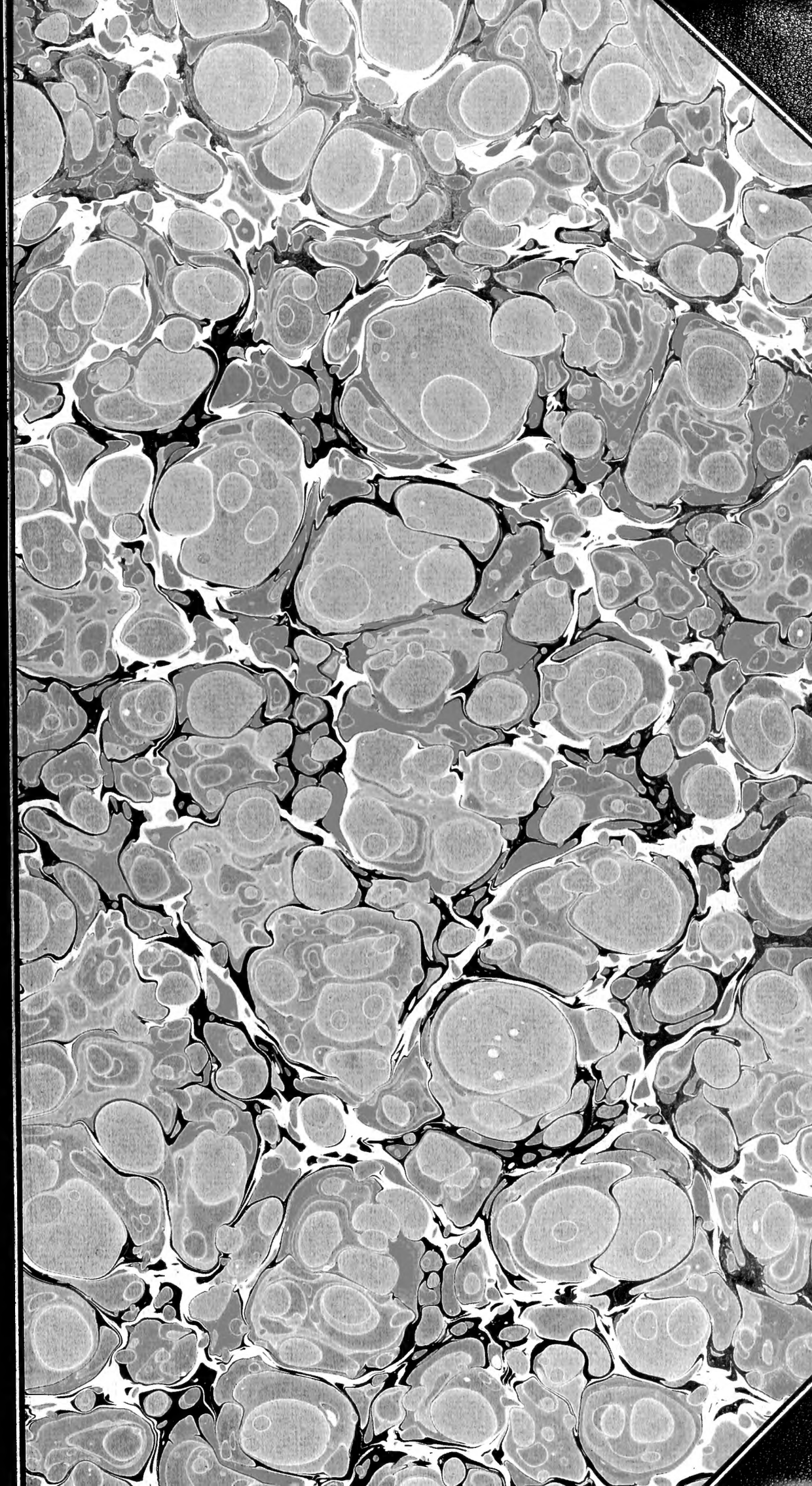

Smith, Andrew. *Illustrations of the Zoology of South Africa, London, 1838*

These illustrations consist chiefly of figures and descriptions of the objects of natural history collected during an expedition into the interior of South Africa in the years 1834, 1835, and 1836, fitted out by "The Cape of Good Hope Association for Exploring Central Africa" together with a summary of African zoology and an inquiry into the geographical ranges of species in that quarter of the globe.

No. II.] [Price 10*s*.

ILLUSTRATIONS

OF THE

ZOOLOGY OF SOUTH AFRICA;

CONSISTING CHIEFLY OF

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COLLECTED DURING

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TOGETHER WITH

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AND AN INQUIRY INTO THE GEOGRAPHICAL RANGES OF SPECIES
IN THAT QUARTER OF THE GLOBE.

BY ANDREW SMITH, M.D.,

SURGEON TO THE FORCES, AND DIRECTOR OF THE EXPEDITION.

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MDCCCXXXVIII.

ERINACEUS FRONTALIS.

(Mammalia — Plate 3.)

SC

ERINACEUS FRONTALIS.—Smith.

Mammalia.—Plate III. (Female.)

E. ovatus; spinis varié intertextis ad basin et versus apicem albis, in medio purpurascentibus, apicibus quibusdam brunneis reliquis albidis; pilis rigidis subnigris aut griseis; fasciâ frontali albâ; auriculis oblongis pilis brevibus obtectis.

Longitudo $7\frac{1}{2}$ unc.

Erinaceus frontalis, *Smith*, South African Quarterly Journal, No. 5. Oct. 1831.
Erinaceus frontalis, *Bennet*, Proceedings Zoological Society, Dec. 1832.

Colour, &c.—The head and the sides of the neck and of the body blackish brown, slightly variegated by an intermixture of greyish white hairs; the forehead and the sides of the neck, immediately under the ears, pure white; the quills of the back white, each annulated towards the middle with purple, the points of many of them light brown. The under surface of the neck, the middle of the breast and belly, and the lower half of the limbs dusky white; tail black; eyes very deep brown; claws horn-coloured.

