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“It will flourish, if naturalists, chemists, antiquaries, philologists, and men of science in different parts of *Asia*, will commit their observations to writing, and send them to the Asiatic Society at Calcutta. It will languish, if such communications shall be long intermitted; and it will die away, if they shall entirely cease.” SIR WM. JONES.

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CALCUTTA :

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1872.

(Note). I have only noticed some of the birds I met with in Cashmir. To have included the whole would have made this paper too long. I should observe in conclusion that *Totanus hypoleucos* breeds plentifully on the Cashmir streams, and *Ibidorhynchus Struthersii* sparingly. Two ducks breed there *A. boschas* and *Fuligula Nyroca*. *Ardetta minuta*, *Ardea cinerea*, *Nycticorax griseus*, *Scolopax rusticola*, *Fulica atra*, *Hydrochelidon Indica* and *Crex Bailloni*, all breed in the Cashmir valley.

NOTES ON VARIOUS NEW OR LITTLE KNOWN INDIAN LIZARDS,—
by DR. F. STOLICZKA.

(With Plates II—V.)

[Received and read 6th September, 1871.]

In continuation of my notes on some *Ophidians*,* I have in the present paper placed on record observations respecting different species of Saurian Reptiles. In obtaining materials for this purpose, I have received constant support from Dr. F. Day, (collecting in the N. W. Provinces and Panjáb), from Major Beddome (Sth. India), Mr. Kurz, (Burma), Mr. Wood-Mason, (Bengal and N. W. Provinces), Mr. Mandelli (at Darjeeling) and Mr. Martin (at Pankabaree). Numerous specimens, thus brought together from almost all parts of India, have enabled me not only to discriminate several imperfectly known species, but also to prove the identity of several others. As far as it appeared practicable, I have supported my descriptions by drawings of the typical specimens.

To indicate briefly the results :—I have noted at length some variations in different species of *Lacertidæ*, and have shewn that little reliance can often be placed in the form and number of the anterior head-shields, a character which is occasionally considered by herpetologists† to be of primary importance in the definition of genera. A complete list of all known Indian and Burmese *Hemidactyli* is given and a few new species described. The genera of the Indian ground *Agamidæ* require serious revision, and a few notes on this subject will be found embodied in the subsequent pages. The *Charasia dorsalis*, recorded some little time ago by Mr. W. T. Blanford from Central India, proves to be a new species. As regards *Stellio* a conspectus is given of the four Indian species at present known. In the *Scinc* family I have discriminated three Indian *Hinuliæ*, *H. indica*, *maculata* and *Dussumieri*, and commented upon various species of *Mocóa*, *Riopa*, *Euprepes*, &c.

* Jour. A. S. B., vol. XL, 1871, p. 421 &c.

† Comp. Dr. J. E. Gray 'Lizards'; Steindachner, Sitz. Akad. Wien, Math. Nat. Klasse, vol. LXII, 1870, p. 336.

In connexion with the descriptive details, (often necessarily tedious), I have noted the geographical distribution of most of the species, as far as I had been able to obtain reliable information.

Fam. LACERTIDÆ.

From observations which I made on *Tachydromus*, *Ophiops*, and *Acanthodactylus*, I presume that the form, size and number of shields on the antero-superior part of the head, and also partially the nasal shields are unreliable for generic, and often even for specific, distinctions.

TACHYDROMUS SEXLINEATUS (I. R.,* p. 69.)

I have from the low valleys of Sikkim 25 specimens which I believe to be Daudin's *T. sexlineatus*; they certainly belong to the same species which occurs in Asám and in Burma, those from the latter province having also been referred to the above named species by Dr. Günther; and another specimen of the same species was noted by Blyth from Mergui. (Journ. A. S. B., 1855, xxix, p. 716).

The Sikkim specimens present, however, certain variations which deserve special notice, because they are important as regards comparison with allied forms. The two nasals generally form a distinct suture between rostral and anterior frontal, rarely do these four shields meet in one point. In one specimen the anterior frontal is regularly divided into two shields. The nasal is followed at the hinder inferior edge by a triangular shield, which rests on the posterior upper half of the first upper labial. In two specimens the anterior corner, and in one the upper corner is detached from the inferior postnasal and forms a separate little shield by itself. One specimen has on one side 3, on the other 4 chin-shields, and four specimens have regularly 4 pairs of chin-shields, the two first pairs representing in size exactly, or very nearly, the first pair of such specimens as have only 3 pairs of chin-shields.

There are always 8 longitudinal rows of enlarged scales on the upper side of the neck, separated from the occipitals by only a few smaller scales. Of those 8 rows the outermost on each side has the smallest scales and, although it can generally be traced at the side of the body, it always remains indistinct, somewhat irregular and is occasionally broken up, and the scales never enlarge in size. The other six rows are well marked on the neck and have most probably given rise to the specific name *sexlineatus*. The outer row on each side becomes somewhat obsolete before it reaches the shoulder, while the remaining four rows of enlarged scales continue on the body, and down to the tip of the tail. To these four rows Daudin's name *quadrilineatus* evidently applies.

* The reference 'I. R.' stands for Dr. Günther's 'Reptiles of British India.'

On the lower side of the body I find constantly only six longitudinal rows of scales on the chest between the axils, one ridge connects the axil with the groin at the edge of the belly and above this follow always two, only in very old specimens sometimes three, shorter rows of enlarged keeled scales. Thus there are on the lower half of the circumference of the body, strictly speaking, 12 series of longitudinal rows of enlarged scales, 6 on the lower side of the belly and 3 (rarely 4) on each side of it. Dum. and Bibron correctly refer to the "six series longitudinales" along the lower side of the belly, and besides to the enlarged scales on the flanks, not, however, defining their exact number, most likely because they found them to be variable. Dum. and Bibron's statement cannot, therefore, be attributed to a probable misprint, as suggested by Dr. Günther (l. cit., p. 69).

The coloration and size and proportions of the Sikkim specimens exactly correspond with those of *sexlineatus*. Some have a white iridescent stripe along the edge of the back; others are uniform green above, with a more or less distinct bronze tint. The fore-limb reaches to the rostral and the hind-limb nearly, or exactly to the axil, when laid forward. Of all the specimens examined, there is only one with two inguinal pores on each side, several have 3, but most 4 or 5 pairs, often succeeded by a sixth imperfectly developed one.

What follows from these observations is:

1st.—That the *Tachydromi* cannot be grouped with sufficient reliance, either by the number of chin-shields, or by the number of inguinal pores, as suggested by Dr. Günther, these two characters being evidently very variable within the limits of one species; and that the most important difference must rest in the number and size of the scales of the body, the proportions of the limbs and the general form.

2nd.—That the specific distinction between *T. meridionalis* and *sexlineatus* is not so definite, as it would appear to be from Günther's description of the former species. Both appear to have an indistinct short fold before the shoulder, when adult, but in *meridionalis* there are said to be 2 or 3 more transverse rows of scales between axil and groin, and the limbs would seem to be slightly shorter. Whether these points represent sufficiently characteristic distinctions, can only be shewn by the examination of a larger number of specimens.

