeks with a dark streak from the back of the eye to the gape: anterior frontal small, vertebral plates elongate: loreal shield none; 1 high anterior and 2 posterior oculars; temple scaly.

Inhabits North Coast of Australia; Port Essington, Mr. Gilbert.

Dendrophis (Ahetula) fusca. Pale brown, in spirits; back with numerous broad, darker brown, cross bands; head uniform brown: scales of the vertebral series very large, broad, 6-sided, of the sides lanceolate, numerous, in very oblique series: ventral shields very obscurely keeled on the sides: loreal shield square; 1 anterior high and 2 small posterior ocular shields: pupil round: vertebral plate broad, tapering behind: occipital plates large.

Inhabits North coast of New Holland; Port Essington.

Dendrophis (Ahetula) olivacea. Pale uniform olive brown, in spirits; lips and beneath silvery yellow: scales of the vertebral series large, broad, three-sided in front and rounded behind; of the sides of the back narrow, elongate, in transverse series (5 in each), next the ventral plates broad, lo-

zenge-shaped: the ventral shields distinctly keeled on each side: head elongate; pupil round; eye large: loreal shield narrow, elongate; 1 high anterior and 1 narrow posterior ocular shields. Young: tail with a slate-coloured central streak beneath.

Inhabits North coast of New Holland; Port Essington.

Elaps ornatus, Gray. Whitish, in spirits; scales of the back and sides hexagonal, smooth, beautifully black-edged: lips and beneath white; head to the end of the occipital shields, and a broad band on the nape, black; the head flattened; eyes small, superior, pupil round, small: rostral low; the anterior frontal subtriangular, the hinder nearly square, bent down on the sides; the hinder nasal scales very small, trigonal; loreal shield none: 1 superior anterior ocular and 2 posterior: tail elongate, tapering, with 2 large series of scales on the upper part of its base.

Inhabits Australia, (Swan River?); W. Buchanan, Esq.

Naja australis. Uniform pale brown, in spirits, rather paler below: anterior ocular short, broad, triangular, 2 posterior oculars square.

Inhabits North coast of New Holland; Port Essington.

This scarcely differs from *N. Hage* of Africa, except in having only 2 posterior ocular plates, and this may be only accidental in the individual.

Morelia variegata, Gray, 'Synopsis of Boidæ,' p. 43. Head-shields small, numerous, with a 6-sided, central, larger vertebral: frontal plates 3 pairs, small, front triangular; 3 front upper labial shields pitted, hinder one obscurely so; front lower shields elongate, narrow.

Inhabits Australia; Port Essington.

Nardoa Gilberti, Gray, 'Synopsis of Boidæ,' v. p. 45.

Inhabits the North Coast of New Holland; Mr. Gilbert.

Liasis olivacea, Gray, 'Synopsis of Boidæ,' v. p. 45.

Inhabits the North Coast of Australia; Port Essington, Mr. Gilbert.

Asturia elegans, Gray, 'Synopsis of Hydridæ,' p.

Inhabits the North coast of New Holland; Port Essington, Mr. Gilbert.

Homolopsis australis, Gray, 'Synopsis of Hydridæ,' p.

Inhabits the North coast of New Holland; Port Essington, Mr. Gilbert.

Hydraspis Victoriae, Gray. Shell ovate, convex, blackish brown marbled with grey and rather rugose above, beneath convex, yellow olive, with slight, impressed, narrow, netted grooves: vertebral plates nearly square, as long as broad, the fourth 6-sided, elongate; the marginal plates rather narrow in front, broader and slightly bent upon the sides, dilated, rather produced, and leaving 2 or 3 notches over the tail behind; the sternum narrow, rather convex, shelving on the sides, and with a broad rounded notch behind. The back is regularly convex: the front cavity is much contracted by two rather diverging septa, only leaving a space almost half the width of the outer opening; the sternum is only about one third the width of the lower surface in the middle, and rather tapering behind: the vertebral column is sharply keeled within, and the bones of the pelvis are very strong: the first and second marginal plates are rather broad, the third narrow, the fourth and rest broader; the middle of the fourth and eleventh is opposite the suture between the costal plate.

Inhabits Victoria River, North-west coast of New Holland; Captain William Campbell, R.N.

Discoglossus ornatus. Grey, in spirits, very beautifully and symmetrically marbled with blackish grey on the back: the upper lip and upper part of the legs and feet blackish grey banded; chin and under part of body and limbs white, with a few distant granules near the vent; rest quite smooth: the front toes slender, quite free, each with 2 tubercles at the base beneath, and with 2 larger tubercles at the wrist; the hinder toes half-webbed and fringed along each side, so as to appear tapering to a point, and with a blunt compressed tubercle at the ankle: palatine teeth on 2 rather oblique ridges.

Inhabits North coast of Australia; Port Essington, Mr. Gilbert.

Alytes australis. Back purplish, in spirits, with an arched purple band from the muzzle, including the nostrils, dilated behind, enclosing the edge of the eyelid and the tympanum, then produced behind into a spot on the side; the upper lip edged and the lower lip and chin spotted with purple; chin and under side of body and limbs white, mottled on the edge: back smoothish, with a slight longitudinal fold on each side: the front toes quite free, hinder ones half-webbed, with a blunt compressed tubercle on the wrist, and all with rounded tubercles beneath: the belly and back part of thighs granular: the palatine teeth in two rather oblique half-ovate ridges.

Young whitish above, and the band on the face narrower.

Inhabits the North coast of Australia.

Pelodytes nasutus. Nose rather produced, conical. Purplish brown, in spirits, with a broad whitish streak on the end of the nose, divided behind into two lines extended down the middle of the back to the groin, and some cross lines and a central streak on the loins, an irregular grey streak on each side and a spot on the front of fore arm; an ovate white spot from the angle of the gape to the shoulder: sides, lower jaw, back and thighs purplish marbled: chin, under side of body and legs white: belly and hinder part of thigh granular: the front toes free, the hinder elongate, webbed, all with roundish tubercles beneath, and with a roundish tubercle on the ankle: tympanum large: palatine teeth in 2 roundish groups: tongue oblong, slightly nicked behind.

Inhabits the North coast of Australia; Port Essington, Mr. Gilbert.

Pelodytes affinis. Nose slightly produced and rounded: purplish brown, in spirits, streak on the side of the face, and a large squarish spot enclosing the tympanum purplish; lips, front of upper arm, under part of the body and limbs white, chin blackish: the thighs and legs with a series of black spots: the belly and back edge of thighs granular: tongue oblong, slightly nicked behind: palatine teeth in 2 roundish groups: toes and finger like *P. nasutus*.

Very like the former, but the back is not mottled, and the nose not so much produced or conical.

Inhabits the North coast of New Holland.

Hyla cærulea. *Hyla cyanea*, Daud.

Inhabits Port Essington, Mr. Gilbert.

This differs from the description of M. Dumeril chiefly in the fore feet being not so much webbed as he describes them.

Hyla rubella. Reddish grey, in spirits; a broad band from the nostrils on the side of the face and along each side of the body purplish: chin, underside of body and limbs whitish, granular: skin smooth: eyes large: the

front toes nearly free, the hinder ones more than half webbed; toe-disks moderate: tympanum distinct, sunk: the palatine teeth in 2 small groups, between the inner nostrils.

Var. back whitish grey, reddish dotted.

Inhabits the North coast of Australia; Port Essington.

Eucnemis bicolor. Blue in spirits; underside of body and limbs bluish white; the lips, chin, and a streak from under the eye, beneath the tympanum and along the side of the body to the groin, pure white: back smooth; belly and thighs granular: the fore toes scarcely webbed, the hinder ones webbed to the end; the toe disks small: tympanum distinct.

Agrees with the variety of *Hyla Jacksoniensis* in the disposition of the colors.

Inhabits North coast of Australia; Port Essington, Mr. Gilbert.

Description of some new species of Reptiles, chiefly from the British Museum collection. By J. E. GRAY, F.R.S.

Gecko Smithii, Gray. Black, with minute white-tipped tubercles; back with cross bands of white spots, the 2 front bands lunate: tail with 8 white spots; the front small, next round, the rest oblong, longer towards the tip, last spot subapical: beneath grey, brown marbled; head grey, occiput with 3 diverging, and the sides of the throat with 2 black streaks.

Inhabits Prince of Wales' Island. Mus. Fort Pitt, Chatham.

Gecko chinensis, Gray. Scales of the back granular, with scattered, rather larger, convex, tubercular scales; pale brown, brown clouded and blackish dotted, beneath whitish: tail rather depressed, blackish ringed.

Inhabits China; J. R. Reeves, Esq. Brit. Mus.

Tarentola clypeata, Gray. Head flattened and circumscribed by a cross rib behind, covered with larger convex scales: back granular with close cross ridges of tubercles: greyish in spirits: limbs and tail slender.

Inhabits ———? Museum of the Andersonian Institution, Glasgow.

Phelsuma trilineatum, Gray. Olive black in spirits, with 2 rows of oblong spots and 3 narrow lines: forehead with a triangular orange spot and a broad streak from the nostril to the fore leg, enclosing the ear: femoral and preanal pores distinct, in an angular line: thumb linear, distinct.

Phelsuma lineatum, Gray. *Gecko inunguis*, Cuv. R. A. t. 5, fig. 1. Thumb rudimentary, tubercular: femoral and preanal pores forming an angular line: brown in spirits, with a black upper and darker lower-edged white streak on each side; beneath whitish: scales of back ovate.

Inhabits Madagascar. Brit. Mus.

GEHYRA, Gray. Family *Geckotidae*. Toes free, depressed, ovate, much dilated, apex compressed, elongate, free, clawed, all with entire transverse scales beneath; thumb dilated, without the elongated last joint, clawless: back and beneath with small granular scales: femoral pores none: tail round. Part of *Peroplus* of Wiegmann, but has the scales of *Gecko*, and

chiefly differs from that genus in the length and compression of the terminal joints of the toes, and from *Naultinus* in their being compressed and wanting on the thumbs.

Gehyra oceanica. *Gecko oceanicus*, Lesson, Voy. Coq. t. 2, fig. 3, bad. *Hemidactylus oualensis*, Bibron, Rept. t. 28, fig. 7. *G. gularis*, Brit. Mus. Inhabits Islands of the Pacific; Mr. Stutchbury. Brit. Mus.

Naultinus Pacificus, Gray. Thumbs clawless: scales uniform, except just before and behind the vent: pale brown, with an irregular broad streak on each side, united by 6 or 8 unequal pale-edged dark cross bands.

Inhabits South Sea Islands. Brit. Mus.

BOLTALIA, Gray. Fam. *Geckotidæ*. Tribe *Hemidactylina*. Toes free, plates beneath numerous, narrow, nearly transverse, closely appressed, divided by a deep narrow groove: thumbs similar: femoral pores distinct: tail rather depressed, ringed, with a central series of shields beneath. Between *Gehyra* and *Hemidactylus*.

Boltalia sublevis, Gray. Grey, yellow beneath: the back covered with small granular scales, with 2 or 3 interrupted series of rather larger ones on each side: scales of chin small, granular, of belly smooth, moderate sized.

Inhabits India. Brit. Mus.

Hemidactylus depressus, Gray. Tail depressed, rather broad, with a broad central groove above and below, lower broadest: back and hinder part of the thighs with rather distinct, large, oblong, triangular, keeled tubercles.

Inhabits Madagascar. Brit. Mus.

Hemidactylus mercatorius, Gray. Pale brown; head with 2, back with 3 interrupted angular black cross bands; tail with irregular black cross bands: beneath yellowish white: back with small, roundish, trihedral, tubercular scales.

Inhabits Madagascar. Brit. Mus.

Hemidactylus fasciatus, Gray. Pale brown, minutely black speckled, with a broad, arched, dark band from the ears, across the nape, 3 broad bands across the back: back with 16 regular longitudinal lines of rather small rounded tubercles: chin with 2 small shields behind the lower rostral shields, and 3 or 4 rather larger scales behind the first under central plate: tail rounded on the sides and slightly ringed with distant small tubercles.

Inhabits ———? Brit. Mus.

Goniodactylus Boëi, Gray. Blackish (discoloured? in spirits): back with close, squarish, minute, uniform, rather prominent scales: tail slender, longer than the body: lower labial shields unequal, 3 front large, the second largest, rest small; the chin-scales moderate, triangular behind, with 2 small polyzonal shields behind them; rest of throat-scales small, polyzonal.

Inhabits India. Brit. Mus.

TOLARENTA, Gray. Fam. *Geckotidæ*. Tribe *Tolarentina*. Toes 5.5, free, elongate, slender, unequal, clawed; little toes of hind feet very low down, each with several series of sharp scales beneath: tail elongate, with rings of close keeled scales: head and body with small, lanceolate, thin, imbedded scales; belly with thicker: limbs slender, long: femoral pores none.

The feet are like those of an *Agama*, but the head, nostrils and eyes show that it belongs to this family.