Form, &c.—Body oval, broadest behind and wider in proportion to its length than in the common *Hedge-hog*. Muzzle slightly elongated; incisors of upper jaw much separated, those of lower jaw nearly contiguous; ears moderately long, and both surfaces thinly covered with short hair, the tips somewhat rounded. The back and the upper part of the sides densely covered with spines from an inch to an inch and a half in length, the rest of the body, the legs and the head thinly coated with bristly hair; tail slender; limbs very long; toes short; claws blunt and slightly curved.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the tip of the nose to the base of the tail	7	6	Distance between the tip of the nose and the eye	1	3
of the tail	0	6	the eye and the ear	0	9
			Height at the middle of the back	0	5

The *male*, as regards the colours, is like the female.

ERINACEUS FRONTALIS.

This little hedge-hog was first obtained in the districts around Old Latakoo, and on leaving that place, no additional specimens were acquired. Even where it was best known only a very few individuals were procured, and according to the natives it was every where rare. It has all the habits of the common hedge-hog, (*Erinaceus Europæus*, Lin.) and like it, when surprised, rolls itself up into a globular mass, in which state it will often remain for hours together while the object creating its fears continues near it. Some individuals however, are less timid, and soon attempt to escape.

HERPESTES BADIUS.
(Mammalia Plate 4.)

HERPESTES BADIUS.—Smith.

Mammalia.—Plate IV. (Female.)

H. badius, subtus pallidior, ad fulvum transiens, dorsi, caudæque pilis sordide flavo et nigro-annulatis; caudæ apice nigro; oculis rubris.

Longitudo *corporis cum capite* 12 unc., *caudæ* 12 unc. 4 lin.

Ichneumon Ratlamuchi, App. to Rep. of Exped. page 42, June 1836.

Colour.—Above bright bay, beneath lighter, inclined to fulvous; extremity of the tail shining black. On the head, upper part of the neck, and limbs and tail, the colour is darkest; on the back and upper part of the sides it is slightly variegated by a fine pencilling of dull yellow and black; each, or at least most of the hairs being annulated with these two colours in addition to the bay which is the prevailing tint. Towards the root of the tail the hairs are marked after the same fashion, only the quantity of brown is greater; whiskers black. Ears coloured like the body; eyes red; nails a dark horn colour.

Form, &c.—Figure very slender; head short, broad between the ears and slender towards the muzzle; ears very short; legs of moderate length; nails nearly straight. The hair is slightly rigid; on the head it is short, on the body considerably longer, and on the posterior portion of the back, outer surface of the thighs and the tail it is longest, on some places measuring fully three inches. On the tail it is laid close, so that though long, this part of the animal is nevertheless moderately slender. On the ears the hair is very short, and on their posterior surfaces is almost wanting.

DIMENSIONS.

	Inches.	Lines.
Length from the tip of the nose to the root of the tail	12	0
of the tail	12	4
Height at the shoulder	4	2

	Inches.	Lines.
Distance between the point of the nose and the eye	0	10
between the eye and the upper extremity of the ear	0	10

The adults of both sexes are nearly alike in regard to colour and size. In the young animal there is a distinct reddish cast over the whole body, but it is much broken by the yellowish and brownish rings which occur on each hair and which appear in this age upon the head and thighs as well as the back.

At one time I was disposed to regard our animal as identical with *Herpestes ruber*, Desm.,* but upon comparing it with the description of the latter as furnished by the author just quoted, I found it to differ in many points. In our species, the body, as will be seen by a reference to the measurements, is shorter than the tail; in that of Desmarest, the tail is four inches shorter than the body; in ours, the tip of the tail is deep black; in his, that part is not described as being of a different colour to the rest of the animal.

The first specimen of this species we obtained was killed near Old Latakoo, and several others were seen between that and Kurichane, which lies about 120 miles more to the eastward. The animal appeared restricted to dry sandy districts abounding in brushwood, and in these, was occasionally seen running from one copse to another. It is extremely shy, and flies on the approach of man to its hiding places with great rapidity; hence only a very few specimens were obtained. Nothing except the remains of insects were found in the stomachs of those we procured; but if the natives are to be believed, it feeds with avidity also upon lizards, snakes, mice, &c.

In addition to this and another new species which we shall hereafter figure, five others inhabit the South of Africa, namely, *Herpestes Pharaonis*, Desm., *H. griseus*, Desm., *H. urinator*, Smith, *H. tænianotus*, Smith, and *H. albicaudis*, Smith.† Before long, however, there is every reason to expect additional species will be added to the preceding, as the Bechuanas‡ described to us several little quadrupeds clearly differing from any of the foregoing, yet doubtless belonging either to this genus or to *Cynictis* of Ogilby.

* Encyclopedie Methodique, (Mammalogie, fol. 213.)

† South African Quarterly Journal, New Series, No. 2, part 1, March 1834.

‡ The native tribes (not including the Hottentots) immediately north of the colony. Bechuana is the term which has been invented by themselves to indicate all the clans in that direction who resemble each other in external appearance, and speak the same language. The import of the word proves the propriety of its application, *bechuana* being the plural of *chuana*, signifying alike or similar.

SCIURUS CEPAPI.

(Mammalia — Plate 5)

SCIURUS CEPAPI.—Smith.

Mammalia.—Plate V. (Male.)

S. supra ochreus, brunneo-nigro leviter marmoratus; corporis lateribus pedibusque ochreis; labio superiore, striâ superciliari, corporisque partibus inferioribus albis, ventre flavo-tincto; caudâ distichâ, ochreâ brunneo-nigro variegatâ; auriculis brevibus, apicibus obtusis, margine externo versus apicem emarginato; oculis brunneis.

Longitudo *corporis cum capite* $7\frac{3}{4}$ unc., *caudæ* 7 unc.

Sciurus Cepapi, App. to Rep. of Exp. page 43, June, 1836.