3rd.—That *T. Haughtonianus* (Jerdon, Proc. A. Soc. B., Feb. 1870, p. 72) must range with Günther's *septemtrionalis* (and not with *T. Japonicus*), and as the number of chin-shields is not characteristic, the two are evidently closely allied, but in the former the median row of dorsal scales is not smaller than the lateral ones; the fore limb does not reach the rostral shield, when laid forward, nor the hind-limb the axil.

✓ OPHIOPS JERDONI, Blyth.

Blyth in Journ. Asiat. Soc. Bengal, 1853, vol. xxii, p. 653. —Günther I. R., p. 72.

Tropidosaura Jerdoni apud Theobald, Cat. Rept. Asiat. Soc., 1868, p. 22.

Pseudophiops Jerdoni et *Theobaldi*,* Jerdon in Proc. A. S. B., Feb. 1870, p. 71 &c.

I have lately received from the neighbourhood of Agra and the country northwards, towards Ambala, about 20 specimens of the form described by Jerdon as *Pseudophiops Theobaldi*. The characters given as distinctive from the only type of *Ophiops Jerdoni* are not constant; therefore, *O. Theobaldi* must be considered as identical with *Jerdoni*, as has already been suggested by Major Beddome (Madras J. Med. Sc., for 1870). Moreover, the genus *Pseudophiops* proves to be perfectly identical with *Ophiops*. Already in the somewhat injured type of *Ophiops Jerdoni* in the Museum there is on one side a distinct groove seen to proceed from behind the nostril and dividing the nasal. In one of Jerdon's specimens of *Theobaldi*, presented to the Indian Museum, the nasal is, as far as it can be traced, in one shield, but in the other it is distinctly between two shields, followed by two postnasals, which is also the usual number in the type of the genus, *Ophiops elegans*, while three postnasals are evidently of much rarer occurrence. In nearly all the specimens which I lately received, the nasal is exactly as in *O. elegans*, between two shields, only few have them anteriorly, and others also posteriorly, entire; therefore the name *Pseudophiops* must be cancelled.

As regards the species, *O. Jerdoni*, I have to record the following variations. As a rule there is one frontal; in one specimen this is obliquely divided into two unequal shields, and in two specimens it is divided regularly along the middle into two halves. The posterior frontals are sometimes in contact with each other, or they are divided by one elongated, linear shield, or by two smaller ones following each other. Each posterior frontal is behind separated from the respective supraorbital by a small shield, but occasionally the latter is united with the frontal. The elongated vertical, the two large supraorbitals, the pair of anterior occipitals forming a suture, and the larger posterior occipitals separated by two unequal shields, following each other, are persistent in all. There are 8 upper and 7 lower labials, the last in each case smallest, and there are 5 or 6 pairs of chin-shields, the last generally followed by two smaller shields. In one specimen the two, rather larger, anterior pairs are in contact, in others, three anterior pairs form a suture. The number of scales round the body is generally 30, sometimes 32, very rarely 34, of these the 6 ventral longitudinal rows are enlarged and smooth, as are also one or two adjoining rows on either side, while all the other scales are very sharply keeled. The fore-leg, when laid forward, very

* Beddome notes the M. S. name *Civittata*, which was evidently suppressed by Dr. Jerdon himself. Comp. Beddome in Mad. Jour. Med. Sc. for 1870.

nearly or exactly reaches the nostril, and the hind limb extends to somewhat beyond the axil, rarely as far as the ear. Some of the largest specimens measure very nearly 5 inches, the body being $1\frac{1}{2}$ inch.

The coloration also is variable; it is usually bronze brown, sometimes with an olive and often a greenish metallic tint. The four white bands, two along the edge of the back and two at the sides, are generally well marked; however, in some specimens the dorso-lateral bands are very indistinct. Again, there are as a rule two series of black dots, separated by reddish brown ones, on the back along each white band, and similar black spots, almost forming irregular bars, are at the sides between the white bands, and also below the lateral band. In two specimens all these black spots are remarkably small, and in one of a distinct greenish brown coloration they are nearly absent, but the white bands are well marked. This specimen is one of the two which I noticed as possessing a pair of anterior frontals, and very closely corresponds with *Ophiops Beddomei*, Jerdon* (= *monticola* apud Beddome, Mad. Jour. Med. Sc. for 1870).

I collected near Kandala, on the Western Gháts, a specimen which agrees in every point with Beddome's description of *monticola*. It has the uniform greenish brown coloration with the dorso-lateral white stripes very indistinct, but the lateral ones well defined; there is a pair of anterior frontals present, and the femoral pores are more widely separated in the preanal region, than in any of the specimens of true *O. Jerdoni* which I examined. Considering the variations which I have noticed in undoubtedly identical specimens of *O. Jerdoni*, I cannot but doubt that *O. Beddomei* (= *monticola*) will prove a really good species. However, more specimens must yet be examined, in order to settle this point.

3 GYMNOPS MICROLEPIS, Blanf.

Blanford, Jour. Asiat. Soc. B., 1870, xxxix, p. 351, pl. xv, figs. 1—5.

A few specimens of this species, which was described from a single specimen from the Central Provinces, were collected by me at the coal mines of Kurhurbali, W. Bengal.† One specimen has 5, the other 6, pairs of chin-shields, the last pair in each case followed by a smaller shield. In other respects of structure of shields and scales, proportions of body and coloration the specimens perfectly agree with Blanford's description, except that the number of scales in one transverse row between the 6 longitudinal enlarged rows on the belly, and counted across the back, is generally 56-64 instead of about 50; but this is evidently a character which may be expected to vary with the size of the lizard. There is a good deal of variation in the number and distinctness of the dark spots accompanying the white bands; in some specimens the former nearly become obsolete. The tail is reddish in young specimens,

* Jerdon, in Proc. Asiat. Soc., Feb. 1870, p. 72.

† I found it since abundant in Katch.

and the lower side of adults often with a distinct yellow tinge, particularly on the lower side of the thighs. One of the largest specimens measures $5\frac{1}{4}$, another $5\frac{1}{2}$ inches.

Gymnops is distinguished from all known species of *Ophiops* by the peculiar small size of smooth scales, being almost granular on the neck; they altogether resemble those of *Eremias*. It further differs from *Ophiops* by having one instead of two postnasals, this is, however, a character not of great generic value, as already observed by Mr. Blanford, when suggesting the separation of the present species into a special genus or subgenus.

4 ACANTHODACTYLUS CANTORIS (I. R., p. 73).

I received numerous specimens of this species from the neighbourhood of Agra, Ambala and Lúdíana, together with *Ophiops Jerdoni*, both of which have also been found associated by Dr. Jerdon (Proc. A. S. B., Feb. 1870, p. 71) in the country a little westward in the Panjáb.

The specimens measure between 4 and 9 inches, the length of the body being $1\frac{1}{3}$ to $2\frac{3}{4}$ inch. When young they are usually marked with 8 longitudinal black stripes, separated by white ones of equal width. Four of these stripes are on the upper side of the body, the two inner coalescing into one before they reach the middle of the back, while the two outer unite on the anterior part of the tail. One dark band runs on the upper edge of the sides of the body, and one connects the ear with the groin. In more adult specimens the dark bands become gradually less distinct and are first dissolved into spots, until they gradually quite disappear; and the same is more or less the case with the white bands and other spots. The general colour changes from brownish to pearly grey, and there is always a more or less distinct purplish iridescent lustre traceable on the scales. This is particularly clearly seen in the more uniform coloured adult specimens, which often shew an indistinct reticulation of a dull reddish tinge on the upper side of the neck and back. Limbs above white spotted, top and sides of head dark spotted or marbled; the dark spots disappearing with age; below uniform white or greenish white. I have to note three points in which nearly all the specimens I examined differ from the type described by Dr. Günther:—

1st.—There are always 3 or 4 scales at the front edge of the opening of the ear, slightly projecting into its space, unless the edge be accidentally turned inwards.