Tolarenta Wilkinsonii, Gray. Savigny, Rept. Egypt, t. 1, fig. 3. Brown white-dotted, beneath white: tail black, base with rings of white becoming confluent at the tip.

Inhabits Egypt; Sir G. Wilkinson. Brit. Mus.

Cyrtodactylus ocellatus. Head, neck and throat pale brown, with large irregular brown marblings: back brown, with 2 large white-eyed black spots on each side, behind the fore legs: legs and tail pale brown, base of the toes rather thick, end compressed, thin: labial plates $\frac{4}{3} \frac{1}{3}$; rostral large, broad: tail tapering, subcylindrical, with small scales above, irregular bands beneath.

Inhabits Tobago; G. Buchanan. Mus. Zool. Soc. No. 117.

Cyclura quinquecarinata, Gray. Head-shields subequal, those over the eyes the smallest: dorsal crest low, continued to the loins: tail depressed at the base, with the central and 2 series of spinose scales on each side much larger than the rest, and with a series of smaller scales between each transverse series of larger ones; rather compressed, with subequal whorls of spinose scales at the end: femoral pores 5.5 or 6.6.

Inhabits Demerara? Brit. Mus.

Monographic Synopsis of the Water Snakes, or the Family HYDRIDÆ. By J. E. GRAY, F.R.S.

The family consists of 23 genera and 43 species; of which 20 are found in the Indian Ocean, 16 in the salt-water ditches of India and the neighbouring islands, and 6 are found in similar situations in tropical America. Schlegel, who appears to have paid very little attention to the first divisions of this family, describes only 27 species: 30 of the species here described are in the collection of the British Museum, and I have seen several others in other collections, which I believe to be hitherto unrecorded.

Fam. V. — HYDRIDÆ. The ventral shield narrow, hexagonal or band-like: the hinder limbs not developed: the eyes and nostrils superior, vertical, the latter valvular; pupil small, round: tail compressed or conical. Living in the sea or salt-water lakes.

I. *Belly keeled with two rows of small scales like shields, often united together into a single broad six-sided shield. Tail compressed, except in Achrochordus.* Hydrina.

A. *Head shielded to the nape. Nasal shields very large, with the large operculated superior nostrils in their hinder edge: the frontal shields 2 pair, small: loreal shield none: labial shields high, large.*

a. *Body covered with 6-sided, smooth or scarcely keeled scales. Head as large as body.* (Pelamina).

I. PELAMIS. Head long, depressed, gape wide.

1. *Pelamis bicolor*, Merrem. *Anguis platyura*, Linn. *Hydrus bicolor*,

Schn. Russ. Ind. Serp. t. 41. Above black; sides and belly yellow; tail yellow, black varied.

Inhabits India. Brit. Mus.

2. *Pelamis ornata*, Gray. *Hydrus bicolor*, var. Schlegel, Fauna Japon. t. White, with black dorsal and ventral alternating half rings: head white, black varied.

Inhabits India. Brit. Mus.

II. LAPEMIS, Gray. Head moderate, rather compressed; gape moderate.

* Scales smooth.

1. *Lapemis curtus*, Gray. *Hydrus curtus*, Shaw. *Pelamis curtus*, Gray. Yellow; back with broad tapering dark olive cross bands.

Inhabits India. Brit. Mus.

** Dorsal and lateral scales smooth, ventral keeled.

2. *Lapemis Hardwickii*. Back olive, yellow cross-banded; belly yellow; scales very large: body rather short, thick: head moderate.

Inhabits India. Brit. Mus.

b. *Body covered with keeled scales: those of the front part of the body lanceolate, of the hinder part 6-sided. Head smaller than body.* (Hydrina).

III. HYDRUS. The ventral shields separate, half ovate, forming a keeled ridge: scales, front ones lanceolate, imbricate, with an acute keel: head large: hinder ocular shields 3.

1. *Hydrus major*, Shaw, Zool. iii. t. 124. *Pelamis Shawii*, Merrem, 139. Pale brown (bleached?); where the epidermis is off the scales are white.

Inhabits India. Brit. Mus.

IV. LIOPALA, Gray. The ventral shields large, front ones smooth, united, hinder ones separate, tubercular: front dorsal scales smooth, hinder ones marked with a central tubercle: 1 or 2 hinder ocular shields: head small.

* One posterior ocular shield. Ventral shields much the largest.

1. *Liopola gracilis*, Gray. *Hydrus gracilis*, Shaw, Zool. iii. Pale brown in spirits, beneath paler: neck with narrow rather distant cross rings, (remainder of body bleached): the dorsal scales of the middle of the body smallest, gradually increasing in size and in the strength of the keel as they approach the ventral series.

Inhabits Indian seas. Brit. Mus.

** Two post-ocular shields. Ventral shields rather the largest, some of the hinder ventral shields sometimes united.

2. *Liopola fasciata*, Gray. Blackish in spirits; belly and lower part of the sides of the hinder part of the body yellow, with narrow yellow bands, which gradually become wider as they approach the hinder part of the body: front half of the tail with narrow cross bands: scales moderate, anterior ones small, hinder with a slight subtubercular central keel; those of the lower part of the sides largest: temporal shields 2, very large.

Inhabits Indian seas. Brit. Mus.

VIII. *ATURIA*. Ventral shields rather large, the two central series united into a single broad six-sided plate; scales all smooth.

* *Head and neck moderately thick, with 2 or 3 post-ocular shields.*

1. *Aturia ornata*, Gray. Head and back slate-coloured, with a series of broad lozenge-shaped blackish cross bands; under jaw, lower part of sides and belly whitish, with a few narrow indistinct bands on the sides: tail black, with rather broad whitish cross bands: the second upper labial plate very large, and the top of the fourth occupying the whole under edge of the eye.

Inhabits ———? Brit. Mus.

The specimen has 2 regular post-oculars on one side and 3 irregular ones on the other.

** *Head small: neck very thin, long, with 1 post-ocular shield. Scales all quite small.*

2. *Aturia Lindsayi*, Gray. *Hydrophis Lindsayii*, Gray, Griffith's Anim. Kingd. Head, neck and tail black; nape with 2 white spots: back of the neck and front part of the body with cross bands, which gradually become larger and form ovate spots on the sides, which are confluent on the middle, and narrower but longer on the hinder part of the body, forming only narrow bands across the tail: scales small.

Inhabits China? Brit. Mus.

*** *Head small: neck thin, long, with 1 anterior and 1 posterior ocular. Scales with a very minute central prominence. Between Aturia and Hydrophis.*

3. *Aturia spiralis*. *Hydrus spiralis*, Shaw, iii. t. 125. *Hydrophis melanura*, Wagler, Amph. t. 3. Olive green, beneath yellow, with a series of round black spots, smallest on the middle of the body: back with rather narrow close black rings forming a line along the belly: tail black, with 3 unequal red rings at the base: the fourth upper labial shield under the eye: in spirits pale yellowish ringed with brown, beneath whitish.

Inhabits the Indian Ocean. Brit. Mus.

4. *Aturia elegans*. Whitish, in spirits: head and back with a cross series of broad, triangular, transverse, black spots, with a transverse series of small black spots between each of them; sides with a series of larger black spots; under sides with a series of transverse black bands united together by a central black streak: tail black, with white ovate cross bands.

Inhabits North Coast of Australia; Port Essington, Mr. Gilbert. Brit. Mus.

IX. *HYDROPHIS*. The two central series of the ventral shields united into a broad six-sided two-keeled plate: scales ovate, six-sided, keeled, the front ones longest and most keeled.

a. *Throat with small uniform scales: ventral shields small, like those of the neck: front pair of upper labial shields long, strap-shaped, extending up the side of the nasal shield, fourth pair under the eye; the five front pair of the lower lip-shields long, large, with a series of large scales beneath them, third*

hinder pair low, broad : no chin shields. Nasal plates elongate, trigonal, narrow in front : rostral plates small, two-notched : the upper temporal plates much larger than the lower one.

1. *Hydrophis bengalensis*. One anterior and 2 posterior ocular shields : the front upper lip-shield very long, strap-like, extending the whole length of the outer side of the nasal plate : head moderate, short.

Inhabits Bengal. Brit. Mus.

2. *Hydrophis subfasciata*, Gray. With 1 anterior and 1 posterior ocular shield : the front upper labial shields moderate, subtrigonal, reaching half way up the outer edge of the nasal plates ; the front lower labial plates with small scales like shields beneath them. Var. smaller : the frontal shield on side is bent down, occupying the place of (perhaps united to) the anterior ocular shield, but on one side there is a very small shield at the upper angle of the front of the eye.

Inhabits Bengal. Brit. Mus.

b. *Throat with distinct six-sided shields : the front upper lip-shield short, second large, the third, fourth and fifth gradually smaller, under the eye : front lower lip shield elongated, rest short, smaller, with 2 or 3 pairs of large shields under them : chin shields 2 pair.*

* *The fourth and fifth upper lip shield under the eye.*

3. *Hydrophis sublævis*. Pale yellowish white in spirits, beneath whiter : scales of neck smooth, of back with a thin keel ; lower scales almost keelless ; 1 anterior and 2 posterior ocular shields : the second upper labial shield elongated : the central temporal shield largest.

Inhabits Indian Ocean. Brit. Mus.

** *The fourth, fifth and end of the third upper labial shield under the eye.*

4. *Hydrophis doliata*. *Disteria Doliata*, Lacép.? Gray, App. King's Voy. Greyish white, with darker bands ; throat and streak on the front of belly black : scales of body distinctly keeled ; of tail broad and smooth : the second and third upper labial shields nearly equal : 1 large anterior and 2 small posterior oculars.

*** *The fourth and end of the third upper labial shield under the eyes, the second shield rather larger than the first and third.*

5. *Hydrophis mentalis*, Gray. Pale whitish, in spirits, with indistinct, broad, dark cross bands on the back : head rather large : scales tubercularly keeled ; the lower rostral plate slender, trigonal : the first and third lower lip-shield elongate, the rest with 2 pair of large plates below them : chin-shields moderate : 1 anterior and 2 posterior oculars.

Inhabits Indian Ocean. Brit. Mus.

6. *Hydrophis cærulescens*. *Hydrus cærulescens*, Shaw, Zool. 561. Above blackish ash, in spirits, beneath whitish ; side of the neck and base of the tail with white bands, of the body with roundish white spots ; tail blackish ash : scales tubercularly keeled : lower rostral shield trigonal, subequilateral ; the first, second and third lower labial shields large, rest small, with a pair of large plates between the two front ones : eyes small ; 1 anterior and 1 posterior ocular ; temporal shields 3 or 4, moderate.

Inhabits India. Brit. Mus. ; the specimen described by Dr. Shaw.

7. *Hydrophis subcinctus*, Gray. *Hydrus major*, var. Shaw, Misc. Above pale blackish ash in spirits, with some whitish cross bands, whitish beneath: scales of neck and back keeled; 1 anterior and 2 posterior oculars: the lower rostral shield trigonal; the first, second and third lower labial shields long, rest small, with 2 pair of large plates below them: temporal shields large.

Inhabits Indian Ocean. Brit. Mus.; Dr. Shaw's specimen.

8. *Hydrophis nigrocinctus*, Daud. *Hydrus nigrocinctus*, Merrem. *Anguis Xiphura*, Herm.—Russ. Ind. Serp. ii. t. 6. Above greenish, in spirits, dusky, beneath yellow, with close, rather narrow, dark brown rings: head yellow; front of upper lip, crown, and band from the angle of the mouth across the nape brown: rostral plates broad and low: 1 anterior 2 posterior shields: lower rostral plates triangular; the 4 front lower lip plates large, the hinder pair much the largest, rest small: chin-shields 2.

Inhabits Bengal. Brit. Mus.

B. *The head covered with scales like the body. The nostrils surrounded by a small continued ring. Eyes surrounded by a series of small scales. Labial shields serrated, with a larger series above them. Pupil round. Ventral shields very small, scale-like, separate, on each side of a keeled ridge. Rivers. Acrochordina.*

X. **CHERSYDRUS.** Tail compressed, sword-shaped: body fusiform, covered with small rhombic scales with a central tubercular keel.

1. *Chersydrus granulatus*, Merrem. *Hydrus granulatus*, Schn. *Pelamis granulatus*, Daud. *Acrochordus fasciatus*, Shaw, iii. t. 130. Black, with alternating ovate-lanceolate spots on each side: head white-spotted.

Inhabits India. Singapore; Hardwicke. Brit. Mus.

XI. **ACROCHORDUS.** Tail moderate, conical, tapering: body fusiform, covered with tricuspid scales.

1. *Acrochordus Javanicus*, Hornst. *A. Javensis*, Daud. *A. dubius*, Shaw, Zool. iii. t. 29, good. Adult brown; young brown, with darker bands and streaks.

Inhabits Java. Brit. Mus.; Dr. Shaw's specimen and some young.