Colour.—Face ochry yellow, pencilled with black; the upper part of the head and neck, the back and the flanks grizzled light ochre-yellow and brownish black, each hair being brownish black at the base, then ochry yellow, then brownish black, and finally ochre-yellow; some have their extreme points blackish brown; the upper surface of the tail is also grizzled in the same manner as the back, only the proportion of the brownish black colour is greater, and hence the dark colour is there more conspicuous, and gives rise in some specimens to the appearance of a number of irregular dark bars; the upper lip, a short stripe over each eye, the chin, the throat, the breast, the belly, and the inner sides of the legs white, sometimes faintly tinged with yellow; the sides of the head, neck and body, and the outer and hinder sides of the legs ochre-yellow; the hair of the hinder legs deep black at its base; anterior surface of ears pale yellowish white; posterior surface dull white; incisor teeth reddish orange; eyes dark brown; whiskers black; nails deep brown.*

Form, &c.—Figure rather slender; head small; the anterior molar of the upper jaw very small, subcylindrical with the crown entire; the remaining four concave, the crowns towards the outer sides divided each into two portions by a fine transverse groove; the anterior molar of the lower jaw semicylindrical, the crown divided into three tubercles; the other three molars on each side nearly similar to those of the upper jaw; ears short, with a slight emargination in the outer edge a little below their points; the latter

* The tints vary a little in different specimens.

obtuse; legs long; tail depressed, narrow, slightly distichous and pointed at its extremity; two centre toes of equal length, those of the hinder feet but little longer than the toe on each side of them; the difference is greater on the fore feet; nails strong and much curved. The hair is slightly rigid, and shortest on the head and feet; on the back and under parts it is rather longer, while on the outer sides of the hinder legs, particularly towards the base of the tail and on the tail itself, it is much longer still.

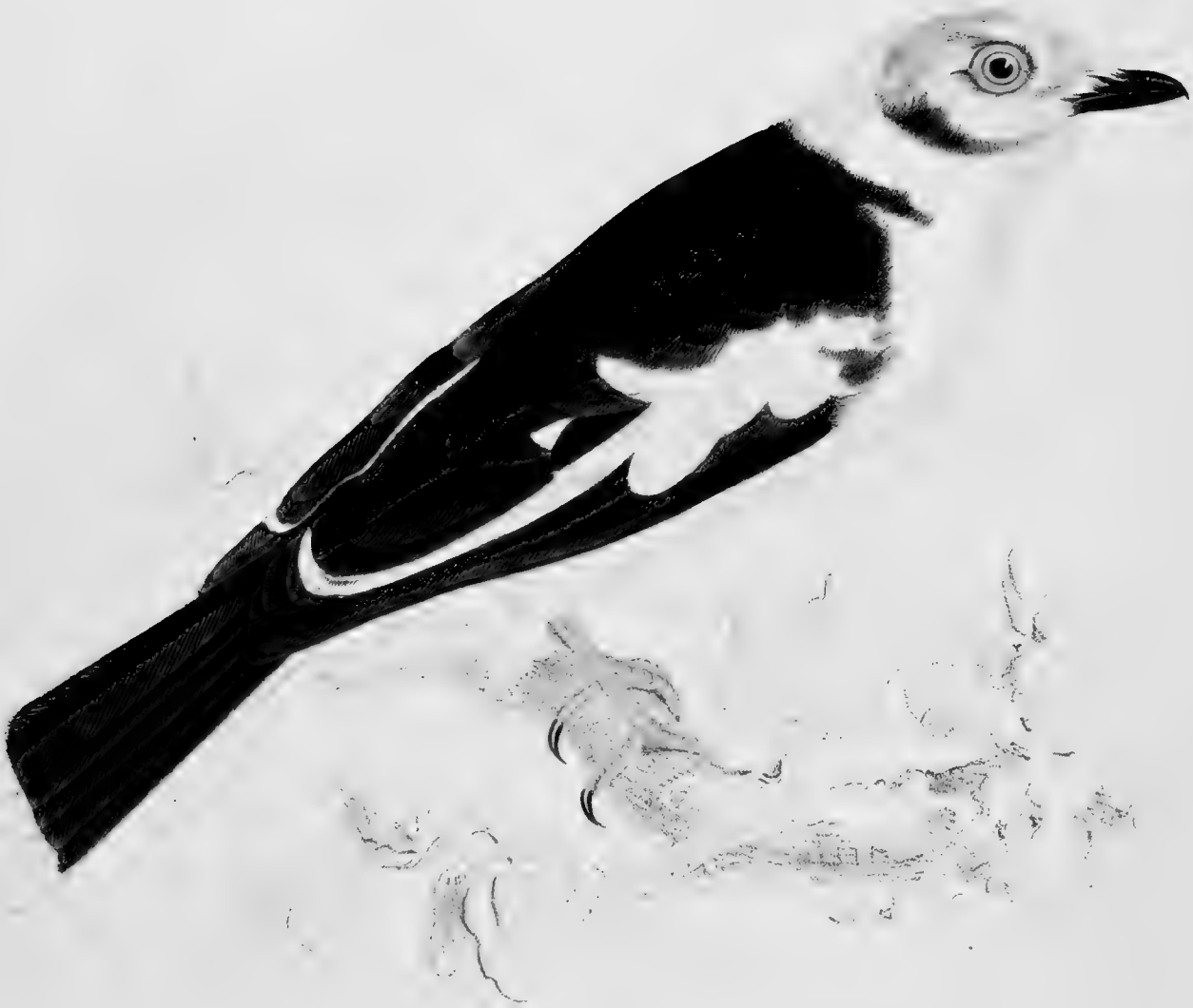
DIMENSIONS.

	Inches.	Lines.
Length from the tip of the nose to the base of the tail	7	9
of the tail	7	0
of the cranium	1	9
Breadth between the hinder extremities of the zygomatic arches	0	11

	Inches.	Lines.
Length of the fore legs to the tip of the toes	2	3
the hinder legs to ditto	3	0
the tarsus of fore foot	0	6
the hinder foot	0	10

The female, as regards colour and size, resembles the male, and like the latter is liable to some variation in respect to tints.

The first specimens of this squirrel were observed upon the immediate banks of the Limpopo river, in about 24° 20′ south latitude. The species was occasionally discovered upon the ground, but more frequently upon trees; and when it happened to be surprised in the former situation, it invariably endeavoured to reach the latter, and if successful, either attempted to conceal itself in the forks of the branches, or in holes, if any existed, in the trunks, or other parts. Its flight, when on the ground, was effected with amazing rapidity, and the perpendicular ascent of the tree was accomplished with equal facility. It feeds by day, and, according to the natives, also by night, and in all the specimens we obtained, the stomachs were fully distended with berries, &c.



PELONOPS TALACOMA
(Aves – Plate 50)

PRIONOPS TALACOMA.—Smith.

Aves.—Plate V. (Male.)