2nd.—There are very often 14 longitudinal, along the median dorsal line convergent, rows of enlarged, keeled scales across the middle of the back, and the adjoining 2 or 3 rows on either side are equally large, but beyond this the size considerably diminishes. Across the middle of the belly there are 14-16 enlarged smooth scales, 10 being in a row on the flat lower surface of the belly, and the remainder at the side of it.

3rd.—The fore limb, when laid forward, at least reaches the nasal shield and more often the tip of the snout;* and the hind limb extends rarely only to the collar, usually somewhat beyond it, and occasionally as far as the tympanum.

None of these points indicate, I believe, a specific distinction from typical *A. Cantoris*, as described by Günther. Some of my specimens agree in every point of size with the measurements given by Günther; the largest is 9 inches.

Of other variations may be noted:—the anterior frontal is, as a rule, single, sometimes split into two unequal portions, and in one instance it is represented by a regular pair of equal shields. The posterior frontals generally form a suture, but sometimes they are partially or even entirely separated by an intercalated shorter, or longer, or by two, shields. The posterior supraciliaries are often broken up into two shields. The form and number of vertical and occipitals is persistent. The large shield below the orbit sometimes rests on two or on three labials, and occasionally it touches the labial margin itself.

Fam. GECKOTIDÆ.

5 GECKO GUTTATUS (I. R. p. 102).

The young of this, and indeed of most other species† of Geckoes, are dark, or blackish brown, with white spots. Few small spots are on the hinder part of the head, while on the body they are larger and generally arranged in 7 irregular cross series, the first series being placed immediately behind the occiput and the last between the hind limbs; tail blackish with 7 white rings, the last occupying the tip.

The general structure is exactly as in the old, but the tubercles are much flatter; there are (in several specimens) only 34 longitudinal series in the middle of the belly, while in old ones the number rises to 50.

6 PTYCHOZON HOMALOCEPHALUM.

I. R., p. 105 and Journal A. S. B., xxxix, p. 159.

This species occurs both at the Nicobar and Andaman islands.

* Günther says it only reaches 'the front edge of the orbit,' but he gives the fore limb 11 lines, which is exactly the distance between the axil and the nasal shield in all my specimens measuring 7 inches.

† It is, therefore, very probable that the specimen of *Gecko Smithii*, Gray, which I noticed on p. 161 of Jour. A. S. B., 1870, Vol. xxxix, has still the coloration of the young, and may lose most of the white spots, when adult. Dr. Anderson when re-describing the same in Proc. Zool. Soc. for 1871, p. 159, subsequent to the publication of my paper, omitted to notice the identity of the specimen, which it is necessary to do, because a misprint occurred in my statement (l. cit. on p. 162) as regards the total measurement, this being 4·8 inches (instead of 5·8 inches), but the other detailed measurements are correct.

HEMIDACTYLUS.

I have observed in several hundreds of specimens of different species of *Hemidactylus*, (as restricted, and of the section *Doryura*), as well as in the allied genera *Peripia* and *Nycteridium*, that the total absence, or the presence, of a few enlarged tubercles does not constitute a sufficiently distinct specific character. The variations in this respect cannot be accounted for either by age, sex, or the locality, but they are simply accidental. The species belonging to the section *Doryura* have generally a nearly uniformly granular body, well developed paratoid glands and normally a smooth tail, while in *Hemidactylus* the tail is normally spiny, but, when reproduced, it becomes smooth.

The distribution of the Indian and Burmese species of *Hemidactylus* is the following :

- ? 1. *H. TRIEDRUS*, Daud. (I. R., p. 107). Ceylon, South and Central India (Bundelcund).*

Nothing reliable is as yet known about the form for which Jerdon suggested the name *H. subtriedrus* (Jour. A. S. B., Vol. xxii, p. 467). (see pl. ii, fig., 1†).

It is perhaps not specifically different from *triedrus*, but there certainly exist some forms which possess the distinctive characters noted by Jerdon of his *subtriedrus*. Mr. W. T. Blanford kindly allowed me to examine two specimens which he lately collected near Ellore, and which, although agreeing in form, general structure and coloration with *triedrus* (for instance the figure in Belanger's Voyage), differ somewhat from the description usually given of that species. The two specimens are both females, apparently not full grown, and measuring on the average $4\frac{1}{2}$ inches, of which the head is about $\frac{3}{4}$ inches, and rump $1\frac{1}{2}$ inch. None of the tubercles on the back is as large as the opening of the ear; the head does not appear to be shorter than in typical *triedrus*, but the scales on muzzle and throat are certainly very small; a great number of moderately enlarged tubercles on the hinder part of the head; two enlarged shields behind the rostral separated by two small azygous shields; nostril situated between rostral, suprarrostral, first labial and two moderate shields behind; 10 to 12 upper labials, not constant, a row of conspicuously enlarged scales above them; 10 very distinct and well developed lower labials; 2 pairs of chin-shields, first forms a suture; 32 long rows of scales across the middle of the belly. The coloration, which was noted by Mr. Blanford during life is: body generally bluish grey with 5 olive brown, black-edged bands on the body and about 6 on the tail; of the former the first is situated on the neck, 2nd on the shoulder and the last be-

* Proc. A. S. B. for 1870, p. 74.

† Side and lower views of head; natural size.

tween the hind limbs. The band on the neck is darkest. The edges of all are darker and more irregularly undulating in front than behind; a yellow black edged band passes from the nostril to the eye, slightly continuing behind, the lower black margin is the more distinct one and continues through the ear to the cross band on the neck, with the anterior black margin of which it is confluent; upper half of orbit and some spots below eye yellow; head pale, uniform; tubercles on back yellowish, those on the edges of all the blackish bands and at the sides of the belly more distinctly so, brightest on neck; limbs unspotted; below yellowish, all scales minutely punctated. In spirit the whole of the yellow coloration has turned pure white and the dark bands are now white edged.

8 2. *H. MACULATUS*, D. and B.

{Günther, I. R., p. 107.—Stoliczka in J. A. S. B., vol. xxxix, p. 164, and Blanford, ibidem, p. 361.

9 3. *H. PIERESI*, Kelaart, (= *H. Sykesi*, Günther, I. R., p. 108).

It is, I think, clear that Dum. and Bibron, when describing their *H. maculatus*, had under examination the two forms which Günther separated, and for one of which (considered as the young by D. and B.) he retained Dum. and Bibron's name. The two forms are, no doubt, extremely closely allied, and it has yet to be satisfactorily proved, whether *H. Pieresi* should more appropriately be considered as a large local variety of *maculatus*, or as a distinct species, but, I believe, the view taken by Kelaart and Günther, and first of all by Gray, is the correct one. It is certain that *maculatus*, as restricted by Günther, never appears to attain on the continent of India and Burma a larger size than $5\frac{1}{2}$ inches, and this measurement was observed only in two cases among about 200 specimens from South India, Central India, N. W. Provinces, the Sub Himalayan hills, and almost all parts of Bengal, Burma and the Andamans. The usual size is 4 or $4\frac{1}{2}$ inches.