II. *Belly with more or less broad band-like shields. Tail conical, tapering. Head shielded.*

C. *Tail scaly. Nostril in a ring of small scales. The abdominal shield very small, keeled on each side, as if formed of two scales united.*

XII. **ERPETON**, Lacép. *Rhinopirus*, Merrem. Head, crown shielded, with some small shields between the vertical and superciliary shields, a double set of labial shields, and a compressed scaly beard on each side of the muzzle: nostrils in the middle of a series of small shields: dorsal scales imbricate, keeled: abdominal shield small, long, narrow: subcaudal shields scarcely different from the other scales.

1. *Erpeton tentaculatus*, Lacép. *Rhinopirus Erpeton*, Merrem. *Homolapsis Herpeton*, Schlegel. Pale brown, with 3 white streaks continued on the tail.

Inhabits ———? Mus. Paris, from the old Dutch collection.

D. Tail with 2 series of shields beneath. Nostrils between 2 plates. Abdominal shields keeled on each side : scales smooth.

XIII. BITIA. Head small, crown shielded : frontal plate solitary, between the two larger nasal plates : vertebral plate longitudinal, rather larger than the rather narrow superciliary shields : occipital plates trigonal, placed in pairs ; 1 triangular rather large loreal ; 1 high band-like anterior and a larger inferior and small superior posterior ocular : front upper labial shields moderate, hinder very large : body elongate, slender, rather compressed : dorsal scales smooth : tail short, conical, subtrigonal, end compressed, sharp edged above : upper nasal scale the smallest.

1. *Bitia hydroides*. Lead-coloured in spirits, with broad blackish cross bands : head blackish ; throat and beneath whitish.

Inhabits ——— ? Brit. Mus.

E. Tail with 2 series of shields beneath. Nostrils in centre of a large nasal shield, with a groove from their outer end to the outside of the shield. Ventral shields rounded (not keeled). Frontal shields 3, small ; anterior one sometimes divided ; 1 anterior and 2 posterior oculars.

a. Scales keeled, when nearly dry, or minutely longitudinally grooved. ,

* Hinder upper labial plates divided.

XIV. CERBERUS, CUV. Head dilated behind, shielded to the eyes : anterior frontal divided ; superciliary small ; no vertical nor occipital : upper labial shields large, 2 or 3 hinder divided : loreal small : 1 or 2 small shields under the eyes : body elongate, round ; tail conical : scales all keeled.

1. *Cerberus cinereus*. *Col. cinereus*, Daud. *Hydrus cinereus*, Shaw. *C. Rhyncops*, Schn. *Enhydrys Rhyncops*, Latr. *Python Rhyncops*, Merrem : all from Russ. Ind. Serp. t. 17. *Cerberus Russellii*, Cuv. *Elaps boæformis*, and *Boa moluroides*, Schn. *Col. Schneiderii*. *Hurria Schneideriana*, Daud. *Python Molurus* and *P. elapsiformis*, Merrem. *Homal. Schneiderii*, Schlegel, 341, t. 13, fig. 6, 7. Young brown, with rather close, narrow, black cross bands : lips and throat white, black-spotted, sides white : belly black, yellow mottled ; tail blackish, sides slightly pale spotted : Dr. Russell's figure of the head-scales is not quite exact ; the superciliary shields are not divided as in the figure.

Inhabits India. Brit. Mus. ; from Dr. Russel and Gen. Hardwicke.

XV. HOMALOPSIS, KUHL. Head dilated behind, shielded ; anterior frontal (sometimes divided into 2) triangular ; vertebral, superciliary and occipitals moderate : loreal elongate (or 2 short), with 1 or 2 small plates under the eyes : the labial shields behind the eye divided : body thick, fusiform : scales keeled : tail elongate.

* Hinder lateral scales simple : inferior oculars 2 : scales in 37 or 39 rows.

1. *Homalopsis buccata*, Schlegel, Phy. Serp. 337, t. 13, fig. 1—3 ; Russel, Ind. Serp. ii. t. 33. *Col. subalbidus*, Gmel. Seba, ii. t. 23, fig. 3. *Col. buccatus*, Lin. Mus. Ad. t. 19, fig. 3. *Col. viperinus*, Shaw. *Col. horridus*, Daud. *Echidna semifasciata*, Merrem.

Var. 1. Anterior frontal plate divided into 2. Brit. Mus.

Var. 2. Vertebral plates divided into 3 parts. Mus. Leyd.

Inhabits India ; Java. Brit. Mus.

2. *Homalopsis australis*, n. s. Slate black, in spirits: under lip and beneath white; throat with 2 oblong black streaks, underside with 2 series of large, square, black spots, united by a rather broad, black, central streak: tail black beneath: anterior frontal small, triangular, hinder rhombic: vertebral moderate, ovate; occipital small, scale-like; loreal square.

Inhabits North Coast of New Holland; Port Essington, Mr. Gilbert.

** *The hinder scales of the lower series next the abdominal plates and on the side of the vent smooth, with a very strong elevated keel. Loreals 2: 1 or 2 rudimentary scales under the eyes: anterior frontal divided: loreals small: 1 rudimentary inferior ocular: 2 anterior frontals?*

3. *Homalopsis Hardwickii*. Olive, with black-edged, pale, narrow, often interrupted cross bands: head pale, with an anterior triangular spot, and a broad streak up the side of the face enclosing the eyes: chin and beneath yellow: sides black dotted: the 16 or 17 hinder scales of the lower series keeled, and marked with a brown ring near their tip on the front half of the disk, and the three scales on each side of the vent with a similar transverse ridge.

XVI. HELICOPS. Head ovate, indistinct, shielded: anterior frontal triangular, between the nasal plates; superciliaries small; occipital elongate; upper labial entire; loreal distinct: body fusiform; scales (19 rows) truncated, keeled: tail tapering. American.

* *Scales truncated and keeled on the ends.*

1. *Helicops carinacaudus*, Wagl. Amph. t. 7. *Col. æneus*, Lechst. MSS. *Pseuderyx*, Fitz. *Homalop. carinacauda*, Schlegel, Phy. Serp. 350, t. 13, fig. 18, 19.

Inhabits Central America. Mus. Leyden.

** *Scales sharply keeled, end truncated and nicked.*

2. *Helicops angulatus*, Wagler. *Col. angulatus*, Lin. *Homalopsis angulatus*, Boie. *Natrix aspera*, Wagler. *Col. Surinamensis*, Shaw.

Inhabits Brazils. Mus. Leyden.

XVII. DIMADES. Head indistinct; crown shielded; anterior frontal small; loreal none; vertical superciliaries and occipital plates large; mental small; upper labial plates entire, the third and fourth under the eye: body thick; scales keeled: tail conical. American.

* *Scales keeled, in 19 rows: anterior frontal plate transverse. Tail short.*

1. *Dimades plicatilis*. *Col. plicatilis*, Lin. *Homal. plicatilis*, Schlegel, Phy. Serp. t. 13, fig. 21, 23.

Var. *Col. serratus*, Merrem.

Inhabits Central America. Mus. Leyden.

** *Scales truncated and keeled at the end, in 19 rows: anterior frontal plate triangular, between the nasal. Tail long.*

2. *Dimades Leopardina*. *Homal. Leopardina*, Schlegel, 359.

Inhabits ———? Mus. Leyden.

The two latter genera are nearly allied to *Tropidonotus*; they are separated from it by the form of the nostril.

b. Scales smooth, rhombic, six-sided, with small irregular tubercles.

XVI. *HYPsirrhina*, Wagler. Head small, shielded; anterior frontals 3, transverse: vertebral and superciliary rather small; occipital moderate; loreal square; upper labial large, entire, hinder one sometimes double: body fusiform; scales smooth: tail conical.

† Eyes over the suture of the fourth and fifth labial shields.

* Scales in 19 rows. Tail short.

1. *Hypsirrhina plumbea*. *Homalopsis plumbea*, Kuhl, Schlegel, Phy. Ser. 347, t. 13, fig. 12, 13. Tail very short, thick: lead-coloured, beneath white, black-marbled. Var. with a black dorsal streak.

Inhabits Java. Mus. Leyden.

** Scales in 25 rows. Tail elongate.

2. *Hypsirrhina Aer*. *Homalopsis Aer*, Schlegel, Phys. Serp. 347, t. 13, fig. 10, 11: Erp. Java, tab. 41, ined. *Coluber Pythonissa*, Daud. *Hydrus Enhydrus*, Schn. *Enhydrus carulea*, Latr. from Russel, i. t. 30.

Inhabits India and Java. Mus. Leyden and Paris.

†† Eye over the fourth labial shield.

3. *Hypsirrhina trilineata*. Lead-coloured, beneath grey, minutely dotted: belly-shields with 3 longitudinal black streaks: head large, elongate; tail blackish, with a series of white spots on each side, beneath: subcaudal plates forming 3 narrow lines, black-edged: scales in 23 series: larger scales (nearly dry) covered with small irregular blister-like convexities. Body 25, tail 6 inches.

Inhabits India. Brit. Mus.

4. *Hypsirrhina bilineata*. Lead-coloured, beneath white; sides greyish white, with a black streak formed by the outer edge of the ventral shields: head small: tail elongate, lead-coloured, with 2 obscure pale streaks above, white beneath, with 3 black lines formed by the edge of the shields: scales in 21 rows. Body 18, tail 4½ inches.

Inhabits China.

Like the former, but the head is smaller, and there is a black line on the belly.

5. *Hypsirrhina Chinensis*. Lead-coloured, with a rather broad (2 scales wide) white streak along the lower part of each side, just above the last series of scales: ventral shields lead-coloured, with a whitish hinder edge: scales in 23 series: tail short, compressed, whitish, clouded beneath. Body 13½, tail 3 inches.

Inhabits China; J. R. Reeves, Esq. Brit. Mus.

6. *Hypsirrhina furcata*. Above pale brown, with 2 pale streaks: head with 2 white streaks united over the nose; lips, side and beneath white, with a narrow brown line on the edge of the abdominal shields: tail beneath white, with 3 narrow brown lines.—180 + 51.

Inhabits ———? Brit. Mus. Young.

One specimen has the hinder ocular scales on one side united into one.

7. *Hypsirrhina Hardwickii*, Gray, Illust. Ind. Zool. t. *Homal. plum-*

bea, var.? Schlegel, 347. Lead-coloured, back with 3 rows of small scattered black spots; the 2 last series of scales on each side white, lead-coloured at the base: scales in 19 rows, minutely punctate, rather pale edged: tail short, tapering: subcaudal plates whitish, blackish edged, forming a central streak: ventral shields whitish, lead-coloured at the base. Body $14\frac{1}{2}$, tail $2\frac{1}{2}$ inches.

Inhabits Penang; Gen. Hardwicke. Brit. Mus.

8. *Hypsirhina Bennettii*. Above blackish grey, with a broad and 3 narrow black streaks on the nape; back with 3 series of irregular blackish spots; sides (4 scales high) and beneath white; front and side edge of abdominal and subcaudal shields black, varied with a spot in the centre of the front margin of the former; scales in 20 rows: tail compressed (injured).

Inhabits China; G. Bennett, Esq. Brit. Mus.

The specimen has a large vesicular cavity formed by the skin on the right side of the neck, which appears to communicate with the lungs.

9. *Hypsirhina Maura*. Black brown, polished, with a few irregular dark spots, rather paler beneath: scales of the front part of the sides very minutely pale speckled: front upper labial small, triangular, second equal, third larger, oblique, fourth smaller; the anterior frontal divided into 2: scales in 16 or 17 series: tail short, slender.

Inhabits Africa; Gold Coast, Mr. Bowditch. Brit. Mus.

XVII. FERANIA. Like *Hypsirhina*, but with the anterior frontal double: hinder upper labial divided: body compressed, back keeled; tail conical: eye over the fourth labial.

1. *Ferania Sieboldii*. *Homalopsis Sieboldii*, Schlegel, Phy. Serp. 350, t. 13, fig. 4, 8; Seba, ii. t. 46, fig. 2. Scales in 29 rows.

Inhabits Bengal. Mus. Leyden. The division of the frontal may be only an individual variety.

XVIII. RACLITIA. Body cylindrical; scales smooth; vertebral shield rather narrow: head small, shielded; anterior frontal shields small, triangular; vertebral and superciliary small, broad; 1 loreal; 1 small anterior and 1 oblong posterior ocular: eyes small, over fourth shield: tail short, conical: nostril in middle of shield, with a groove to the hinder edge.

1. *Raclitia Indica*.

Inhabits India; Gen. Hardwicke. Brit. Mus.

XIX. HIGINA. Body cylindrical; scales smooth: ventral shield rather narrow: head small, shielded; 1 anterior large, 2 posterior smaller ocular shields, lower hinder sub-inferior; loreal shield none: eyes small: anterior frontals 3, front pair united, transverse, triangular.

1. *Higina fasciata*. Blackish brown, with subalternating white cross bands on the sides and beneath.

Inhabits Demerara. Brit. Mus. Very like the last, in habit and colour.