P. capite supra pallidè fusco-griseo, argenteo-griseo umbrato; genis albis posticé fasciâ semilunari nigrâ marginatis; dorso humerisque nigro-viridi-nitescentibus; alis strigâ longitudinali albâ notatis; remigibus primariis brunneis, primo excepto, pogoniis internis fasciâ albâ variegatis, rectricibus duabus intermediis viridi-nigris; lateralibus versus apicem plus minusve albis; rostro nigro; oculis brunneis; pedibus flavis.

Longitudo, 8 unc.

Prionops Talacoma, Rep. of Exp., page 45, June, 1836.

Colour.—The upper part of the head light pearl-grey with a dusky shade; the cheeks white, margined behind by a black crescent; the neck and the under parts pure white; the back and the wings a glossy greenish black; several of the shoulder feathers and secondary quill coverts nearly white, and with the broad white edgings which occur upon the outer vanes of two or three of the innermost secondary quill feathers, they form a continuous white stripe along the wing. All the primary quill feathers, with the exception of the first, have their inner vanes crossed by a broad white bar, that of the innermost being much nearer to the extremity of the feather than the outermost; the secondary quill feathers all broadly tipt with white. The two middle tail feathers greenish black; the two outermost of each side pure white, or with only a slight greenish black spot at their bases. The intermediate feathers greenish black towards quills, white towards tips. Bill black; feet pale yellow; claws livid brown. Eyes dark brown, and surrounded by a narrow membranous ring of a bright yellow colour.

Form, &c.—Typical. The feathers of the forehead very rigid and wiry, some erect, others directed forwards so as to conceal the nostrils; emargination of bill very slight: wings when folded reach over nearly the first half of the tail; the fourth quill feather the longest, the third and fifth of equal length, and a little shorter than the fourth; the second and eighth nearly equal, and considerably shorter than the third; the first not half the length of the fourth. Tail even or very slightly rounded. Tarsi rather long, covered in front by transverse plates, and behind by a continuous

horny shell; the middle toe rather longer than the outermost, the innermost slightly shorter than the latter, and of the same length as the hindermost; claws pointed and considerably curved.

DIMENSIONS.

	Inches.	Lines.
Length from the bill to the top of the tail	8	0
of the tail	3	9
of the wings when folded	4	4
Length of tarsus	1	1
of the middle toe	0	6
of the inner toe	0	4½

The female, as regards the colour of the plumage and the size, differs little if at all from the male.

The first individuals of this species we obtained were killed in about 25° south latitude, and from that parallel specimens continued to occur as far as we advanced to the northward. They were generally observed among low bushes, in flocks of six or eight individuals, and either actively engaged in traversing those bushes, or in exploring the grounds around them in search of insects. The *termites* appeared to form their favorite food; and rarely was a specimen obtained whose stomach did not contain them in abundance. It is a shy bird, and rather noisy. In flying, sometimes all the individuals of the little flock utter their cries simultaneously, and the same practice they frequently observe while searching for food on the ground, or upon bushes. When the mere inclination of one of the flock induces it to fly, all the rest follow the example, and together, wing their way to another locality. The present, the third species yet discovered of the genus, is readily to be distinguished from the other two, (*Prionops Geoffroyi*, Vieillot; and *Prionops cristatus*, Ruppell), by its having no crest.

CRATEROPUS JARDINII.

(Aves – Plate 6.)

CRATEROPUS JARDINII.—Smith.

Aves.—Plate VI. (Male.)

C. olivaceo-brunneus guttis subalbidis parcè notatus; gutture, pectore, abdomineque summo cinereo-brunneis, albo-maculatis; abdomine infimo, caudæque tectricibus inferioribus flavo-cineraceis; rostro nigro-fusco; oculis, tarsisque brunneis.

Longitudo, 10 unc.

Crateropus Jardinii, Rep. of Exped. page 45, June 1836.

Colour.—Above, olive brown; the central portions of the feathers of the upper surface of the head, blackish brown; the points of these feathers, as well as the points of those of the neck and anterior part of the back, marked each with a dull rusty or greyish white spot. The chin, the throat, the breast, and the anterior portion of the belly, ashy brown, each feather with an oblong or spear-shaped pure white spot at its point; the posterior portion of the belly, the vent and the under tail-coverts yellowish grey; the shaft of each of the feathers towards the point, dull white. Shoulders and quill-feathers, dull brown, the outer vanes of the latter slightly margined with a faint rusty white colour; the inner surface of the shoulders, and the inner margins of the wing feathers, pale fulvous, which colour also prevails upon the sides of the breast covered by the bases of the wings. Tail, dark brown; the two middle feathers towards quills strongly tinged with grey, and as well as the lateral ones are crossed by numerous narrow dark bars, which are only distinctly observed in certain lights.* Bill blackish brown; eyes, legs, and toes, dark brown; claws, light brown.

Form, &c.—Bill nearly as long as the head, moderately strong, the upper mandible distinctly emarginate near the point; culmen moderately curved and slightly obtuse; nasal fossa oval, the nostrils opening towards its inferior and anterior margin; the upper portion of the fossa is closed by a delicate horny membrane; a few strong black bristles near the angles of the mouth. Tarsi strong, in front coated by broad transverse plates, behind and on the sides by a continuous horny shell; hinder toe the strongest and with the largest claw. Wings short, rounded, and when closed cover the first third of the tail; the

* This character occurs in many other species of the genus.

innermost secondaries but very little shorter than the primaries. The 4th primary quill feather longest, and scarcely exceeding the 5th, 6th, 7th, and 8th, the 3rd shorter than the 8th, and not quite so long as the shortest of the secondaries; the 1st about half the length of the 4th. Tail broad and rounded at the extremity. The feathers of the head, neck, throat, and breast, rigid: those immediately in front of the eyes wiry and decomposed.

DIMENSIONS.

	Inches.	Lines.
Length from the tip of the bill to the extremity of the tail	10	0
of the tail	5	0
of the wings when folded	4	6
of the bill from the angle of the mouth	1	1

	Inches.	Lines.
Length of the tarsus	1	6
of the hinder toe	0	5
of the middle toe	0	8½

In the female the general colours are less bright, and the white spots are not so pure, particularly those on the throat and breast.