In all these specimens the head and body is brown spotted, the spots on the latter have a tendency rather to arrange themselves in longitudinal than in cross series; in the three median rows the spots are larger and more distinct than at the sides, where they generally become rather confluent. The brown spots are equally distinct, or equally indistinct, in males and females, the variations apparently depending upon the seclusion of the locality in which the lizards live. However, I have repeatedly observed, that in specimens which had the tail reproduced, the brown spots do not retain the same distinctness which they had before. South Indian specimens are generally of dark hue, and often have some of the enlarged tubercles white. Young specimens are always dark brown, with still darker spots, while the majority of the enlarged tubercles is purely white.

As regards structure I find the enlarged tubercles slightly vary. They are always well marked, along the back distinctly trihedral, on the sides often more

rounded; they are arranged, as a rule, in 16 to 20 alternating, longitudinal, but not very regular rows; they are slightly larger and sharper in adult males than in females. The enlarged scales on the middle of the belly somewhat extend to the sides and are usually in 38 or 40 longitudinal series. The femoral pores in the male are 10-14 on either side, very rarely united in the preanal region; as a rule, they are separated by 1 or 3 or 5 scales; if 3 intermediate scales are present, which is very often the case, they are arranged in a triangle.

The specimen recorded by Theobald in Cat. Rept. Asiat. Soc., p. 30, under the name "*H. fasciatus*, Gray (?)" is *H. maculatus*; the former having been described from an unknown locality must, therefore, provisionally remain under that doubtful head, and not be added to the Indian fauna.

The four specimens in the Museum from Ceylon, recorded by Theobald in Cat. Rept. Asiat. Soc. p. 30, No. 41, as *H. maculatus*, belong to the larger form; two of them have the body about $3\frac{1}{2}$ inches and in one the tail is $3\frac{3}{4}$, giving a total measurement of nearly 7 inches. In structure of scales, tubercles and shields, the specimens do not exhibit any important difference from *maculatus*, as usually understood, though at the first sight they appear quite distinct. The two other specimens equal in size typical *maculatus*, but when closely compared with specimens of this species, they evidently possess a certain aspect of immaturity and tenderness of the skin, &c.; their heads are proportionately larger, and the same is the case with the trihedral tubercles, which are present in a slightly smaller number (14-16 rows); their colour is almost uniform whitish. In the two adults, the differences are still more marked, and the brown marbling has an inclination to form transversely arranged bands, very similar to a specimen described by Günther under the name of *H. Sykesi*.* The number of femoral pores is 32-36, in a slightly interrupted series. For this Ceylonese form, Kelaart proposed the name *H. Pieresi* (Prod. Faunæ Ceyl. 1852, p. 159), and as far as can be seen from the drawing of *H. Sykesi* (in Günther's Reptiles), the latter does not in any way differ from the former, therefore, Kelaart's older name must take priority. It also seems to me clear that Dum. and Bibron's largest specimen of *maculatus*, of which they give measurements, is the *Sykesi* of Günther; it is said to occur in the neighbourhood of Bombay, wherefrom Dum. and Bibron received it. Dr. Gray is evidently the original observer of the two forms, the small *maculatus* and the large *Pieresi*, as shewn by him in his 'Lizards' p. 153, where he gives "*H. Sykesi*, Gray, B. M." as the synonym of *maculatus*; and among the specimens of that species he quotes "*a*. In spirits. Female? India, Dukun. Presented by Col. Sykes." This is to all appearance the only type of Günther's species, bearing the name *H. Sykesi*.

* Of Gray?

Kelaart (Prod. Faunæ Ceyl., 1852, p. 158) also gives *H. Sykesi*, Gray, as the synonym of his doubtful *maculatus*. The history of the species appears to have been overlooked by Dr. Günther.

H. maculatus, as restricted, occurs in Ceylon, throughout India, Burma and the Malayan Peninsula extending to Sumatra, Java, &c. Peters in Van der Decken's Reisen gives it also from the Seychelles. It is a very common species in houses about Calcutta.

H. Pieresi is as yet known only from Ceylon and from the Dakhin (Dekan).

10 4. *H. GRACILIS*.—A very beautiful species described by W. T. Blanford from Berar and Raipur in Central India (Journ. A. S. B., Vol. xxxix p. 362, pl. xvi, figs. 4-6).

11 5. *H. RETICULATUS*, Beddome. Madras J. Med. Sc., 1870, p. 33.

12 6. *H. FRENATUS*, Schlegel, (I. R., p. 168).

Hem. sublævis, Gray, apud Theobald, Cat. Rept. Asiat. Soc., p. 30.

H. frenatus, in Journ. A. S. Beng., vol. xxxix, p. 164.

? *H. punctatus*, Jerdon, 1853, Journ. A. S. B., xxii, p. 467.

This species which usually grows to about 5 inches, (rarely attaining $5\frac{1}{2}$) is readily recognised from all other Indian *Hemidactyli* by the small size of the thumb and inner toe; the claw on it is setiform and often so fine as to be hardly traceable. The body is finely granular, but there are always some enlarged rounded tubercles present. In Bengal specimens, two alternate series of those very usually run along the centre of the back, and there are besides about 3 irregular rows on each side of the body. Dakhin (Dekan) and Upper India specimens generally have no enlarged tubercles in the middle of the back. The tail is spiny, unless it has been reproduced, in which case it remains smooth. The femoral pores are either interrupted by one enlarged scale, or they are continuous above the preanal region. The colour is very variable,—uniform grey, or greenish grey, very closely marbled and spotted with dark; or grey with some irregular stripes and close marblings, the former most distinctly marked on the neck and the sides of the belly; or dark brown with some irregular blackish stripes; there is, however, always a more or less distinct pale (during life sometimes yellowish orange) band present, passing from the rostral through the eye and either disappearing above the ear, or continuing along the side of the body down to the groin; this pale band is margined above and below by a dark line. The tail has sometimes an orange tinge, particularly after the cuticle had been shed.

H. frenatus is the commonest Gecko from Ceylon and through India, extending in a northwesterly direction as far as the Panjáb, and occurring all through Bengal, Burma and the whole of the Malayan Archipelago, includ-

ing the Andamans and Nicobars. From all these parts I have examined specimens. It occurs in houses as well as on trees, and among stones. According to Peters it is also found at the Seychelles.

I am strongly disposed to believe that Jerdon's *H. punctatus* was based upon a young female specimen of *frenatus*. I possess specimens which in every point of colouration, and structure and measurement, agree with Jerdon's description, the only apparent discrepancy lying in Jerdon's statement to the effect that "the thumb appears as well developed as in *maculatus*." In some respects this is really the case, the basal portion of the thumb being in the two species nearly equally developed, occasionally almost more so in *frenatus*, but the free claw bearing portion of the thumb is always somewhat shorter in *frenatus* than in *maculatus*.

13 7. *H. LESCHENAULTII*, D. AND B.