XX. FORDONIA. Head dilated behind, shielded; frontal plates 3, anterior elongate, between the nasal; vertebral and occipital small; superciliary very small; loreal none; upper labial plates very large, few, simple; eyes small, over the third labial: body compressed; tail short.

1. *Fordonia leucobalia*. *Homalopsis leucobalia*, Schlegel, 345, t. 18, fig. 8, 9. Scales in 25 rows.

Inhabits New Guinea. Mus. Leyden.

XXI. *HYDROPS*. Head small, shielded; frontal plates 3, small, anterior frontal transverse; vertebral and occipital moderate; superciliary small; loreal none; 1 anterior and 2 posterior oculars; upper labial plates all simple: body slender, cylindrical; tail elongate.

* Scales in 15 rows.

1. *Hydops Martii*, Wagler. *Homalopsis Martii*, Schlegel, 356, t. 13, fig. 19, 20. *Elaps Martii*, and *E. triangularis*, Wagler, Inhabits Central America. Mus. Leyden.

** Scales in 19-21 rows.

2. *Hydops Reinwardtii*. *Homalopsis Reinwardtii*, Schlegel. Inhabits ———? Mus. Leyden.

XXII. *MIRALIA*. Head small, shielded; anterior frontals 2, small, triangular? loreal ? 1 anterior 2 posterior oculars; occipital plates large; temples shielded: body slender, compressed: tail short, thick, conical.

1. *Miralia alternans*. *Brachyorros alternans*, Reus. Mus. Senk. t. 9, fig. 3. *Homalopsis decussata*, Schlegel, Phy. Serp. t. 13, fig. 14, 16. Inhabits Java. Mus. Leyden and France.

XXIII. *FARANCIA*. Anterior frontals united into a triangular transverse plate; posterior frontal broad, bent down on the sides: vertebral plates broad, six-sided; superciliary narrow in front; occipitals elongate; nostrils sublateral, small, in the middle of a 4-sided plate, with a line to the lower edge; 1 oblong 4-sided anterior, 2 posterior oculars, the lower smallest: body fusiform; scales smooth: ventral shields rather narrow, rounded: tail conical; sub-caudal plates 2-rowed.

1. *Farancia Drummondii*. Black: lower sides with alternating black and white bands meeting in the centre: upper lip and chin white with black spots; under part of tail with black cross bands.

Inhabits California. Brit. Mus. Mr. Drummond.

Intermediate between *Hydridae* and *Elapsina* of *Cobulridæ*.

*Monographic Synopsis of the Vipers, or the Family
VIPERIDÆ.* By J. E. GRAY, F.R.S.

The family contains 8 genera and 21 species, of which 2 genera and 3 species are from Asia, 4 genera and 12 species from Africa, 2 genera and 4 species in Europe, and 1 genus and 1 species from Australia. All the genera are confined to a single quarter of the globe, except *Echis*, which has 1 species from Africa and the other from India. Schlegel described only 10 species; but then he refers, without consideration, some of the species which have not come under his examination to the more common species. The British Museum collection contains all but four of the species here described.

Fam. III.—VIPERIDÆ. Face without any suborbital pit on the side : upper jaws toothless, with fangs in front : rostral shields broad, band-like.

1. *Head depressed, covered with acutely keeled scales, rounded on the sides.*

a. *Nostrils large, subsuperior, anterior, in the centre of a ring-like shield, edged with a large scale above.* Clothonina.

I. DABOIA. Eyes convex, pupil round : head elongate ; scales regularly keeled ; nasal shield smooth in front. India.

1. *Daboia elegans.* *Viperu Daboia*, Daud. *V. elegans*, Merrem, Schlegel, 588, t. 21, fig. 4, 5. *Col. Russelii*, Shaw &c. Russel, Ind. Serp. t. 7. *Col. trinoculus*, Schneid.

Inhabits India. Brit. Mus.

2. *Daboia Russelii*, n. s. Russel, Ind. Serp. t. 32.

Inhabits India. Brit. Mus.

3. *Daboia pulchella*, Gray. Yellow brown ; back with 3 rows of roundish spots, pale spotted on the edge, the front and hinder spots elongate, sometimes confluent : head black brown, with a line over each eye, a broad cross-like mark on the crown and a spot before each eye : chin and beneath white, brown spotted.

Inhabits Ceylon. United Service Museum.

II. CLOTHO, Wagler, (part). Eyes convex, pupil oblong, erect : head short, broad : keel of scales ending in a spine : nasal shield interrupted by a small shield in front. Africa.

* *Scales over the nostril produced into a long recurved spine.*

1. *Clotho nasicornis.* *Coluber nasicornis*, Shaw, Misc. t. 94.

Inhabits Guinea. Brit. Mus. Two specimens.

Schlegel (583, note), with his usual facility of giving an opinion on a specimen which he had not seen, thought this might be a monstrosity of *Cerastes cornuta*, but it has no affinity with that genus even.

** *Scales over the nostril simple, ring-like.* (Bitis).

2. *Clotho arietans.* *Echidna arietans*, Merrem. *Col. Bitis*, Bonat. *Vipera inflata*, Burchel. *V. brachyura*, Cuv. Wagler, Amp. t. 11. *V. arietans*, Schlegel, 577, t. 21, fig. 2, 3. *Cobra Clotho* & *Cobra Lachesis*, Laur. Seba, ii. t. 30, fig. 1, t. 54, fig. 1.

Inhabits Africa ; Cape of Good Hope : called "*Pof-adder*." Brit. Mus.

3. *Clotho lateristriga.* Grey brown, black spotted, with black-edged, white, angular bands across the back, and spots on the tail, with a broad, longitudinal pale streak on each side the neck, bent up behind, and forming the first band on the front of the back : head black spotted, 2 black spots on the crown and a black streak from the back angle of each eye to the gape.

Inhabits Gambia. Brit. Mus.

4. *Clotho Atropos.* *Col. Atropos*, Merrem. *Vipera montana*, A. Smith. *V. Atropos*, Schlegel, 581, t. 21, fig. 6, 7.

Inhabits Cape of Good Hope, in the mountains : called "*Berg-adder*." Brit. Mus.

5. *Clotho* ^P *inornata*. *Vipera inornata*, A. Smith. *Echidna inornata*, A. Smith, Illust. Zool. S. Africa, Rept. t. 4.
Inhabits South Africa.

6. *Clotho* ^P *atropoides*. *Vipera atropoides*, A. Smith. *Echidna atropoides*, A. Smith.
Inhabits South Africa.

b. *Nostrils small, anterior sublateral*. Cerastina.

III. CERASTES. Subcaudal plates 2-rowed: nostrils lunate, in the hinder part of a small nasal plate: eyes of males horned.

* *With a horn-like scale over the eyes*.

1. *Cerastes Hasselquistii*. *Vipera Cerastes*, Hasselquist.—Geoff. Rept. Egypt, t. 6, fig. 3, not good. Schlegel, 585, t. 21, fig. 12, 13.
♀ not horned, *Aspis Cleopatra*, Laur.
Inhabits Egypt. Brit. Mus.

2. *Cerastes Richiei*. Uniform pale brown: scales of head largest: cheek with only 3 rows of scales between the eyes and the labial shields; first lower labial shield long, the second and third scarcely higher than long, the rest rather longer than high.
Inhabits Tripoli, J. Richie, Esq. Brit. Mus.
More rugose than *C. Hasselquistii*.

3. *Cerastes caudalis*, A. Smith, Illust. Zool. S. Africa, Rept. t. 7. *Vipera ocellata*, A. Smith, Mag. Nat. Hist. (1838), ii. 92. The scales under the tail broad, rhombic, somewhat like the dorsal ones.
Inhabits South Africa, Dr. Andrew Smith.

** *With a group of small horn-like scales over the eyes*.

4. *Cerastes cornuta*. *Vipera cornuta*, Daud. v. 188; Schlegel, 582, t. 21, fig. 8, 9. *V. Lophophrys*, Cuv. Paterson, Voy. t. 15. *V. armata*, Smith.
Inhabits Cape of Good Hope. Brit. Mus.

IV. ECHIS. Subcaudal plates 1-rowed: nostrils minute, in suture of 2 small scales: the anterior frontal shields minute, smooth: pupil round.

1. *Echis arenicola*, Boie. *Vipera pyramidarum*, Geoff. Rept. Egypt. t. 7, fig. 1; Savigny, R. E. t. 4, fig. 1—4. *Vipera Ægyptiaca*, Ruppell. *Echis pavo* and *Echis varia*, Reuss.
Inhabits Egypt. Brit. Mus.

2. *Echis carinata*, Merrem. *Boa Horatta*, Shaw, from Russel, ii. t. 2. *Scytale bizonatus*, Daud.
Inhabits India. Brit. Mus.

Echis Krait, Merrem, from *Boa Krait*, Williams, Asiatic Researches, ii. 328. Perhaps the same as the last.

II. *Head more or less shielded*. *Nostrils anterior*. *Subcaudal plates 2-rowed*.

a. *Head flat-topped, high on the sides, shielded in front*. *Nostrils in the middle of a shield*. *Tail end simple: subcaudal plates 2-rowed*. *Viperina*.

V. VIPERA. Superciliary shields distinct, rest of the head covered with small smooth plates: nose more or less recurved.

* *Nose rather elevated and rounded in front.*

1. *Vipera aspis*. *V. Berus*, Schlegel, 591, t. 21, fig. 17, 18. *C. aspis*, Linn. *Vipera Redi* and *V. ocellata*, Daud. *C. Berus*, Daud.
Inhabits Europe. Brit. Mus.

** *Nose, end produced into a conical horn, covered with small flat shields.*

2. *Vipera Ammodytes*, Schlegel, 602, t. 21, fig. 19, 20. *Coluber Ammodytes*, Linn. Amœn. Acad. i. t. 12, fig. 2; Sturm, Fauna, Deut. t.
Inhabits Europe; shores of Mediterranean. Brit. Mus.

VI. PELIAS. Vertebral, occipital and superciliary plates distinct; front of head with small shields: nose blunt.

1. *Pelias Berus*. *Vipera Berus*, Daud.; Schlegel, 599, t. 21, fig. 17, 18. *Col. Chersea*, Linn.; Sturm, Fauna, t. The head-shield and colour very variable.

Inhabits Europe; Britain. Brit. Mus.

2. *Pelias dorsalis*. Lead-coloured (discoloured?); crown blackish, with a diverging streak from each occipital plate, a narrow streak over the temple, and a broad, black, even-edged vertebral streak: loreal plates 3.

Inhabits ——— ? Brit. Mus.

b. *Head ovate, rounded on the sides, crown entirely shielded. Nostrils between 2 plates. Tail end simple, subcaudal plates 2-rowed. Sepedonina.*

VII. SEPEDON. Scales keeled: loreal shields none; 1 anterior and 3 posterior ocular shields: subcaudal shields 2-rowed. Allied to *Naja*.

1. *Sepedon Hamachates*, Merrem. *Vipera Hamachate*, Daud. from *Hæmachate*, Lacép., ii. t. 3, fig. 2; Seba, ii. t. 58, fig. 1, 3.

Inhabits Cape of Good Hope. Brit. Mus.

Cuvier refers *Col. V-nigrum*, Scheuchz. t. 717, fig. 1 to this genus.

c. *Head depressed, shielded, prominent over the eyes. Nostrils between 2 shields. Tail ending in a recurved spine; subcaudal plates 1-rowed. Acanthopina.*

VIII. ACANTHOPIS. Head-shield rather scale-like; loreal shields none; eyes surrounded beneath with a series of shields; labial shields large; scales smooth; anterior dorsal keeled.

1. *Acanthopis antarctica*. *Boa antarctica*, Shaw, Misc. t. 35. *Acanthopis Brownii*, Leach, Zool. Misc. i. t. 35. Variable in colour.

Inhabits New Holland; called "*Death Viper*." Brit. Mus.

Descriptions of two hitherto unrecorded species of Reptiles from New Zealand; presented to the British Museum by Dr. Dieffenbach. By J. E. GRAY.

HATTERIA. Fam. *Agamidæ*. Head quadrangular, covered with small scales; throat with a cross fold; nape and back with a crest of compressed spines: body covered with small scales; belly and under side of the tail with large, squarish, keelless, flat scales, placed in cross series: tail compressed, triangular, covered with small scales, and with a ridge of large compressed spines: legs strong; toes 5.5, short, strong, cylindrical, slightly webbed at the base, covered above and below with small scales; claws short, blunt: femoral pores none: preanal scales small, a few of them are pierced in the centre.

Hatteria punctata, n. s. Olive; sides and limbs with minute white specks, beneath yellowish: the spines of the nuchal and dorsal crests yellow, of the caudal brown; the scales of the back, head, tail and limbs small, granular, nearly uniform; the irregular folds in the skin are fringed at the top with a series of rather large scales; an oblique ridge of larger scales on each side of the base of the tail, and a few shorter longitudinal ridges of rather smaller ones on each side of the upper part of the tail.