The first specimens of this bird were obtained in latitude 25° 24′ S., and, as we have reason to believe, upon the extreme limit of its southern range. Where the species was first discovered, only a very few specimens were observed; but, by the time we had reached a degree more to the northward, they occurred in great abundance. Spots covered with reeds, such as are seen along the margins of many of the rivers of the country they inhabit, appeared to form their favorite feeding places; and though, when disturbed, they would leave those for a time, and take up their abode among the brush-wood with which the banks of the streams were more or less covered, they invariably returned to the haunts they had left when the cause which led them to remove had ceased to exist. While lodged among the reeds they were almost incessantly in motion; and, from their being generally associated in great numbers, the noise occasioned, partly by their flitting from one stem to another or climbing, and partly by the harsh cries they uttered, more especially on the appearance of danger, rendered even a temporary residence in the vicinity of their haunts quite disagreeable. Though they evidently preferred, as resorts, the situations described, yet, where reeds did not occur, they were occasionally found among the brushwood remote from rivers; and in these positions they also displayed an extremely restless disposition; scarcely were they observed to enter a bush or thicket before they were seen leaving it from the opposite side, for an adjacent one. Though such was their common practice, there were times when they appeared less disposed to hasty changes, and when they were to be noticed, not simply following a tortuous course, but even ascending and descending among the branches; nay, even visiting the ground below and around the bushes. As far as we had opportunities of judging, they feed exclusively upon insects; and those which were killed when among the reeds, seemed to have committed great havoc upon the larvæ of *Gryllidæ*, &c. while those obtained among the brushwood appeared principally to have fed upon coleopterous insects.

EUPLECTES TAHA.— A Male —B Female
Aves.— Plate 7.)

EUPLECTES TAHA.—Smith.*

Aves.—Plate VII.—(Male.)

Mas in æst. E. niger; capite supernè, dorso, caudæ tectricibus superioribus et inferioribus, fasciâque ante humeros flavis; humeris, remigibus, rectricibusque cinereo-brunneis; oculis brunneis; pedibus flavo-brunneis.

Longitudo, 4 unc. 9 lin.

Mas in hyem., et Fem. E. supra pallidè flavo-brunneus, nigro-striatus; subtus cinereo-albus lineis brunneis variegatus; gutture pectoreque ochreo tinctis; strigâ superciliari flavescenti-albâ.

Colour.—(*Male, summer plumage.*) The crown of the head, the back, the upper and under tail-coverts, the vent, and a narrow oblique stripe on each side of the breast immediately in front of the shoulders, bright yellow; shoulders, quill feathers, and tail, grey-brown; the shoulder feathers, and the outer vanes of the quill feathers, faintly edged with dirty white; insides of shoulders pale cream-yellow verging on white; thighs pale yellow, freckled with brown. The space in front of the eyes, the sides of the head, a stripe on each side of back adjoining the bases of the wings and all the under parts of the body as far as the vent, deep brownish black. Bill light umber-brown, the lower mandible lightest. Feet and claws yellowish brown; eyes brown.

(*Male, winter plumage.*) Above, pale yellowish brown; the head, neck, and interscapulars, freely dashed with longitudinal brownish black stripes or blotches, and the back and upper tail coverts with faint narrow stripes of the same colour; shoulder feathers blackish brown edged with rusty white; quills and tail grey-brown, the former margined externally with rusty white, the latter margined on both vanes and tipt with the same colour. Eyebrows yellowish white; ear coverts pale rusty brown; under parts of body greyish white, the throat and breast tinged with sienna yellow, and these as well as the flanks are variegated by longitudinal brown streaks. Bill, particularly the lower mandible, lighter than in the summer season.

* In bringing this bird under the notice of our readers, I have not adopted the generic term (*Oryx*) introduced by Lesson, (Traité d'Ornithologie, tom. i. fol. 437. Paris 1831.) who first established the genus to which it belongs, merely because the same term had previously been selected by Col. H. Smith, (The Animal Kingdom, translated by E. Griffith, vol. 5.) to designate one of the forms of the *Antelopidæ*.

Form, &c.—Typical. Wings, when folded, reach over the first half of the tail; the first, or spurious quill feather, very small, the second but very little shorter than the third, which is the longest; tail even. Tarsi rather slender; outer and inner toes of equal length, and rather longer than the hinder one, the middle toe considerably longest; claws long, slender, and but slightly curved.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the tip of the bill to the point of the tail	4	9	Length of the tarsus	0	9
of the tail	1	5	the middle toe	0	7
of the wings when closed	2	7	the outer toe	0	4½
			the hinder toe	0	4

The adult female, during the summer and winter exhibits nearly the same coloured plumage as the male in winter.

The present species is more nearly allied to *Euplectes melanogaster*, (*Loxia melanogaster*, Lath.) than to any other species of the genus yet described; it is, however, readily to be distinguished from it, by the under part of the body being black, while in *E. melanogaster*, the middle of the breast and belly only are black, the sides being yellow.

Immediately preceding the breeding season, the birds of this species begin to moult, at which time the new feathers of the males appear with the colours described, and these colours they retain until the approach of autumn, when they gradually lose them, and assume the tints of the females. The species does not appear to extend south of 26°, at least we discovered no individuals prior to reaching that latitude; and the natives more to the southward, appeared unacquainted with the bird. In the districts to the north of 26°, however, it was common, and large flocks were often observed among the trees near to the banks of rivers. Though they were generally among trees at the time we passed through the country, we were informed they leave them on the commencement of the breeding season, for the reeds which here and there skirt the rivers, and from those they suspend their nests. Like *Euplectes oryx*, they prove very destructive to gardens during the summer season, and it requires some of the natives to be constantly on watch to save their crops from being entirely devoured by the one or other of these species.

It may not be out of place to mention that the species of this genus inhabiting Southern Africa are

Euplectes oryx, (*Loxia oryx*, Lin.)
Euplectes Capensis, (*Loxia Capensis*, Lin.)
Euplectes Taha, Smith.

PHILETÆRUS LEPIDUS
(Aves – Plate [illegible])

PHILETÆRUS LEPIDUS.—Smith.

Aves.—Plate VIII. (Male.)