Günther, I. R., p. 109.—*Idem*, Jerdon, J. A. S. B., xxii, p. 468.—*H. Coctæi*, apud Kelaart, Prod. F. Ceyl., 1852, p. 160,—*H. Kelaartii* and *Leschenaultii*, Theobald, Cat. Rept. Asiat. Soc. Mus., p. 29 and 30.—*H. marmoratus*, Blf., Jour. As. Soc. Bengal, vol. xxxix, part ii, p. 363, pl. xvi, figs. 1-3.—*H. marmoratus*, Kelaarti and *Leschenaultii*, Blanford in Proc. A. S. B. for August, 1871, p. 173.

The present species generally has, like the previous one, some enlarged, rounded tubercles on the back, at least on the femoral region, more rarely are the tubercles scattered over the entire body. The colour is rarely uniform silvery grey, generally there are some transverse, zigzag dark marblings traceable, and there is usually a dark band through the eye present; 10-16 femoral pores on each side, widely separated in the preanal region.

The species can readily be distinguished from *frenatus* by the well developed thumb, and from *Coctæi* by the greater number of femoral pores, somewhat less widely separated in the preanal region. Kelaart's *Coctæi* is evidently this species, and was named *Kelaarti* by Theobald, as pointed out by Mr. Blanford, who formerly separated a small Central Indian variety, with a nearly uniform granulation, as *H. marmoratus*.

H. Leschenaultii occurs in Ceylon, whence some years ago specimens have been identified by Professor Peters* and Dr. Steindachner; it is common all through South India according to Jerdon and in Central India according to Blanford. I have obtained a few specimens on the Parisnath hill and near Ranigunj in Bengal, and others from near Patna and Agra. It is not known from North-Eastern Bengal, and thus may be regarded as a true Indian species.

14 8. *H. MORTONI*, Theobald, Journ. Linn. S., Zool. X, p. 32. Close to *frenatus*, but having the thumb and inner toe well developed.—Burma.

* Berlin Akad. Monatsb. 1860, p. 183.

15 9. *H. COCTÆI** (I. R., p. 109).

Theobald, Cat. Rept. As. Soc. Mus. 1863, p. 29.

Steindachner, Novara Rept., Pt. I, p. 13.

H. Bengaliensis, Anderson, Journ. A. S. B., vol. xl, p. 14.

This is the most common species all through Bengal, whence it was originally described by Dum. and Bibron. The thumb is well developed, as noted by the French authors and by Cantor, but the claw small, as observed by Dr. Günther, who identified *Bolt. sublaevis*, Gray, with the present species. The back is generally equally granular; sometimes there are a few larger rounded tubercles present on the sacral region, more rarely also on the sides of the back, the variations being in this respect exactly similar to those noticed in *H. Leschenaultii*. The larger tubercle on the side of the neck, stated by Dr. Anderson to distinguish *Bengaliensis* from *Coctæi* is quite as often present as it is absent. Tail, when original, segmented, with one or two large elongate scale-like lateral tubercles near the base, and 2 to 3 smaller ones on the upper sides, but as a rule none along the middle; subcaudals enlarged. On reproduced portions of the tail, there are sometimes a few large scales present at the lateral edges, but more commonly the tail remains quite smooth. I have never seen, even in the largest specimens, more than 8 femoral pores in each row, they being widely separated in the preanal region; the usual number of pores is six in each row, rarely less.

During life, the general colour is greenish grey, with 5 transverse, broad undulating greenish brown bands, the first on the neck, the fifth on the loin, and all edged with white posteriorly; the tail is similarly banded above, and the white edgings are often more conspicuous; a pale band through the eye on the side of the head, margined with dark above and below, and generally becoming obsolete on the neck. The iris is reddish golden, pupil narrow, black with undulating edges. The animal changes its coloration very rapidly during life, sometimes the transverse bands turn almost to blackish brown, and another time they become quite obsolete. In spirits the brown tints partially, and in time entirely, fade. Below white, most of the scales generally very minutely punctated with black. Old specimens, particularly the females, have the tail at the base often very bulging, depressed, and nearly three-fourths of an inch broad.

I have not seen specimens of this species from farther southwards than Orissa, but it is very numerous in Western Bengal, extending through the North West Provinces up to the foot of the hills at Kangra and Hurdwar, westward into the Panjáb and eastward into the lower parts of Sikkim, the Khasi hills, Cachar and the whole of the Gangetic delta. I did not obtain it in Burma, but two specimens have been sent to me stated to have been procured in Pegu. Dum. and Bibron record it from Bombay, which very

* ? Is the right name *Cocteari*?

likely refers to some locality in the Western Gháts. Jerdon does not quote it from South India and Kelaart's Ceylon *Coctæi* is *Leschenaultii*. Cantor (Mal. Rep., J. A. S. B., xvi, p. 629) gives it as occurring in Penang, and notes a specimen 7 inches long, the head above being $1\frac{1}{4}$ inches, which is a somewhat unusual size.

In general structure and coloration, *H. Coctæi* is very closely allied to *Leschenaultii*, differing from the latter by the smaller number of femoral pores, and somewhat more elongated and narrower fingers and toes, with more numerous and thinner plates below, the toes being in *Leschenaultii* more broadly oval, shorter and the plates below coarser; the thumb also is somewhat shorter. Judging from the known geographical distribution, it appears to me very probable that *H. Coctæi* replaces in the Gangetic delta *H. Leschenaultii*, which is a more southern form; and both appear to meet together in Western Bengal and the southern part of the N. W. Provinces.

In Calcutta this is the largest *Hemidactylus*, usually seen on the outer walls of houses or godowns. It is readily known by its coloration. The usual size is 6-7 inches, the body being $3-3\frac{1}{4}$ inches, while the tail is often reproduced. On one occasion I obtained two specimens, each of nearly 9 inches, the body being $3\frac{1}{2}$, and the tail (perfect) a little above 5 inches.

16 10. *H. AURANTIACUS*, Beddome, Madras J. Med. Sc., No. 1, 1870, p. 33.

A uniformly granular species, without any enlarged chin-shields. Shevaroyes and Anamallays, South India.

17 11. *HEMIDACTYLUS GIGANTEUS*, n. sp. Pl. II. fig. 2.

Pl. II, fig. 2, 2 a, 2 b, top, side, and lower views of head, 2 c, inside view of the sacral region and right foot; all figures in natural size.

General form very similar to that of *H. Coctæi*. Head and body above uniformly granular, the scales on the snout being, as usually, slightly larger, and sharper, and those on the hinder part of the head smallest; two enlarged shields behind the rostral, separated by one or two minute scales, nostril situated between the rostral, the suprarostrals and a semicircular shield behind, on the lower side in contact with the rostral, excluding the first labial from entering the nostril, 14-17 upper and 11-13 lower labials; two pairs of chin-shields, the first in contact, anteriorly partially separated by the pentagonal inferior rostral; the second chin-shield about half the size of the first, slightly elongate or rounded and followed by a few smaller scales along the labials; scales on belly slightly hexagonally elongate, in 40 to 44 longitudinal series; some on the pubic region are pointedly elongate, but none are particularly enlarged; in the males 18-20 femoral pores on either side of the thigh, separated in the preanal region by an interspace of about 7 scales width; tail indistinctly segmented, generally reproduced and then without any

segments, rather abruptly tapering, occasionally very bulging near the base, uniform scaly above and at the sides without any enlarged spiny tubercles; subcaudals moderately enlarged, beginning to be so a short distance from the anus; about 11 transverse lamellæ on the first, and 14-15 on the fourth toes, the two or three basal lamellæ and the terminal one being in each case simple; thumb well developed.