Inhabits New Zealand.

Dr. Dieffenbach observes that the species "lives in holes, especially on the slopes of the sand hills of the shore. The older missionaries say it was formerly very common, and the natives lived upon it, but for the last fifty years it has been scarcely ever seen. This specimen was found on a small rocky island, two miles from the coast, in the Bay of Plenty, and was given to Dr. Dieffenbach alive, but shortly died, as it would not eat anything that was offered to it. It is extremely sluggish in captivity, and could be handled without any attempt at resistance or biting." The natives called it "*Tuatera*."

NAULTINUS, Gray, Brit. Mus. Fam. *Geckotidæ*. Toes 5.5, free, base dilated, thick, rather dilated, last joint elongated, thick, compressed, free, clawed, all with entire cross scales beneath; thumbs similar, but the base is shorter, and femoral pore none: scales small, granular, subequal above and below: tail tapering, round, with scales like the body.

This genus is most nearly allied to *Gehyra*, Gray, but differs from it in the end of the toes not being compressed. There is a second species in the Museum collection — *N. Pacifica*.

1. *Naultinus elegans*, Gray, n. s. Thumbs clawed: green, rather paler beneath; streak along the under lip, the ears, two arched stripes on the top of the head, irregular shaped spots on each side of the back and hind legs, interrupted streak along each side of the body and tail, white, with a narrow black edge, with a cross series of 3 compressed larger scales at the base of the tail.

Inhabits New Zealand; Auckland. Mus. Brit. and Zool. Soc.

Hollow trees, and runs about between the ferns. Called "*Kakariki*."

Three hitherto unrecorded Species of Fresh-water Fish, brought from New Zealand and presented to the British Museum by Dr. Dieffenbach. By J. E. GRAY, F.R.S.

1. *Galaxias fasciatus*. The body brown, with nearly regular narrow cross band on each side.

Inhabits New Zealand; River Thames.

This species resembles, in its form and proportions, *Esox alepidotus*, Forster, Icon, ined., Brit. Mus., No. but that figure represents his species as olive green, the back, head, bases of the dorsal fins and the side of the body, marked with unequal, moderate sized, irregular shaped, yellow spots; some of the spots are lunate, and one on each side, over the pectoral fin is ring-shaped, with a central eye: while all the specimens brought home by Dr. Dieffenbach, both the adult and young, are marked with similar cross bands.

2. *Anguilla Dieffenbachii*. Upper jaw shortest: teeth small, in several series, velvet-like: head short, conical; upper jaw rather the shortest: brown, in spirits, with small, differently placed, short, black lines: face with 3 pores on each side, just above the upper lip; and 4 pores in a short arched line, just above the tubular nostrils; chin with a series of 7 pores on each side, near the edge, becoming wider apart behind: lateral line formed of rather distant tubular pores, the line is slightly bent upon the pectoral; the dorsal commencing a little distance before the vent. Length 15; head to pectoral, $1\frac{3}{4}$; length of dorsal, 10; of anal $8\frac{3}{4}$ inches.

Inhabits New Zealand; River Thames.

3. *Eleotris basalis*. Brown, in spirits, minutely darker speckled: fins darker, blackish; the pectoral fin with a broad yellow basal band; head blackish: tail rounded; first dorsal 7, hinder 10 rayed; ventral 5 rayed.

Inhabits New Zealand; River Thames.

Characters of undescribed Lepidoptera.

By EDWARD DOUBLEDAY.

Papilio Ganesa. Above:—All the wings black, irrorated with golden-green atoms: anterior wings, with the termination of the radial and of the first branches of the median nervures, clothed with a cottony down: cilia white: posterior wings glossed anteriorly with blue; this portion irrorated with blue atoms: near the external angle is a large brilliant blue patch, slightly sinuated anteriorly, deeply so posteriorly, not connected by any sinuous line with the abdominal margin: near the margin is a series of from three to five red lunules, the one at the anal angle divided by, the others margined with, a slender light blue line; indentations margined with white: tail broad, spatulate, irrorated with green along the nervure. Below:—Anterior wings black at the base, whitish beyond the discoidal cell; the nervures, eight longitudinal striæ between the nervures, and the margin itself, fuscous: posterior wings black, more intense than above, ir-

rorated over the basal half, and sometimes beyond, with whitish atoms: near the margin is a series of six red lunules, each divided longitudinally by a slender light blue line; indentations margined with white, a little fulvous at the base: anal angle with an imperfect ocellus, of which the pupil is black, the iris red, marked with a blue crescent.

Head, thorax and abdomen black, irrorated with golden green. (Exp. alar. 5 unc.)

Inhabits Nepal, Assam. Museo Britannico.

Closely allied to *P. Paris*, but differs in the form of the large blue patch, which is sinuated, not rounded anteriorly, and is not connected with the anal angle by a sinuous line. It also differs in the cottony clothing of the terminations of the posterior nervures of the anterior wings, in which it resembles *P. Bianor* and *Polyctor*.

Papilio Polyuctes, ♂. Above:—Anterior wings black, deepest at base, striated in the discoidal cell and between the terminations of the nervures: posterior wings very much elongate, deeply dentate, with a rather short spatulate tail: between the two posterior branches of the subcostal nervure, and close to the discoidal cell, is a large nearly quadrate white spot; at the anal angle is a broad sigmoid spot, crimson where it touches the margin, dusky red internally; a second spot of a dusky red is placed at the termination of the tooth, between the tail and the anal angle: preceding this, and nearly in front of the tail, is an oval spot, and near the outer margin, opposite the tooth preceding the tail, a larger quadrate one, both of the same dusky red: tail marked at the apex with a rounded crimson spot, slightly shaded with fuscous, and divided by the nervure. Below:—Anterior wings rather paler than above; striæ more distinct: posterior wings nearly as above, the red markings much brighter, the white patch preceded by a small rounded dot of the same colour, and followed by a white dash margined with pink: on the abdominal margin, above the sigmoid spot, is a narrow irregular bifid crimson spot.

Head crimson: thorax and abdomen very hairy, black above, crimson below, the former marked anteriorly above with crimson, the latter with the incisions below, black: legs black. (Exp. alar. 4 unc. 9 lin.)

Inhabits Silhet. Museo H. Doubleday.

Closely allied to *P. Philoxenus*, Gray, but has the posterior wings much more elongate, their length without the tail being two inches, their breadth not averaging three-fourths of an inch. The abdominal fold of the male (the only sex I know) is broad and abruptly truncate, whereas in *P. Philoxenus* it is obliquely so. I may here mention that in the British Museum there are both sexes of *P. Minereus* and *Philoxenus*, and that no one who has ever seen them can doubt their distinctness.

Papilio Xenocles. Above:—Anterior wings fuscous, with greenish-white markings, viz. in the discoidal cell four long oblique dashes, of which the second and third are confluent near the subcostal nervure, and the third and fourth have between them externally an irregular dot; below the discoidal cell five broad dashes, the first close to the inner margin pointed at its termination, divided at its origin by the short branch of the radial nervure, the second bifid nearly to its base, the third and fourth resting at their origin like the preceding on the discoidal cell, the fifth short, preceded by small, somewhat oval spots: beyond the discoidal cell are two round spots, each followed by and united to a long dash, above which are three

dots, the first rounded, the second and third elongate; along the outer margin a series of nine rounded dots; costa powdered with whitish: posterior wings greenish-white, with the nervures and outer margin fuscous, the latter with a row of pale markings, of which those near the anal angle are lunulate: anal angle with a square orange spot: abdominal margin fringed with brownish hairs. Below:—All the wings marked as above, but the fuscous colour replaced by brown, with lighter reflections; the indentations of the posterior wings distinctly margined with white.

Head black above, with two white spots between the eyes: thorax black, with the side whitish: abdomen black, with a broad black line along the back. (Exp. alar. 3 unc. 6 lin.)

Inhabits Silhet. Museo H. Doubleday.

Very near *P. Laodocus*, De Haan, but quite distinct.

From an examination of Jones's Drawings I have convinced myself that *P. Astyanax*, Fab., *Anthæus*, F., and *Orestes*, F., are identical respectively with *P. Mutius*, F., *Agapenor*, F., and *Nomius*, Esp., the distinction consisting solely in the absence of tails, which probably had been broken off in the specimens described by Fabricius; that *P. Idæus*, Fab. is merely a variety of *P. Evander*, Godt., having a dirty white patch at the extremity of the discoidal cell in lieu of the ashy band of the typical specimens; and that *P. Hippocoon*, Fab., is the same as *P. Westermanni*, Bois. *P. Ajax*, Fab., appears to be the *P. Marcellus* of Boisduval. Of *P. Thersander*, Fab., there is a beautiful specimen in the British Museum, which was presented by the Rev. D. F. Morgan: it is nearly allied to *P. Menestheus*, Fab.

Leptalis Atthis. Anterior wings falcate; posterior elongate, slightly angular. Above:—Anterior wings black; the inner margin broadly and irregularly white or pale yellow; a row of three small dots near the apex, commencing on the costa and directed towards the outer margin; a large blotch on the costa extending beyond the discoidal cell, deeply sinuated interiorly, and followed by a round dot, all white or pale yellow: posterior wings whitish or pale yellow, bordered externally with fuscous, the fuscous colour not reaching the anal angle; the margin itself yellow. Below:—Anterior wings nearly as above; the apex and outer margin pearly white, tinged on the extreme margin with ferruginous; costa pearly at the origin of the pale blotch: posterior wings pearly white, sprinkled with fuscous clouds, forming three or more indistinct transverse bands: margin slightly marked with brown; cilia ochraceous.

Thorax and abdomen above, fuscous; below, whitish or pale yellow. (Exp. alar. 2 unc. 6 lin.)

Inhabits Mexico. Museo H. Doubleday.

Allied to *Papilio Crisia*, Drury (*Leptalis Crisia*, Bois.), but the anterior wings are much more pointed, and there is considerable difference in the markings.

Leptalis Cydno. Above:—All the wings cretaceous white, slightly tinged with greenish: the apex of the anterior wings fuscous, which colour extends narrowly along the outer margin beyond the middle: costa itself black: posterior wings and anal angle of superior tinged with yellowish along the cilia. Below:—Anterior wings cretaceous, with the costa and outer margin, except towards the anal angle, broadly pale ochraceous: posterior wings pale ochraceous, palest along the abdominal margin, with a minute fuscous spot at the extremity of the discoidal cellule, formed by a few scattered fuscous scales.

Head fuscous: thorax and abdomen white: legs varied with fuscous and white. (Exp. alar. 1 unc. 6 lin.)

Inhabits ———? Museo Britannico.

Pieris Thestylis. Anterior wings elongate, triangular; the costa finely toothed. Above:—Anterior wings white; the costa, apex beyond the discoidal cell, and outer margin, black, the black sometimes nearly vanishing before the posterior angle: between the discoidal cell and the apex are five white dashes, of which the one nearest the apex is shortest, the others are slightly interrupted near their middle: below the third branch of the median nervure is a rounded white dot: in some specimens the black margin nearly vanishes after the second branch of this nervure, but in others (♀) it extends to the inner margin, and is marked between the nervures by two white spots: posterior wings white, slightly margined with black, broadest near the external angle, where it is marked with a white dot: on some individuals the black follows the course of the nervures so as to form a series of triangles along the margin, and the markings of the under surface are slightly visible above. Below:—Anterior wings black, glossed at the apex with greenish or violet: discoidal cell with two short white dashes near the base, and four white spots at its extremity: at the apex are three yellow dashes, of which the first and third are each connected with a white dot shaded with yellow: these are followed by four marginal spots, of which the first is yellow, the second partly yellow partly white, and the others white, all preceded by white blotches, of which the one preceding the fourth spot is very large: the inner margin, as far as the first branch of the median nervure, is white sprinkled with black along the radial nervure, and sometimes the black occupies the whole outer angle, which is marked by a large white spot: posterior wings black; costa at the base, a large blotch occupying nearly the whole of the discoidal cell, a spot above it, a macular band beyond it, and a marginal row of rounded dots, bright yellow. (Exp. alar. 3 unc. 6 lin. 4 unc.)

Inhabits Silhet.

Allied to *P. Belladonna*, Fab. (*P. Horsfieldii*, Gray), which it much resembles on the under surface.

Pieris Lalage. Above:—Anterior wings falcate, black, irrorated with yellowish at the base, especially along the median nervure, a large patch below the discoidal cell, a curved oblique fascia beyond it, three round dots on the outer margin, and a slender line on the inner margin near the anal angle, yellowish white: posterior wings whitish, tinged with yellow at the base, irrorated with fuscous along the abdominal margin, exteriorly with a broad fuscous margin, sinuated internally, marked with two or more white spots and some slight whitish clouds; cilia yellow. Below:—Anterior wings more distinctly yellow at the base, the yellow extending along the subcostal and median nervures nearly to the end of the discoidal cell: apex tinged with pearly white, outer margin with yellow: posterior wings pearly, with slight purplish clouds, those beyond the middle forming an indistinct waved band: nervures and cilia yellowish, the latter dotted with black; a small black dot on the nervure which closes the discoidal cell. (Exp. alar. 3 unc. 2—4 lin.)