P. capite dorsoque pallidè flavo-brunneis; collo supernè, interscapularibusque nigro-brunneis; plumis albo-marginatis; remigibus rectricibusque brunneis, harum apicibus isabellinis, gulâ strigâque ad basin rostri nigris; genis, collo subtus, pectore ventreque pallidè isabellinis, vittâ longitudinali ante femora nigrâ, plumis albo-marginatis; oculis brunneis; rostro pedibusque pallidis.

Longitudo, $4\frac{3}{4}$ unc.

Loxia socia, *Latham*, Pater's Voy. Pl. 19.
Ploceus socius, *Cuv.* Reg. Animal. tom. i. p. 384. 1817.
Philetærus lepidus, *Smith*, Mag. of Nat. History, new series, vol. i. p. 536.
Euplectes lepidus, *Swainson*, Lard. Cab. Cyclopædia, vol. Menageries, page 309.

Colour.—The top of the head, the nape and the back drab brown; the back and sides of neck, and the interscapulars umber-brown; each feather margined with pale isabella colour; chin, and a stripe at the base of the bill which terminates on a line with the eye, black. The wings and tail light umber-brown; the tertiary quill feathers broadly edged and tipt with isabella colour; the tail feathers also that colour at their extremities. The sides of the head, the under part of the neck, the breast and belly, a pale isabella colour; the flanks pale rusty brown; in front of each thigh a deep black stripe; the feathers margined with yellowish white. Bill and legs a pale horn-colour, the former slightly clouded with brown. Eyes dark brown.

Form, &c.—Figure rather slender; bill more compressed than in *Euplectes;* culmen slightly arched from the base; commissure sinuated; legs and toes strong; tarsi in front covered by transverse plates, the margins of which are distinctly defined; outer and inner toes nearly of equal length; claws pointed and much curved, the hinder one not so long in proportion as in the typical species of *Euplectes;* wings, when folded, reach to about the middle of the tail. The first or spurious quill feather very short, often scarcely discernible; the second, third, and fourth nearly of equal length, and the longest; the extremity of the tail slightly rounded.

PHILETÆRUS LEPIDUS.

DIMENSIONS.

	Inches.	Lines.
Length from the bill to the point of the tail	4	9
of the tail	2	0
of the wings when folded	2	10
of the bill from the gape	0	7

	Inches.	Lines.
Length of the tarsi	0	8
the outer toe	0	$3\frac{1}{2}$
the middle toe	0	$5\frac{1}{2}$
the hinder toe	0	$3\frac{1}{2}$

The female differs from the male in having the feathers of the back and sides of neck and the interscapulars light brown in place of umber-brown.* In young specimens the head is streaked with brown, the patch in front of the thighs consists of perfectly distinct black blotches, and no appearance of black exists either on the chin or at the base of the bill.

The banks of the Orange river appear to constitute the southern limit of this bird's range; but specimens were only obtained in great abundance in the districts around Latakoo, far from water. The most striking peculiarity observed in the species, is the extraordinary manner in which a number of individuals associate, and build their nests under a common roof. When a nestling place has been selected, and the operation of building the nests is to be commenced *ab initio,* the community immediately proceed conjointly to construct the general covering which interests them all; that being accomplished, each pair begins to form their own nest, which, like the roof, they construct of coarse grass: these are placed side by side against the under surface of the general covering, and by the time they are all completed, the lower surface of the mass exhibits an appearance of an even horizontal surface, freely perforated by small circular openings.

They never use the same nests a second time, though they continue for many years attached to the same roof. With the return of the breeding season, fresh nests are formed upon the lower surface of those of the previous year, which then form an addition to the general covering. In this manner they proceed, year after year adding to the mass, till at last the weight often becomes such as to cause the destruction of its support, upon which a new building-place is selected. They appear to prefer constructing these nests upon large and lofty trees, but where such do not occur, they will even condescend to form them upon the leaves of the arborescent aloe (*Aloe arborescens*), as occasionally happens towards the Orange river. The commencement of the roof is firmly interwoven with the branches of the trees to which it is intended to be suspended; and often a great part of a principal branch is actually included within its substance. Each female lays from three to four eggs, which are of a bluish-white colour, and freely mottled towards the large end with small brown dots. When once this species has attained maturity, it never afterwards exhibits any change in respect to colours. The male has no summer tints which he throws aside in winter, as is the case in *Euplectes.* Seeds, and occasionally small insects, constitute the food.

* By a mistake, it was stated in the description of this bird, when it was proposed as a type of a sub-genus, that the female was without the black chin.

MEROPS BULLOCKOIDES.

(Aves _ Plate 9.)

MEROPS BULLOCKOIDES.*—Smith.

Aves.—Plate IX. (Male.)

M. fronte subalbida; vertice pallidè cæruleo-viridi; cervice, pectore, abdomineque summo pallidè cinnamomeis; dorso, humeris, caudâque viridibus; caudæ tectricibus superioribus inferioribusque cyaneis; tæniâ per oculos nigrâ subtus albo-marginatâ; gulâ albâ; gutture coccineo; rectricium secundariârum apicibus nigris.

Longitudo, $7\frac{1}{2}$ unc.

Merops Bullockoides. South African Quarterly Journal, 1834.

Colour.—Front whitish; top of the head pale bluish green; the back and sides of the neck, the breast, and the belly, pale cinnamon brown; vent dirty green; back, wings and tail light grass-green; the upper and under tail coverts, and a spot on each side at the base of the thigh ultra-marine blue. The side of the head crossed by a deep black band, edged below with white, which colour also prevails on the chin; throat scarlet; the inner surface of the shoulder, and the edges of the inner vanes of quill feathers fulvous, the secondaries broadly tipt with black; the inner vanes of the tail feathers, with the exception of the two centre ones, margined with dull brown. Bill and claws black; legs and toes greenish black. Eyes crimson.

Form, &c.—Bill broad at the base, slightly curved, the culmen carinated and moderately arched; nostrils oval and partially covered by recumbent wiry feathers or short black bristles. Wings, when closed, reach to about the commencement of the last third of the tail; the third and fourth quill feathers the longest, the second and fifth nearly equal, the first about half the length of the third. One or two of the tertiary wing feathers nearly as long as the primaries. The extremity of the tail square or very slightly rounded.

* So named from its general resemblance to Merops Bullockii.

MEROPS BULLOCKOIDES.

DIMENSIONS.