This species is very closely allied to *H. Coctæi*, and I might have considered it as a gigantic variety of the same, had it not the peculiarity of the first labial being excluded from the edge of the nostril, which is a character constant in all the specimens, none of them also have any enlarged spiny scales at the side of the tail; but the most important distinction lies in the presence of a large number of femoral pores, which are also somewhat less widely separated in the preanal region, than they are in *H. Coctæi*.

The general colour during life is, according to Mr. Blanford, olive grey to blackish olive, with irregular dark, pale edged marks in imperfect circles, inclined to form 4 or 5 transverse undulating bands on the body. In spirit these irregular markings are slightly traceable, and the whole body is besides rather finely mottled with brownish olive. Below uniform white.

Hab. I have examined 9 specimens which were kindly lent to me for description by Mr. W. T. Blanford, who obtained the same in a solitary locality on the Godávári river near Badrâchalam, on trees. The body of the smallest measures $4\frac{1}{4}$ inch., and of the largest a little above 5 inches. All have their tails partially reproduced, and the longest is only about $4\frac{1}{2}$ inches, in its original state it must have been at least 6 or 7 inches. In one of the largest specimens, the length of the head is $1\frac{3}{8}$ inches, and the width at the occiput $1\frac{1}{8}$ inches.

12. *H. [DORYURA] BERDMOREI*, (Blyth). Pl. II, fig. 3.

Leiurus Berdmorei, Blyth, Journ. A. S. B., 1853, xxii, p. 646.

Doryura Berdmorei, apud Theobald, Journ. Linn. S., Zool. x, p. 29.

Pl. ii, fig. 3, upper view of a male specimen, 3a and 3b, side and lower views of head, 3c sacral region with a part of the tail; all figures in natural size.

Body and tail covered with small, equal, granular scales, those on the snout being somewhat coarser; tail depressed, rounded at the sides, contracted at the base, indistinctly segmented; numerous small scales behind the rostral and the nostril; 10 to 12 upper, and 9-10 lower labials; two pairs of chin-shields, the first large, separated above by the rostral, below forming a suture, those of second pair barely half the size, and each forming a suture with the respective anterior chin-shields and the second labial; there is usually a row of slightly enlarged scales along the lower labials, while those on the throat are very minute, almost granular, and greatly contrasting with the

larger scales on the abdomen ; ear opening rather small, rounded ; a moderately developed gland on each side in the place of the paratoids, generally more distinctly seen above than below ; thumb small, well developed, with a minute claw ; about 38 long. rows of scales across the middle of the belly, extending somewhat on the sides ; 14-16 femoral pores in each series, separated by a width of about 3 scales in the preanal region ; a row of transversely enlarged shields along the middle of the lower side of the tail.

Grey or light brown, slightly mottled with dark brown and four longitudinal series of blackish spots interrupted by white ones ; two of the series originate on the superciliary region and two in continuation of a blackish streak, originating at the lower half of the eye ; head above and labials black spotted ; tail also with dark transverse spots above ; below uniform white, with the shields of the belly generally very minutely punctated. The brown series of spots are not in all specimens equally distinct, and sometimes they are almost obsolete. Specimens which have shrunk much in spirit shew, like all other *Geckos*, a fold on the side of the body, and the tail becomes also slightly angular at the sides.

Blyth's original description of the coloration of this species is decidedly better, than the supposed improved one by Theobald. The type specimen came from Mergui ; Theobald found it common in Pegu ; I have received it from the Khasi hills, and collected a great number of specimens about Pankabari, just above the Sikkim Terrai, mostly on the outside walls of houses ; one specimen was also sent to me by Mr. A. W. Lawder from Almorah, in Kamaon.

The largest specimen from Pankabari measures $4\frac{1}{2}$ inches, of which the body is $2\frac{1}{8}$ inch.

19 13. *HEMIDACTYLUS* [*DORYURA*] *MANDELLIANUS*, n. sp. Pl. iii, figs. 1—2.

Pl. iii, fig. 1, upper view of a full grown specimen ; 2, 2 a, 2 b, 2 c, different views of the head and sacral region of another specimen ; all figures in natural size.

Body and tail depressed, covered with numerous small rounded tubercles, there being in old specimens generally a few larger ones perceptible at the side of the body and on the sacral region ; snout elongate, depressed, with the scales larger than on the body ; tail depressed, gradually tapering to a point, moderately convex above, somewhat flattened below, indistinctly segmented, laterally sharply keeled and serrated, the tubercles at the end of each segment being white and more prominent than others. There is a pair of somewhat enlarged shields behind the rostral, separated by a slightly smaller shield ; the nostril lies between the rostral, the 1st labial, the supra-nasal and two moderately enlarged post-nasals ; 12—14 upper, and 10—12 lower labials, the last in each case, as usually, very small ; 2 pairs of enlarged chin-shields, the first forms with the lower halves a suture below the

inferior rostral, the second is smaller, generally only half the size of the first, each shield rounded, placed immediately below its respective first chin-shield, but separated from the second lower labial by a smaller shield; a row of slightly enlarged shields adjoining the lower labials; scales on the throat very small, flattened, those on the belly much larger and roundly hexagonal, and in about 36 longitudinal, alternating series; a median row of transversely enlarged subcaudals. The ear opening is moderate, rounded; the glands in the place of the paratoids very large, occupying almost the whole of the side of the neck; toes elongate, united with a short web at the base, provided with rather coarse lamellæ, there being 9 or 10 pairs of them on the fourth toe; nearly the first half of the lamellæ on all the toes is either undivided or only slightly grooved; thumb well developed, with a minute claw. Out of 10 specimens examined of various sizes none had femoral pores, but the scales in the preanal region are conspicuously enlarged in all.

Grey, more or less densely marbled and punctated with blackish brown and spotted with pale white. Generally the brown colour is arranged in 6 or 8 longitudinal stripes, more distinctly regular in young than in old specimens, and these stripes are separated by irregular, alternate rows of white spots; limbs, and tail at the base above, also white spotted, upper labials brown; paratoids yellowish brown; lower side uniform white, most of the scales very minutely punctated.

Hab. I have obtained a few specimens at Pankabari, just above the Sikkim Terai, and Mr. Mandelli sent me several from the Rungnu and Tistá valleys, where the species occurs between 1,000 and 3,000 feet. The body of the largest measures $2\frac{1}{4}$, tail 3, = $5\frac{1}{4}$ inches. As nearly half of the plates below the toes are undivided, the species forms a connecting link between the section *Doryura* and those small species of *Geckos* which are represented by *G. Swinhoensis*, and are mostly peculiar to Southern China, Japan and adjacent islands.

14. HEM. [DORYURA] GAUDAMA,—from Tonghú in Burma.

Theobald, Journ. Linn. S., Zool. x, p. 30.

Unless authentic specimens are received, it will be difficult to identify this species from Theobald's description. It appears to be somewhat allied to *H. Mandellianus*, but the edges of the tail are said to be in the former minutely "denticulate with an obsolete marginal spine;" "sides" of body "keeled" and "femoral pores nineteen on each thigh," &c. "Grey with no definite markings." Body equal to tail.