Inhabits Silhet. Museo H. Doubleday.

The falcate wings readily distinguish this species from most of the genus. It probably belongs to the same group as *P. Paulina*.

Pieris Ianthe. Above:—Wings bright yellow; the anterior with the costa narrowly margined with black; outer margin with a moderately broad black border, slightly sinuated internally, tapering to a point just before the anal angle, which is marked with a round black dot; along the nervures near the apex are a few yellow scales: posterior wings with five moderately large black dots on the margin, and a small one at the anal angle. Below:—All the wings bright yellow; the anterior with the costa narrowly black; the border in form as above, brown, marked near the apex with an irregular yellow dot: posterior with the costa tinged with orange at the base; the marginal dots, and a series of seven smaller ones a little before the margin, brown.

Head, thorax and abdomen yellowish. (Exp. alar. $2\frac{1}{2}$ unc.)

Inhabits Sierra Leone. Dom. Morgan.

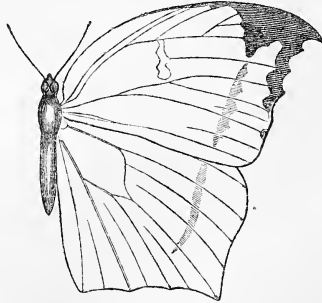
Near to *P. Hectyle*, Cramer.

Pieris Anactorie. Above:—All the wings dull white; anterior with the apex, an abbreviate fascia on the costa beyond the middle, a round dot below it, and a series of round dots on the outer margin, fuscous: posterior wings with a minute fuscous spot at the termination of each nervure; costa and apex slightly fuscous. Below:—Anterior wings whitish, tinged along the costa and outer margin with yellowish: the fascia of the upper surface replaced by three approximating dots, the dot below it as on the upper surface; the outer margin with a minute black dot at the termination of each nervure: posterior wings pale ochraceous, sprinkled especially along the nervures and posterior margin with numerous fuscous atoms, forming little clouds; a spot at the extremity of the discoidal cell, a series of dots beyond it between the nervures, and a minute dot at the termination of each nervure, fuscous. (Exp. alar. 1 unc. 9 lin.)

Inhabits South Africa. Museo Britannico.

Allied to *Anthocaris*. The specimen in the cabinet of the British Museum was taken in the interior of South Africa, by Dr. A. Smith.

Rhodocera Lycorius. Male with the anterior wings angular, posterior rounded. Above:—Bright yellow inclining to orange at the apex of the anterior wings, which is marked with a black spot, broadest on the costa, angular internally, followed by two minute black spots on the outer margin, and preceded by three similar spots on the costa: posterior wings with a very minute black spot at the termination of each nervure, visible below also. Below:—Bright yellow; the apex narrowly rufous; the costa marked with three brown dots; near the apex is a silvery spot margined with rufous, from which proceeds a narrow rufous band, continued as far as the second branch of the median nervure of the posterior wings: base of all the wings sprinkled with numerous reddish dots, some of these pupilled with whitish; a geminate silvery white spot at the extremity of the discoidal cell in all the wings, above which on the posterior is a small fuscous dot.



Antennæ above black, below banded with white: palpi above reddish, below yellowish: abdomen yellowish.

Female with the anterior wings more angular, produced at the apex into a falciform point, sinuated externally: posterior wings strongly angular, produced into a short tail, as in *Gon. Rhamni*, &c. Above:—The apical mark of the anterior wings much more distinct than in the male, and much more angulated internally. Below:—The apical mark brown towards the costa, where it is marked with a silvery cloud, rufous along the outer margin: base of the wings immaculate; the geminate spots larger than in the male; the round spot above the discoidal cell of the posterior wings replaced by a short faint fascia; the transverse fascia very distinct; two small approximating dots near the abdominal margin: terminations of the nervures all marked with a small black dot, those on the anterior margin of the posterior wings largest. (Exp. alar. 2 unc. 3—8 lin.)

Inhabits Silliet.

Description of an Orthopterous Insect, and two New Species of Crustacea, from New Zealand: in the collection of the British Museum. By ADAM WHITE.

DEINACRIDA heteracantha, n. s. (*ANOSTOSTOMA*, G. R. Gray?) Hind legs nearly twice the length of the insect; tibiæ quadrangular, broadest behind, the edges armed with spines coming out alternately; spines very strong and sharp: *body brown, beneath yellow*: head punctured on the vertex: antennæ at least $2\frac{1}{2}$ times the length of the insect: thorax punctured, with some small smoothish spaces in the middle; the lateral margins somewhat thickened: the head is not nearly so broad nor so large as in *Anostostoma*; the mandibles much shorter; the labial palpi have the terminal joint swollen at the end, when dry it is slightly compressed from shrinking; the maxillary palpi are very long; the three last joints cylindrical, the last longest, gradually clubbed at the end.

Inhabits New Zealand; Dr. Dieffenbach.

The length of the only specimen I have seen, measuring from the forehead to the end of the abdomen exclusive of appendages, is $2\frac{1}{4}$ inches. The specimen may be in the larva state. The presternum, as in *Anostostoma*, with two spines, approximating in the middle; meso- and metasternum deeply grooved behind, with a strong tooth on the sides behind.

Grapsus strigilatus, n. sp. Carapace with the front part depressed, horizontal, and occupying more than half its breadth in front, measuring from spine to spine; lateral margins in front with three teeth; many striæ on the sides: hands large, swollen; sides very smooth; upper edge with a few wart-like excrescences. Colour:—Sides of carapace red, slightly mottled with yellow; in front and on the back black, with large yellow marks; legs reddish, tinged with blue.

Inhabits New Zealand; Dr. Dieffenbach.

A species in form &c. agreeing with *G. varius*.

PARANEPHROPS, subg. nov. The eyes large, as in *Nephrops*: the sides of the second thoracic segment, in the middle in front, with a spine, as in *Potamobius*,* and a shorter one beneath it: the lamellar appendage of the outer antennæ extends considerably beyond the thickened basal joints of these antennæ, and on the inside is nearly straight, and margined with longish hairs: the first two joints of the outer "foot-jaws" are spined within: the sides of the abdominal segments are not nearly so acutely angulated as in *Nephrops*: the middle plate of the tail is of one piece, as in *Nephrops*, and has the spine removed further back from the much rounded extremity: the first pair of legs is rather more slender than in *Nephrops*; the claws inside are nearly straight, and furnished with moderately sized teeth; the hands are but slightly grooved, and have a few rows of spines, largest on the inside: the second pair of legs is the shortest of the four hind pair, (while in *Nephrops* the fifth are so), the second are the longest, the fourth and fifth being nearly equal in length.

This species, from the River Thames in New Zealand, connects the two genera *Potamobius* and *Nephrops*, in having the habit of the former, and combining the characters of both.

Paranephrops planifrons, n. sp. The carapace is almost cylindrical; the beak reaches beyond the pedicel of the inner pair of antennæ, is straight, broad, flattened, and somewhat hollowed out above; the sides have three teeth; at the base, to the side, are two teeth, one placed before the other; at the base of the beak, in the middle, there is a slight longitudinal abbreviated ridge; the sides of the carapace, outside the outer jaw-feet, have many short bent spines: the abdominal segments are smooth above: the caudal appendages are finely striated at the end, and tinged with pinkish red: the thorax covered with minute hairs: the abdomen is of a yellowish, somewhat mottled colour; each segment behind with a very narrow edge of pink. Length of largest specimen, 3 inches 8 lines, from the end of the tail to the end of the beak: length of smallest, 2 inches 8 lines.

Inhabits River Thames, New Zealand; Dr. Dieffenbach.

Synoptical Descriptions of Hemipterous Insects from the Philippine Islands: in the collection of the British Museum. By ADAM WHITE.

1. *Callidea sellata*, n. s. Head, thorax above and below, and broad band across the scutellum, of a deep blackish-blue violet: band across the base of scutellum, and end of scutellum, of an orange yellow: abdomen beneath of an orange yellow; base with a deep violet band, and a spot near the tip of body, of a deep black: hemelytra, with the coriaceous part, of a deep violet: scutellum at the base with a deep impressed line, including a transverse elevated portion. Length, 8 lines.

* *Astacus*, Fabr. — Edwards, Hist. Nat. des Crust. ii. p. 329.

2. *Callidea sellata*, (var. *chromatica*). Head and thorax, above and below, of a dark metallic blue, in some places with a greenish hue: scutellum of a deep amber yellow, palest at the base; before the middle there is a black somewhat roundish spot on each side: the scutellum has a deeply impressed line, including a transverse portion of the base, which is raised above the rest of the scutellum: abdomen beneath yellow, of a lighter hue than scutellum: antennæ black: legs and femora deep metallic green: tibiæ deep blue. Length, 9 lines.

3. *Callidea speciosa*, n. s. Head violet: thorax in front violet; a spot in the middle black, surrounded by green; behind of a deep tile red; the posterior angles slightly tinged with violet: scutellum of a deep tile red; the base with a metallic green band, in some parts violet; in the middle behind this with a transverse black spot, pointed behind; across the centre of scutellum there is a green and violet band, peaked in the middle in front; the tip of the scutellum slightly tinged with violet: under side of head and thorax, the whole of the forelegs, and tips of the femora, violet; abdomen beneath tile red; sides and apex of a metallic green, varied with violet: antennæ and tarsi black. Length, 8 lines.

4. *Callidea dorsalis*, n. s. Head violet and green, a black spot in the middle, emitting two black lineolæ behind: thorax with the sides dilated; the anterior and lateral margins violet and green; in front there are three black spots placed transversely; in the middle there are three large red spots placed transversely, and connected by means of a more obscure colour: the thorax behind is black, very narrowly margined with metallic green: the scutellum is of a tile red; the base (except in the middle) and the sides margined with violet; at the apex dusky margined with bright metallic green: all the under parts of a deep violet glossed with green; the thorax with a large black spot; each of the segments of the abdomen with a broad transverse black band in the middle, and a black spot on the side.

5. *Plataspis xanthogramma*, n. s. Black. Head with the fore margin broadly yellow, behind deep black: thorax in front with a yellow margin, interrupted near the side by a yellow line passing across within the lateral margin, which is also yellow; behind this there is a transverse yellow band, extending nearly across the thorax, and bent at the end: scutellum narrowly margined with yellow; the base with a broad yellow band, attenuated at the sides, and divided in the middle into two pieces: head and thorax beneath brownish yellow: antennæ and legs yellow: abdomen deep shining black; the margin yellow, toothed inside.

6. *Plataspis Mungo*, n. s. Black. Head with a large yellow spot separated from the fore margin by a narrow black streak; behind this there are two short transverse yellow lines, one on each side: thorax in front with a slight narrow yellow margin, interrupted near the side by the yellow line passing across within the lateral margin, which is also yellow: scutellum with a narrow yellow margin, distinctly notched behind: antennæ, legs, and small spots on margin of abdomen beneath, yellow.

7. *Plataspis Scipio*, n. s. Of a deep shining bronze; the edge of scutellum narrowly margined with yellowish: the head with four obscure yellow spots in the middle, the two in front closest; an obscure yellow line near the front margin in the middle, with two spots of the same colour behind it: at the base of the scutellum there are two obscure yellow spots distant

Catalogue of Nipalese Birds, collected between 1824 and 1844. By B. H. HODGSON, Esq.

The numbers after the names refer to the drawings and specimens, a nearly complete series of which has been sent to the British Museum. The genera are arranged according to the system followed in that collection.

Canterbury, June 29, 1844.

Vulturidæ. Gypaëtos barbatus, 604. Neophron percnopterus, 605. Vultur fulvus, 805. V. leuconotus, 46. V. bengalensis, 47. V. tenuiceps, 806. Polypteryx cupido, v. cinereus? 802. Hemigyps ponticerianus, 804.