	Inches.	Lines.
Length from the tip of the bill to the point of the tail	7	6
of the tail	4	0
of the bill from the angle of the mouth	1	7
Length of the wings when closed	4	6
of the tarsus	0	$3\frac{1}{2}$
of the middle toe	0	3
of the hinder toe	0	2

The female resembles the male, with the exception that the colours are not quite so bright.

Between this species and Merops Bullockii many discrepancies might be instanced, but the diagnostic character, which will prove the most readily available, is the colour of the upper tail coverts. In the present species, this colour is invariably similar to that of the lower ones, whereas in Merops Bullockii it is very different.

It was not until the expedition attained the 25° of south latitude that this bird was discovered, though north of that it appeared not uncommon. When observed, it was generally either perched upon the tops of trees, along the immediate banks of rivers, or in the act of making short circuits through the air, apparently in chase of flying insects. As may be inferred from the structure of its wings, it is not a bird which flies for any great length of time without resting; it seeks its food during frequent low and short flights, and after each of these, often returns to the perch from whence it proceeded. In respect of its habits, as well as its wings, it closely resembles *Merops Erythropterus*, Lin.; but, in regard to both these characters, it differs from the other species of the genus yet observed in South Africa. Upon the modified structure of the wings in this species and *M. Erythropterus* may depend the circumstance of their being permanent inhabitants of the districts where they are found, and where they encounter a cold during the winter much more severe than ever occurs farther to the southward, and from which the *Merops Apiaster*, Lin. *M. Savignii*, Levaill. and *M. chrysolaimus*, Jard., fly towards the end of summer. From observations I have had occasion to make, I think it probable that the migrations, both of birds and quadrupeds, will be found often to depend more upon causes which have hitherto been comparatively overlooked, than upon any absolute deficiency of food in the countries from whence they retire. Connected with this opinion, I may instance the circumstance of a species of swallow, which inhabits the mountains of the Cape Colony during the summer months, repairing in the winter to the vicinity of houses left, by another species, on the approach of the cold season. It there finds food sufficient for its support, till the other species, gifted with more vigorous powers of flight, and a superior courage, returns and drives it back again to situations which it had for a time abandoned.

PTEROCLES VARIEGATUS.
(Aves – Plate 10.)

PTEROCLES VARIEGATUS.

Aves.—Plate X. (Male.)—Burchell.*

Mas. P. fronte nigra; capite supra ochreo, nigro brunneoque variegato; mento, capitis lateribus striâque superciliari argenteo-griseis; collo supra, dorso, humerisque olivaceo-brunneis guttis albis sparsis; humerorum plumis quibusdam subrufis; corpore subtus rufo-brunneo abdomine pallidiori; gutture pectoreque guttis albis variegatis; tectricibus primariis remigibusque brunneis, horum interioribus albo-terminatis; rachidibus ad apicem brunneis, versus basin albis; rectricibus duabus intermediis olivaceo-brunneis, pogoniis externis rufo-albo-subfasciatis, reliquis brunneo-nigris; pogoniis externis rufo-albo-subfasciatis; apicibus omnibus pallidè ochreis; rostro unguibusque nigro-brunneis; oculis brunneis; pedibus livido-brunneis.

Fem. Mento, capitis lateribus striâque superciliari pallide ochreis; abdomine pallidè rufo-brunneo, albo fasciato; rectricibus nigro-brunneis sordidè albo-subfasciatis: coloribus reliquis fere ut in mari.

Colour.—Feathers immediately behind nostrils black;† upper surface of head mottled with longitudinal stripes of ochry-yellow and dark umber-brown; chin, sides of head, and a stripe over each eye, silvery-grey; bare space round eye light yellow. The upper surface of the neck, the back, the upper tail coverts, and the shoulders, light olive-brown, with a strong shade of yellow, and freely sprinkled with small round white spots,—one spot on the margin of each web; some of the shoulder feathers, particularly towards the wing coverts, intermediate between gall-stone yellow and reddish orange. The feathers of several of the parts enumerated are towards their bases either a light brown or an umber-brown, more or less glossed with grey, and it is only towards their tips that they exhibit the olive-brown tint. Primary wing coverts, and the primary and secondary quill feathers light umber-brown; all the primaries excepting the two or three outermost, tipt with white; some of the innermost tertiaries and the scapulars brown, glossed with grey, and tipt with greenish yellow, each vane marked with a round white spot; the shafts of both primaries and secondaries pure white, except towards their points, where they are of the same colour as the webs of the feathers. Secondary quill coverts wood-brown, glossed with grey, and tipt, and partially edged with white. Under-surface of the neck and the breast rufous brown, sparingly spotted with white; belly and inner surface of shoulders, and a stripe behind each eye, the same colour as the breast, only much paler; legs and under tail-coverts pale ochre-yellow. The two centre feathers of the tail olive-brown, partially barred with tawny white, the remaining feathers brownish black, with one or

* Travels in South Africa, vol. ii. p. 345.

† In some individuals the black is less intense, but in all the adult specimens of the species I have seen, it has always been very distinct.

two partial tawny bars upon their inner vanes; the tips of all pale ochre-yellow. Bill and claws umber-brown; eyes dark brown; toes livid brown.*

Form, &c.—Typical. Bill short and slender; wings when folded, reach to within about half an inch of the point of the tail; first quill feather longest, and slightly exceeding the second; the remainder successively decrease in length; the longest of the tertiaries rather exceeding the length of the seventh primary quill feather; tail cuneated, the two centre feathers slightly prolonged beyond those on each side of them and accuminated; lateral toes equal.

DIMENSIONS.

	Inches.	Lines.
Length from the base of the bill to the tip of the tail	9	6
of the tail	3	3
of the wings when folded	6	5
of bill from the angle of the mouth	0	7

	Inches.	Lines.
Length of the tarsus	1	1
of the middle toe	0	9
of the outer toe	0	6

In the female, the chin, the sides of the head, and the stripe over the eyes is ochre-yellow, instead of silvery grey; the belly is pale yellowish brown, barred with dusky white; along its centre the first colour is often almost umber-brown; the feathers of the flanks are light brown tipt with white; all the tail feathers blackish brown, partially barred on both vanes with tawny white and tipt with ochre-yellow; elsewhere the colour of the plumage is nearly the same as in the male.