15. HEM. [DORYURA] KARENORUM, Theob. (*ibidem*), from Tonghú, Burma.

"Back granular, regularly shagreened with about twenty longitudinal rows of small whitish tubercles," &c.

22 PERIPIA, Gray (I. R., p. 110.)

Peripia might, like *Doryura*, be considered as a subgenus of *Hemidactylus*. It connects *Doryura* with *Nycteridium*, having the general form and usually flattened pointed tail and small equal granular scales of the former, while the toes are distinctly webbed at the base, and there is also a distinct expansion of the skin at the hinder side of the femora and tibiae. In *Nycteridium* only the lateral expansion of the skin of the body is added to the character of *Peripia*. If we characterize the later genus from the two Indian species, *P. Peronii* and *Cantoris*, we cannot say that the thumb and inner toe are without an ungual phalanx. I have examined very numerous specimens of the former, and a few of the latter species, and I find that the ungual phalanx on the thumb is very nearly, but never entirely obsolete, it, however, always appears to be clawless. On the inner toe the ungual phalanx is extremely small, but in nearly all my fresh specimens I find there is a very minute, thin, transparent, setiform claw present; only in some old specimens I have not been able to detect it.

P. Cantoris occurs in Penang, Burma, the Andamans and Nicobars; from all the localities I have examined specimens.

P. Peronii is very common on Penang,* and in the Wellesley Province, rarer in Burma and on the Andamans. The type was from Mauritius, and according to Kelaart† it is also found in Ceylon. Andamanese specimens agree in their very distinct brown tinge with those from the two later islands, while Penang specimens are brown, when young, but when adult usually greenish ashy, rarely with a rosy tinge. Two adult fresh specimens from the Andamans perfectly agree in structure with those from other places; the general colour above is pale chocolate brown with a rosy tinge, all over speckled with darker brown and with numerous round white spots, about $\frac{1}{2}$ m.m. in diameter; below white, pinkish towards the sides, and all scales minutely punctated.

23 NYCTERIDIUM PLATYURUS, Schneider.

1792. *Stellio platyurus*, Schneider, Spec. Physiol. Amph., ii, p. 30, and Denk. Acad. München for 1811, p. 62, pl. i, fig. 3.

1802. *Lacerta Schneideriana*, Shaw, Zool., III, 278.

1864. *Nycteridium*‡ *Schneiderianum*, apud Günther, I. R., p. 111.

1870. *N. Himalayanum*, Anderson, J. A. S. B., vol. xl, p. 15.

I have Asám, as well as Himalayan (from near Darjiling) specimens for comparison, and they certainly belong to the same species. They also do

* Comp. Journ. A. S. B., vol. xxxix, p. 163.

† Prod. Faun. Zeyl. p. 187.

‡ Gray's name *Platyurus* certainly has the same derivation, as *Platurus*, and as it has been at an early date replaced by *Nycteridium*, it seems advisable not to revive the former name, particularly as it would involve a change in the specific denomination, and may besides lead to misunderstanding.

not differ in any essential point of structure from the description given by Günther, who has evidently seen specimens from various parts of the Malay Archipelago, from Ceylon, and also from Asám and Bengal, considering them all to be identical. The same conclusion has been arrived at by Dum. and Bibron in comparing Bengal and Javanese specimens. The Darjiling specimen described by Anderson as *N. Himalayanum* must have had accidentally a somewhat "flatter and more rounded" snout, as in four specimens from the same locality the outline exactly agrees with that of Dum. and Bibron's figure; I also cannot trace any stronger webbing between the fingers and toes, said to distinguish *Himalayanum* from *platyurus*. Darjiling specimens agree admirably with Schneider's original figure, (in which only the head at its base is shewn too broad); the proportion and form of the feet and their toes is exactly the same, the latter being contracted at their bases, connected by a membrane* and provided with 5—7 transverse, divided lamellæ. Schneider says there are 56 large subcaudals, and this is exactly the number I count in a full-grown specimen, with the tail perfect, and not reproduced. The femoral pores (16—20 on either side) are slightly interrupted in the middle of the preanal region. The only difference consists in the shortness of the first pair of chin-shields, but this cannot be more than an individual distinction, if really correctly drawn. The glands which are situated behind the ear, chiefly towards the lower surface of the head, are quite as often absent as present. Out of four Darjiling specimens they are very distinct in an old female, in one nearly full grown male they are small, and in two somewhat younger specimens of opposite sexes they are not at all developed. One of the principal distinctions of the specimen, named by Dr. Anderson *N. Himalayanum*, might be sought in the presence of some enlarged tubercles on the side of the body. A ♂ specimen from the Naga hills (Asám) has no enlarged tubercles; of the four Darjiling specimens one full grown ♀, and one half grown ♂, each have a distinct row of slightly enlarged tubercles at the side of the body, above the attachment of the lateral dermal expansion. One nearly full grown ♂ has an enlarged tubercle on one side and two on the other, just a little in front of the sacral region; the fourth specimen, a female, has the scales uniform granular. It will be seen from these observations that no specific value can be attached to the total absence, or occasional presence, of a few enlarged tubercles, as I had already occasion to notice in different species of *Hemidactylus*.

What is, however, very marked in all Asamese and Himalayan specimens, as compared with the usual descriptions of *platyurus*, is the large amount of dark coloration they possess. The general colour is olive, with a slight bluish cinereous tinge; the whole upper surface is densely variegated

* Which is clearly shewn on the right hind foot between the 1st and 2nd and 2nd and 3rd toes.

and streaked with blackish brown, intermixed with some pale spots, particularly on the limbs; tail with dark brown and alternate irregular white spots. Some specimens have a kind of indistinct transverse, dark bands, one on neck, one on the sacral region and three on the back, they are separated respectively from each other, as in Schneider's figure, by three confluent white spots, placed in a triangle, with the point directed backwards; the three series of spots on the back are the most distinct. A whitish, or pale orange, band runs through the eye, indistinctly continuing on the side of the body; it is margined below by a blackish band, most distinct and broadest at the side of the head. Lower side of body and tail uniform whitish, the scales very often finely punctated.

24 *CYRTODACTYLUS RUBIDUS*, (Blyth).

Comp. Journ. A. S. B., vol. xxxix, p. 165.

This species occurs on the Andaman, as well as on the Nicobar, islands.

25 *CYRTODACTYLUS AFFINIS*, Stol.

Stoliczka in Journ. A. S. B., xxxix, p. 167, pl. x, fig. 1.

The young of this species is reddish brown with some darker brown marks on the upper side of the body, and a series of rather large white spots along the middle of the back. Penang.

26 *GYMNODACTYLUS LAWDERANUS*, n. sp.

Pl. II, fig. 4, side view of the animal, nat. size; 4a lower side of head and 4b, sacral region, both twice the natural size.