Falconidæ. Buteo canescens, 11, 12. B. erythrura, 779. Hemiaëtus trophiatius, 496. Aquila crassipes, v. nævia? 1. A. nipalensis, vel rubri-venter, 5. A. milvodes, 583. A. ? Daphanea, 683. A. vittata, 725. A. bifasciata, 789. Neopus perniger, 2. Butaquila leucocephala, 859. Nisætus grandis, 7. N. pallidus, 8. N. nipalensis, 9. N. pulchrior, 680, 786. Limnætus unicolor, v. ? pennatus, 757. Circætus nipalensis, v. undulatus, Vigors, 4. C. tarayensis, 6. C. mithilensis, 754. C. maculatio, 777. C. gallicus, 753. Pandion indicus, 715. Ichthyiaëtus plumbeus, v. Horsfieldii? 10. I. hucarius, 756. Haliætus albipes, v. Macei? 3. H. lanceatus, 755. Dentiger pondicerianus, 15. Falco thermophilus, 21, 787. F. milvipes, 26. F. peregrinus, 29, 44, 45, 788. F. peregrinoides, 607, 682. F. sultaneus, 681. F. micrurus, 821. F. subbuteo, 50. F. rufipes, 48. F. rufipedoides, 718. F. tinnunculus, 38, 39, 42. F. tinnuncu- loides, 49. F. interstinctus, 40, 41. F. chicquera, 43. Hierax entolmus, v. Bengalensis? 51, 52. Hyptiopus (Baza) lophotes, 657. Pernis bharaten- sis, v. apivorus? 723, 727. Elanus melanopterus, 23. Milvus subhema- layanus, 13. M. indicus, v. cheela? 14. M. ? rotundicauda, 16. Astur palumbarius? 24, 25, 685. A. indicus, 27, 28, 766. Butastur teesa, 708. Accipiter nisosimilis, 30, 31. A. scutarius, 32, 34, 36, 37, 722. A. subty- picus, 33, 780. A. affinis, 35. A. fringillaroides, 660. Circus cyaneus, 17, 18. C. cinerascens? v. pallidus? 19, 20. C. æruginosus, 22. C. me- lanoleucus, 706. C. nipalensis, 736. C. plumipes, 497.

GRAY, ZOOL. MISCELL. JUNE, 1844.

K

Strigidae. *Athene tarayensis*, 63. *A. enculoides*, 67. *A. tubiger*, 486. *A. perlineata*, v. *undulata*? *Buch.* 707. *A. badia*, 770. *Ninox Jeridius*, 670. *Scops sunia*, 64, 65. *S. lettia*, 66. *S. pennata*, v. *Aldrovandi*? 721. *Cultrunguis nigripes*, 55. *C. flavipes*, 56. *Aetoglaux (Huhua) nipalensis*, 54. *Otus vulgaris*, 60. *O. brachyotus*, 61. *Mesomorpha (Urrua) cavearia*, v. *Bengalensis*? 57. *M. coromandra*, 742. *M. nivicola*, 827. *Meseides (Bulaca) newarensis*, 59. *Strix flammea*, 62. *S. badia*, 841.

Caprimulgidae. *Caprimulgus saturator*, 174. *C. innotatus*, 175. *C. nipalensis*, 176, 177. *C. gymnopus*, 749.

Hirundinidae. *Cypselus nipalensis*, v. *affinis*? 334. *Chætura gigantea*? v. *nudipes*, *H.* 656. *Hirundo nipalensis*, 329. *H. rupicola*, 330. *H. rustica*, 331. *H. subsoccata*, 332. *H. minuta*, 333.

Todidae. *Eurystomus calorynx*, 248. *E. orientalis*, 247. *Coracias bengalensis*, 613. *Simornis (Raya) sericeogula*, v. *Eurylaimus Dalhousiae*, *James.* 279. *S. rubropygia*, 280.

Trogonidae. *Trogon Hodgsoni*, 178, 179.

Alcedinidae. *Alcyon capensis*? v. *princeps*, *H.* 221. *A. smyrnensis*, 590. *A. calipyga*, 769. *A. guttata*, 364. *A. rudis*, 365. *A. bengalensis*, 606.

Meropidae. *Merops ferrugiceps*, 560. *M. quanticolor*, 561. *M. typicus*, 746. *M. viridis*, 875. *M. torquatus*, 876, (665). *Napophila (Buca)* *nipalensis*, 201, 202. *N. meropura*, 762.

Upupidae. *Upupa Epopis*? v. *indicus*. *H.* 132.

Promeropidae. *Cinnyris nipalensis*, 523, 524. *C. miles*, 525, 526, 527. *C. ignicauda*, 529, 530. *C. saturatus*, 531. *C. epauletta*, 532. *C. strigula*, 533, 534. *C. epimecurus*, 828. *Arachnothera chrysopus*, 528. *Myzantho (Micrura) ignepectus*, 393, 394. *M. inornata*, 395. *Pachyglossa melanoxantha*, 488.

Meliphagidae. *Chloropsis cyanopterus*, 250, 251, 252. *C. aurifrons*, 253.

Certhidae. *Tichodroma phænicoptera*? v. *subhemalayana*, 372. *Sitta castaneoventris*, 399. *S. nipalensis*, 401, 402. *S. corallina*, 400. *Pnoepyga (Tesia) concolor*, 847. *P. pusillus*, 870. *P. rufiventer*, 457. *P. albiventer*, 491. *Oligura (Tesia) cyaniventer*, 489. *O. flaviventer*, 490. *Troglodytes subhemalayanus*, 396.

Luscinidae. *Orthotomus sutorius*, v. *ruficapillus*, v. *sphænura*? 387. *Decura (Suya) fuliginosa*, 881, (106). *D. crinigera*, v. *caudata*, 415. *Prinia fusca*, 388. *Cisticola subhemalayana*, 437. *Salicaria arundinacea*? 818. *S. affinis*, 826. *Hippolais Swainsoni*, 385. *Phyllopneuste xanthoschistos*, 380, 381. *P. affinis*, 838. *P. Trochilus*, 861. *P. reguloides*, 862. *Nivicola schistilatus*, 860. *Horornis flaviventris*, 849. *H. fortipes*, 850. *Neornis ? cacharensis*, 855. *N. strigiceps*, 382. *N. ? flavolivacea*, 853. *Tribura luteoventris*, 851. *Horeites brunnifrons*, 836. *H. pollicaris*, 848. *Abrornis erochroa*, 383. *A. schisticeps*, 468. *A. castaneoceps*, 469. *A. chloronopus*, v. *Regulus modestus*, *Auct.* 839. *A. xanthogaster*, 854. *A. tenuiceps*? v. *regulus*? 856. *A. pulchrala*, 879. *Polyodon (Yuhina) gularis*, 309. *P. occipitalis*, 310. *P. nigrimentum*, 697. *Myzornis pyrroua*, 694. *Ixulus flavicollis*, 312. *Copsychus saularis*, 439, 440. *Grillivora longicauda*, v. *Kittacincla macrura*, 438, 731. *Phænicura ? leucocephala*, (g. *Chaimarrornis*) 297. *P. rubricauda*, 298, 418. *P. rutililla*, 403, 405. *P.*

tricolor, 406, 482, 483. *P. œaruleocephala*, 475. *P. schisticeps*, 813. *P. nipalensis*, v. *atrata*, 404. *Tarsiger chrysæus*, 408, 409. *Larvivora cyanea*, 455, 456. *L. homochroa*, 885. *Dimorpha (Siphia) strophata*, 424, 430, 476, 714. *D. rubrocyanea*, 384. *D. leucocyanea*, 837. *Synornis joulaismus*, 421. *S. leucura*, (*Muscicapa*, *Auct.*) 811. *Nemura cyanura*, 407. *N. rufilatus*, 484. *N. flavolivacea*, 884. *Calliope pectoralis*, 214. *C. Lathamii*, 441. *Cyanecula v. Calliope suecoides*, 703. *Muscisylvia leucura*, 215. *Bradypterus phœnicuroides*, 817. *Thamnobia scapularis*, 213. *Rubecola ferrea*, 413, 416, 417. *Saxicola saturator*, 299. *S. rubecola*, 300, 301. *S. meloleuca*, 420. *S. insignis*, 812. *Accentor strophiatu*, 414. *A. immaculatus*, v. *nipalensis*, 487. *A. cachârensis*, 873. *A. nipalensis*, 874. *Iora scapularis*, 711. *Parus sultaneus*, 344. *P. xanthogenys*, 397. *P. monticolus*, 398. *P. jousehistos*, 845. *P. melalophus*, 846. *P. dichrous*, 852. *P. ? seriophrys*, 863. *P. schistinotus*, 716. *P. œmodius*, 830. *P. erythrocephalus*, 389, 390. *Temnoris (Suthora) atrifrons*, 470. *T. fulvifrons*, 888. *Zosterops madraspatana*, 391, 392. *Motacilla Hodgsoni*, 133, 134, 135. *M. boarula*, 136, 772. *M. xanthoschista*, 678, 679. *M. locustrina*, 775. *Budytes calcaratus*, 667, 668. *B. citreoloides*, 732. *B. schisticeps*, 733, 773. *B. fulviventris*, 774. *B. dubius*, v. *anthoides*, 808. *Enicurus maculatus*, 347. *E. fuliginosus*, 348. *E. schistaceus*, 349. *E. immaculatus*, 350. *E. Scouleri*, v. *heterurus*, 698. *Anthus maculatus*, 435. *A. roseaceus*, v. *rufogularis*? 734. *A. hortulanus*, 791. *A. brevirostris*, 814. *A. pelopus*, 877. *Cichlops monticolus*, v. *Corydalla Richardi*? 431. *C. ubiquitarius*, 432, 433. *C. thermophilus*, 735. *C. fortipes*, 738.

Turdidæ. *Chlorisoma venatoria*, 210, 211. *Myophonus metallicus*, 224. *M. Temminckii*, 225. *Pitta cyanoptera*, 464. *P. rodogaster*, 761. *Heleornis (Paludicola) nipalensis*, 453. *Cinclus Pallasii*, 240. *C. P. youngi*? v. *maculatus*, 241. *Petrocincla cyanota*, 584, 585. *P. homochroa* 586. *P. cyanea*, 259. *P. erythrogastra*, 351, 352, 353. *Orocetes cinclorhynchus*, 359—362. *Petrophila turdoides*, 587. *Zosterops monticola*, 268, 269. *Turdus œcillopterus*, 184—186. *T. oreocinoides*, 197. *T. atrogularis*, 198, 199. *T. erythrurus*, 200, 720. *T. ? picaoides*, 363. *T. rubrocanus*, 575. *T. Naumannii*, 790. *T. viscivorus*? 832. *Merula nivicolis*, 182, 183. ? *Gaudala cœlicolor*, 844. *Oreocincla Whitei*, 194—196. *O. ? rostrata*, 833. *O. ? micropus*, 158, s. g. *Turdulus*. *Hemipteron nipalense*, 377. *Crateropus rufimentum*, 187. *C. ocellatus*, 191. *C. moniliger*, 192. *C. grisauris*, 193. *C. albogularis*, 204. *C. leucolophus*, 205. *C. œarulatus*, 493, 494. *C. variegatus*, 693. *C. affinis*, 768. *C. erythropterus*, 820. *C. erythrocephalus*, 163? *Trochalopteron melanura*, v. *Zanthoc. squamata*, *Gould*, 376. *T. setifer*, 317. *T. subunicolor*, 842. *Timalia pelotis*, 315. *T. leucotis*, 316. *T. pileata*, 835. *Pyctoris hypoleuca*, v. *Timalia hyp. Auct.* 704. *Mixornis ruficeps*, v. *Timalia gularis*, *Horsf.* 699. *Strachyris nigriceps*, 356. *S. pyrrops*, 410, 411. *S. chrysæa*, 869. *Erpornis xanthochlora*, 760. *Malacoœeres griseus*, v. *terræcolor*, 371. *M. ? abornis*, 816. *M. geochrous*, 868. *Pomatorhinus erythrogenys*, 237. *P. schisticeps*, 238. *P. ruficollis*, 239. *Keropia striata*, 266, 267. *Oriolus Trailii*, 260, 261. *O. galbula*, 262. *O. melanoris*, 263. *O. Hodgsoni*, 264. *O. juv. ? strigipectus*, 265. *Trichophorus xanthogaster*, 346. *Hemixus flavula*, 244. *Hypsipetes psaroides*, 242. *H. viridis*, 343. *Alcopus (Sibia) picaoides*, 246. *A. nigriceps*, 258. *Aleurus melanocephalus*, 245. *A. ni-*

palensis, 343. *Ixops nipalensis*, v. *Actinodura*? *Gould*, 257. *Ixops cafer*? v. *pygæus*, 207. *I. leucogenys*, 208. *I. jocosus*? v. *pyrrhotis*, 209.

Muscicapidæ. *Muscicapa astigma*, 140. *M. ciliaris*, 141. *M.*? *terræcolor*, 286, 287. *M. melanops*, 288, 289. *M. acormus*, 478. *M. hemileucura*, 797. *M. leucoschista*, 824. *Digenea leucomelanura*, 419. *D. tricolor*, 795. *Hemipus picæcolor*, v. *Muscicapa picata*, 285. *Hemichelidon ferrugineus*, 425. *H. fuliginosus*, 427. *Bainopus irenoides*, 284. *Chaitaris (Niltava) rubeculoides*, 137—139. *C. sundara*, 142, 422. *C. juv.*? *sordidus*, 423. *C. fuligiventer*, 143. *Muscipeta paradisea*, 281—283. *Rhipidura albigula*, 426. *Myiagra cærulea*, v. *occipitalis*, 730, 485. *Cryptolopha poiocephala*, 428, 429. *Chelidorynx hypoxantha*, v. *Rhipidura hypox.* *Blyth*? 386.