The first specimens of this species which we procured, were obtained at *Tsining*, about thirty miles to the westward of Latakoo. The habit of repairing to springs, or other collections of water, at fixed periods, to drink, is common to it, with the other species of the genus *Pterocles*. Early in the morning, between the hours of seven and nine, appeared to be the time destined for the present species to quench its thirst, and between those hours specimens were to be obtained in abundance, wherever water was accessible, both to the west and north of Latakoo. Like *Pterocles gutturalis*, they feed singly, or in pairs, and like the latter, congregate before they reach their drinking-places, and generally appear in larger flights, owing, no doubt, to the members of this species being more numerous. In their progress to and from these places of daily resort, in common with *Pterocles tachypetes*, Temm., *P. bicinctus*, Temm., *P. simplex*, Lesson, and *P. gutturalis*, they fly at a great height, and suddenly descend, when they approach the water, or their feeding grounds, and even on some occasions, the descent is not commenced before they are directly over the spot where it is their object to alight. On such occasions they require to form a semi-circular or circular movement before they can reach the desired spot. In the stomachs of this species were found seeds, small bulbs, and abundance of fine gravel.

* No two specimens of this species exhibit exactly the same intensity of tints, and often not even what would be described as the same colour.

ECHIDNA INORNATA
(Reptilia, Plate 4.)

ECHIDNA INORNATA.—Smith.

Reptilia.—Plate IV.

E. supra flavo-brunnea, subtus brunneo-flava, brunneo marmorata; caudâ supra fusco-variegatâ; capite distincto oblongo cordiformi; scutis abdominalibus 140; scutis subcaudalibus serie duplici collocatis circiter 24.

Longitudo $13\frac{1}{4}$ unc.

Colour.—Back and sides dark yellowish brown; belly brownish yellow, sparingly sprinkled with brownish dots; tail above indistinctly marked with dull brown spots or bars.

Form, &c.—Head oblong, heart-shaped, and rounded at the nose, above flat, with a slight hollow between the eyes, depending upon the superciliary arches being considerably elevated; temples convex and bulging; nostrils close to the extremity of the head, their openings directed forewards and outwards; eyes lateral, and approaching the nostrils; neck considerably narrower than the hindhead; the body increases in size till within about four inches of the anus, where its thickness is greatest, from thence it tapers gradually to the latter. The tail is very short and slender, and terminates in a fine point. The scales on the nose and sides of the head in front of the eyes rounded, slightly convex, and smooth; on the top of the head, and on the space under the eyes and temples, they are rather oblong and slightly carinated; the eyes surrounded by a complete ring of small plane scales. On the neck, body, and tail, the scales are oval and slightly convex, each with a strong carina along its centre, and are disposed in oblique rows across the back; on the tail and hinder part of the body, the points of the scales reach, or even overlap the base of those directly behind them, whereby the carinæ are contiguous and form a series of delicate uninterrupted longitudinal ridges. On the remainder of the body they are more apart, and the continuous ridges do not exist.

DIMENSIONS.	Inches.
Length from the tip of the nose to the extremity of the tail.....	$13\frac{1}{4}$
Length of the tail	$1\frac{1}{4}$
Circumference of the thickest part of the body..	$2\frac{3}{4}$

ECHIDNA INORNATA.

This snake was killed in the Sneeubergen, or Snow-mountains, which are situated immediately behind the village of Graaff Reynet, and was presented to the expedition party by J. Lieb, Esq., the government surveyor of the district.

Little is known of the habits of this Snake, save that, like the other species of the genus, it is indolent, and heedless of the approach of man.

In addition to the species here figured, we shall, during the progress of these illustrations, have occasion to furnish representations of two others—the one *Vipera ocellata*, Smith,* (not Latreille), the other yet undescribed. The former has a projecting cylindrical scale, from a line to a line and a half in length upon each eye-brow, and is readily to be distinguished from *Vipera cornuta*, Daud, by having the under surface of the tail, whatever may be the age of the specimen, covered with scales nearly similar in form to those on the remaining portion, and faintly carinated. The latter, *Vipera atropoides*, exhibits a manifest resemblance to *Vipera atropos*, Daud, having, like it, two rows of black spots along the middle of the back, and some irregularly coloured variegations on the sides. It differs, however, in many material points, more particularly as regards the form and proportions of the head, and the arrangement of the scales, especially around and near the eyes.

Taking these into consideration, we will in future have to record six species of the genus *Vipera* as inhabitants of South Africa, viz., *Vipera arietans*, Merr.; *V. atropos*, Latr.; *V. cornuta*, Daud; *V. inornata*, Smith; *V. ocellata*, Smith; *V. atropoides*, Smith: or if we adopt the subdivisions proposed by Merrem and Wagler, which, in the present state of the science, may probably be employed with advantage, these species will stand:—*Echidna arietans*,—*E. atropos*,—*E. inornata*,—*E. atropoides*,—*Cerastes cornutus*, and *C. ocellatus*.

The vipers, and one or two species of *Elaps*, are the only snakes of South Africa which permit themselves generally to be closely approached without evincing any apparent concern; the others either manifest a disposition to act on the offensive, or to fly; even an unusual noise, without its cause being visible, is sufficient to ensure the retreat of the innocuous ones. The different species of *Naia* and the *Elaps lubricus*, Merr., but particularly the former, are always ready for the fight, and when their haunts are invaded, they often advance upon the intruder with the head and anterior part of the body almost perpendicular, the neck expanded, and an expression sufficiently indicative of the malignant purpose they have in view. To witness such a proceeding, once fell to my own lot. Walking in the vicinity of Graham's Town, I happened to excite the attention of a *Naia Haemachates*, which immediately raised its head, and warned me of my danger by the strength of its expiration; it then commenced an advance, and had I not retired, I should, in all probability, have suffered, provided I had not been fortunate enough to disable it, which possibly would not have happened, considering that the species, in commonwith others of the genus, is extremely active. Even though I retired, I was not satisfied the danger was past, as the flight of this snake's enemy does not always put a stop to its advance, when once commenced. An officer of the Cape corps, upon whose accuracy the most implicit reliance was to be placed, informed me that he once was chased twice round his waggon by an individual of the same species, and the pursuit might have been prolonged had not a Hottentot disabled the enraged reptile by a blow from a long stick.

* Magazine of Natural History, New Series, No. 14, page 92.