Ampelidæ. *Leiothrix calipyga*, v. *furcatus*? 354, 355. *Certhiparus (Minla) ignitincta*, 311, 313. *C. castaneiceps*, 477. *Proparus (Siva) vinipectus*, 479, 480. *P.*? *chrysæus*, 591. *Fringilloparus (Mesia) argentauris*, 307, 308. *Joropus (Siva) strigula*, 314. *J. nipalensis*, 357. *J. cyanourapteris*, 358. *Prosorinia (Cochoa) purpurea*, 180, 181, 577. *P. viridis*, 221, 222. *Pteruthius erythronotus*, 232, 233. *P. xanthochlorus*, 446. *Heterornis (Cutia) nipalensis*, 254, 255. *Pericrocotus* v. *Phænicornis princeps*, 290, 291. *P. brevirostris*, 292—294. *P. peregrinus*, 295—297. *P. sordidus*, 750. *Graucalus papuensis*? *nipalensis*, 318, 319. *Volvocivora melaschistos*, 517—519. *Ocypterus rufiventer*, 741. *Dicrurus fingham?* v. *albirictus*, 550, 551. *D. pyrrhops*, 553. *D. macrocerus?* v. *annectans*, 675, 676. *D. niviventer*, 700. *D. hemidicrurus*, 758. *Preopaterus (Chaptia) æneus*, v. *muscipetoides*, 578. *Cometes (Chibia) Crishna*, 564. *C. grandis*, 567. *Melisseus (Bringa) remifer*, 554.

Lanidæ. *Tephrodornis pelvica*, 234, 235. *T. leucura*, 236. *Collurio nipalensis*, v. *Tephronotus*, 230, 231. *C. ferrugiceps*, 481. *C. obscurior*, 691. *C. jounotus*, 815. *C. Hardwickii*, 871. *C. tricolor*, 229.

Corvidæ. *Garrulus lanceolatus*, 173. *G. bispeularis*, 206. *Cyanurus?* *erythrorhynchus*, 203. *Crypsirina vagabunda*, 189. *C. sinensis*, 190. *Conostoma æmodium*, 661. *Heteromorpha unicolor*, 843. *Nucifraga hemispila*, 219, 220. *Corvus macrorhynchus?* v. *Corone?* 218. *C. splendens*, v. *impudens?* *Fregilus graculus*, 840.

Sturnidæ. *Saraglossa spilopterus*, 370. *Eulabes* v. *Gracula religiosa*, 302. *Pastor roseus*, 673, 726. *P. pagodarum?* v. *nigriceps*, 270. *P. malabaricus?* v. *caniceps*, 271, 272. *P. tristis*, 303. *P. cristatellus*, 304. *P. gregicolus*, 710. *Sturnus indicus*, 306. *Sternopastor contra*, 305.

Fringillidæ. *Ploceus flavigula*, 451. *P. melanogaster*, 655. *P. passerinus*, 70. *P. atrigula*, 743. *Coccothraustes melanozanthus*, 326, 327. *C. carnisep*, 328. *C. icteroides*, 829. *Spermestes melanocephalus*, 322, 321. *S. lineoventer*, v. *leuconota?* 324. *S. (Lonchura) acuticauda*, 325. *S. fuscoluteus*, 87. *Carduelis spinoides*. 442—444. *Procarduelis nipalensis*, 460, 461. *Pyrgita domestica*, 447, 448. *P. montana*, 449. *Gymnoris flavirostris*, 864. *Fringilauda nemoricola*, 450. *Emberiza nipalensis*, v. *erythroptera?* 341, 342. *E. sordida*, v. *chlorocephala?* 445. *E. oinopus*, s. g. *Ocyris*, 473, 474. *E. aureola*, 793. *Heterura sylvana*, 436. *Alauda leiopus*, v. *orientalis*, 728. *A. triborhyncha*, v. *leiopus?* 739. *A. dulcivox*, 867. *Heterops cristatus*, 729. *Corypha baghera*, 434, 815. *Plocealauda typica*, 724. *Pyrrhulauda cruciger*, 809. *Propasser rodoepla*, 340. *P. sor-*

dida, young of pulcherrima? 452. *P. pulcherrima*, v. *P. rodochroa*? 465—467. *Pyrrholinota rosæcolor*, v. *Pyrrh. rosea*? 464. *Pyrrhoptectes epauletta*, 462, 463. *Propyrrhula subhemachalana*, 471, 472. *P. rubeculoides*, 831. *P. sipahi*, 320, 321. *Pyrrhula erythrocephala*, 335—338. *P. nipalensis*, 329, 498, 499. *Loxia hemalayana*, 887.

Bucerotidæ. *Buceros cinerascens*, 58. *B. Homrai*, 599. *B. nigrallbus*, 666. *Aceros nipalensis*, 600—602.

Psittacidæ. *Palæornis rhodocephalus*, 273, 709. *P. mystaceus*, v. *Ponticerianus*, 274, 695. *P. schisticeps*, 275—277. *P. nipalensis*, 278, 674. *P. nigrirostris*, 696. *P. torquatus*? 701, 702. *Psittacula pyropyga*, v. *vernalis*? 609, 610.

Picidæ. *Bucco caniceps*, v. *viridis*? 170. *B. cæruligula*, 171. *B. igniceps*, 172. *B. grandis*, 217. *Piculus nipalensis*, 161. *P. rufifrons*, 162. *Comeris (Sasia) ochracea*, 659. *Picus sultaneus*, 165, 166. *Dryotomus flavigula*, v. *flavinucha*? 167, 168. *Chloronerpes? pyrrhotis*, 492, 687. *Dendrocopus cathphorius*, 154. *D. hyperythrus*, 151, 142. *D. pyriceps*, 153. *D. majoroides*, 155, 156. *D. brunnifrons*, 157, 158. *D. moluccensis*, 159, 160. *Brachylophus sericollis*, 145, 146. *B. xanthopygæus*, 147. *B. squamatus*, 148. *B. occipitalis*, 149, 150. *Brachypternus Shorii*, 163, 164. *B. igniceps*, 520. *Meiglyptes badius*, 169.

Cuculidæ. *Phænicophaus montanus*, 212. *Zanclostomus sirki*, 226. *Oxylophus coronandus*, v. *rubrarmus*, 611. *O. serratoides*, 612. *Eudynamys orientalis*, 249. *Centropus pygmæus*, 495, 522. *C. philippensis*, 594, 595, 692. *Cuculus hemalayanus? v. Bharovus*, 501. *C. canorus*, 503, 506. *C. micropterus*, 504, 507. *C. saturatus*, 505, 690. *C. sparveroides*, 509—511. *C. niger? v. pyrommatus*, 512, 514. *C. brevipennis*, 513, 689. *C. nivicolor*, 872. *Pseudornis dicruroides*, 502. *Chalcites xanthorhynchus*, 515, 516.

Columbidæ. *Vinago sphenura*, 93, 94. *V. militaris*, 104, 105. *Ptilonopus turturoides*, 100, 101. *P. macronotus*, 102. *Romeris (Toria) aromatica*, 103, 688. *Rhinopus (Ducula) insignis*, 216, 92. *Dendrotreron Hodgsoni*, 98, 99. *Columba pulchrara*, 88, 89. *C. leuconota*, 95. *C. domestica*, var. 97. *C. ? pulchricollis*, 737. *Monomis perpulchra*, 91. *Turtur vitticollis*, 96. *T. douraca*, 107. *Coccyxura tusalia*, 663. *Cœna murwensis*, 747.

Phasianidæ. *Crossoptilon tibetanum*, 785. *Phasianus Wallichii*, 76—78. *Epomia Amherstii*, 85. *E. picta*, 86. *Euplocomis leucomelas*, 79, 80, 771. *Gallus Bankiva*, 74, 75. *Tragopan satyrus*, 69, 72. *Lophophorus Impeyanus*, v. *refulgens*, 73. *Gallophasis puerasia*, 68, 71. *Tetraogallus Nigellii*, 781. *Ithaginis cruentatus*, 81—84. *Tetraoperdix (Lerwa) nivicola*, 108, 109. *Francolinus gularis*, 378. *F. orientalis*, 379. *F. vulgaris? v. brevipes*, 630—632. *Pycetes (Chacura) chukor*, 110. *Arboricola olivacea*, v. *torqueola*, 111, 113, 114. *A. rufipes*, 112. *Coturnix textilis? v. pluvialis*, 119, 120. *C. philippensis*, 128, 129. *C. dactylisonans? v. indicus*, 130, 131. *Perdicula rubicolor*, 763, 764. *Hemipodius joudera*, 121. *H. Dussumieri? v. variabilis*, 122, 123. *H. Taigur? v. plumbipes*, 126, 127. *Pterocles arenarius*, 784. *P. pictus*, 782. *P. exustus*, 783.

Otidæ. *Otis bengalensis*, v. *deliciosa*, 115. *O. auritus*, 116, 117. *O. nigriceps*, 778.

Charadriidæ. *Œdicnemus crepitans*, 53. *Pseudops griseus*, 118. *Cur-*

sorius tarayensis, 574. Glareola nipalensis, v. cinerascens, 658. G. thermophila, v. longipes, 799. G. gangetica, 825. Squatarola cinerea, 672. Vanellus cristatus, 625. Philomachus ventralis, v. spinosus, 227. Sarcinophorus fuscus, 810. Lobivanellus goensis, 228. Charadrius pluvialis, 535, 536. C. rufinus, 669. C. subrufinus, 124, 125. Hiaticula minor, 628. Hæmatopus ostralegus, 807.

Ardeidæ. Anthropoides virgo, 588. Ardea purpurea, 592. A. insignis, 645. A. cinerea, 646. Egretta chloriceps, v. virescens, *Auct.* 622. E. cinnamomea, 623, 624. E. flavicans, v. russata? 638, 647. E. nigrorostris, 639, 641. E. maronata, 642—644. E. modesta, 794. Nyctiardea europea, 635—637. Platalea pyrrhops, 144. Ciconia leucocephala? v. biclavata, 521. C. nigra, 620. Mycteria australis, 801. Osteophea immigratoria, 713. Tantalus rodopteron, v. leucocephalus? 800. Ibis falcinellus, 571. I. (Pseudibis) papillosa, 619. I. aimolene, v. melanocephalus, 865.

Scolopacidæ. Numenius arquata, 614. N. arquatulata, 615. N. phæopus, 616. Limosa melanura, 537. Clorhynchus strophiatius, 576. Totanus calidris, 367. T. macularius? v. auratus, 368. T. glareola, 369, 745. T. glottoides, 549. T. hypoleucos, 557. T. ochropus, 744. T. glareoides, 748. T. fuscus, 798. Recurvirostra avocetta, 573. Himantopus melanopterus, 516. Tringa pusilla? v. Temminckii? 629. T. variabilis, 740. T. minuta, 751, 752. Machetes optatus, 366, 823. M. pugnax? 412, 597. Rhynchæa capensis? v. indica, 538, 539. Gallinago nemoricola, 540, 541. G. media? v. uniclavata, 542, 543. G. heterura v. biclavata, 544, 545. G. solitaria, 547, 548. G. gallinula, 608. Scolopax rusticola, 546.

Palamedidæ. Parra sinensis, 563. P. superciliosa, 570. P. indica, 719. P. phænicura, 572.

Rallidæ. Zapornia flammiceps, 374, 375. Z. pusilla, v. Bailloni, 568, 569. Z. thermophila, 759. Z. nigrolineata, 765. Porphyrio hyacinthicus, 562, 662. Gallinula chloropus, 633, 634. Fulica atra, 621.

Anatidæ. Anser rubrirostris, 579. A. indicus, 593. Microcygna girra, 796. Dendrocygna arcuata, 581. Tadorna vulpanser, 580. T. rutila, 803. T. ? pnoe, 819. Anas mail, 500. A. boschas, 653. A. ? vitticeps, 677. Rhynchaspis clypeata, 651, 652. Dafila caudacuta, 459, 454. Mareca pœcilorhyncha, 792. Querquedula crecca, 617, 618. Q. vulgaris, 767. Fuligula vulgaris, 373. F. ? cheonea, 458. F. nyroca, 648, 649. F. leucophthalmos? 650. F. caryophyllacea, 664. F. rufina, 686, 822. F. cristata, 712. Mergus serrator, 626, 627.

Podicipedæ. Podiceps minor, v. pandubia, 558. P. cristatus, 834.

Laridæ. Xema ridibunda, 566. X. pallida, 857. Sterna roseata, 565.

Pelecanidæ. Pelecanus gangeticus, 582. P. calirhynchus, 92. Carbo pygmæus, 552, C. raptensis, 555. C. javanica? v. raptensis, 559. C. leucocephala, 596. Plotus melanogaster, 655.

The list consists of 652 species: 89 being Raptorial; 407 Passerine; 44 Gallinaceous; 77 Wading; and 35 Natatorial Birds.