Body rather slender and elongate, depressed, covered above with numerous small roundish tubercles, between which larger ones of a similar shape, but of about double the size of the former, are intermixed. Upper side of head equally granular, the granular scales being somewhat larger on the snout. Rostral large, broad, reaching well on to the upper surface of the snout; it is followed by 5 small granular scales. The nostril is situated somewhat laterally in the angle between the rostral, first upper labial, one small scale above and another similar one posteriorly. There are 9 upper, and 8 lower labials, the last three in each case very much smaller than the preceding ones. The lower rostral is triangular, partially wedged in between two elongated chin-shields, forming a suture below it. Each of the chin-shields is followed along the labials by 3 other somewhat rounded shields, none of which are in contact. Opening of the ear small, rounded. Scales on the chin small, equal, rounded; on the belly slightly elongated, and in about 32 longitudinal series across the middle; on the tail, which, however, appears to have been twice reproduced, the scales are also elongate, slightly smaller above than below, but not transversely enlarged, and without any enlarged spines at the sides. The fore limb reaches to the snout, and the hind limb very nearly to the axil, when laid forward. The 3rd and 4th fingers and toes

respectively are perfectly equal, and close together. All the claws are well developed, lying between enlarged scales, at the sides and above, but they are not retractile. A few slightly enlarged scales above the anus, superseded by two pairs of pores, close together, and forming an angle.

General colour above greyish brown, very densely marbled and spotted with dark brown, with some indistinct, undulating, whitish cross bands on the body, margined on the anterior edges with blackish brown; a somewhat indistinct dark band from the nostril through the eye to the ear; front and hind edges of the eye white; labials spotted and speckled with brown; below whitish.

Length of body nearly two inches; tail imperfect, only about one inch long, slightly swollen at the base.

Hab.—The single specimen from which the above description is taken was sent to me by Mr. W. A. Lawder, District Engineer of Kamaon; it was obtained in the neighbourhood of Almorah.

Cantor says, when speaking of *Gymnod. pulchellus* (Journ. Asiat. Soc. Bengal, 1847, vol. xvi, p. 633) that there are two new *Gymnodactyli* preserved in the Museum of the Asiatic Society, one marked *P. lunatus*, Blyth, based upon one specimen from Midnapore and two from Chaibassa,* the other, a nondescript species from Almorah, *Gymnodactylus nebulosus*, Blyth, MSS., allied to *Cyrtodactylus marmoratus*, Gray. I am not acquainted with any further notice as to the second species indicated, nor have I been able to find the specimen itself among the Society's collections; it is also not mentioned in Theobald's Catalogue. Under these circumstances it is of course impossible to accept the suggested name for the present species, particularly also as Major Beddome described already a quite distinct species from near Vizagapatam under the name *G. nebulosus* (Madras Journ. Med. Sc., for 1870).

I may also at this opportunity mention that Beddome's name *G. maculatus*, published in the same Journal, must be replaced by another one, there having been a *G. maculatus* described by Steindachner already in 1866 (Novara Rept. p. 16). A similar change is required with regard to Beddome's *Gymn. marmoratus* (M. J. M. Sc., 1870, p. 31), there having been a species described under the same name by Dum. and Bibron already in 1836 (Herp. Gén., III, p. 426).

Fam. AGAMIDÆ.

27
JAPALURA VARIEGATA, Gray.

Günther, Rept. of India, p. 133.

Anderson, Proc. Zool. Soc. Lond., 1871, p. 164.

This species has the power of greatly changing its colour. In some specimens (irrespective of sex) the iridescent green bands, in others the metallic or

* These are to all appearance the two *Eubleph. Hardwickii*, mentioned by Theobald on p. 32 of Cat. Rept. Asiat. Soc. Mus.

reddish brown ones, are prevalent, the green is during life much mixed with yellow or white, and the width of the bands and spots themselves is very variable during life; a bluish tinge is often seen on the neck and on the sides of the body of male specimens. The end of the gular sac in the male is deep blue, (not black). The male also has the lower labials generally bluish brown, the upper often bright yellowish white, sometimes, however, both are reddish or pale brown. Numerous brown streaks radiate from the eye, one of these directed towards the tympanoid region is about twice as broad as any of the others; sometimes it is divided by a median line in two, but very rarely it is indistinct. In the females the contrasts between the colours is always less, they very often have uniform greenish and pale reddish tints prevalent. The larger scales occasionally form a distinct row on each side of the back, which thus becomes apparently tricarinate, as in the form noticed by Jerdon under the specific name *microlepis*. (See Proc. Asiat. Soc., Feb. 1870, p. 76).

Very common in Sikkim from elevations of 1,000 up to 9,000 feet. It is, strictly speaking, a ground lizard, hunting between stones and low bushes, but also takes refuge on a tree. It appears to be more common on higher than on lower elevations, but those living between 9,000 and 5,000 seem to reach the largest size.

I was somewhat surprised in reading Dr. Anderson's results (loc. cit.) of the examination of 21 specimens "of all ages and both sexes, from one locality," that is, the neighbourhood of Darjiling. Dr. Anderson arrived at the conclusion that Jerdon's *microlepis* is the female, and Jerdon's *planidorsata* the young of *variegata*. Now as I have* not only observed hundreds of living specimens of *Japalura variegata* in Sikkim, but have also collected and examined them, I may be allowed to say a few words on this subject.

I find 1st, that the males of *variegata* often are smaller than the females, or at any rate that the latter generally grow to a larger size than the former; 2nd, that the males have the enlarged scales on the back and particularly the spiny ones on the sides of the occiput comparatively larger and more numerous than the females, the difference being most marked in full grown specimens and in the breeding season, but I have collected male and female specimens in which the scales were nearly equally largely developed, and there is no apparent difference in the size of the smaller scales between the two sexes; 3rd, that the nuchal and dorsal crest in the male is, especially on the neck, comparatively higher than in the female, and that it generally is on either side accompanied by a series of somewhat enlarged, closely set scales, more conspicuous in smaller than in larger specimens, but they are not equally distinct in the female; 4th, that the colours in both sexes are similar and equally variable, but always brighter and more variegated in the male, particularly the green and yellow; 5th, that in young

* And so undoubtedly had Dr. Jerdon.

male and female specimens of *variegata*, the bodies of which vary between one and a half, and two inches in length, there is a similar, simple, continuous nuchal and dorsal crest present, as in the adults, with the usual respective difference in size noted as regards the two sexes.

These observations, on undoubted *J. variegata* "of all ages and both sexes," do not exactly agree with those recorded by Dr. Anderson. They do not exclude the possibility that *J. microlepis* might have been suggested for a specimen of *variegata* with accidentally somewhat smaller scales, but as I do not remember having seen Jerdon's type specimen, and at the same time I know, how very often Dr. Jerdon must have seen *J. variegata* in all its stages, I would defer the identification for the present. As regards *planidorsata* I have no hesitation in saying that Dr. Anderson is mistaken. I well remember Jerdon's two type specimens; they did not appear to be very young and were in beautiful preservation. Among the great number of specimens of *variegata* in the Indian Museum, which Dr. Anderson had been good enough to shew me, I could find none which would correspond with Jerdon's briefly indicated distinctive characters of *planidorsata*.

28 SITANA PONTICERIANA,* Cuv.

Sitana minor, Günther, I. R., p. 135.

The smaller form described by Günther as *Sit. minor*, and noticed by Blanford in Journ. A. S. B., xxxix, Pt. II, p. 365, also occurs in Western Bengal at the Parisnáth hill, and on the Sone river in Bihár, extending northwards through the North-West Provinces as far as Rurki, near the base of the Himalayas, westwards into the Panjáb, Kattiawar and Katch, but it is not known from any part of Bengal East of the Ganges.

Colour: pale or darker brown above and at the sides, a dark band between the eyes; snout and occiput irregularly spotted and variegated with paler brown; 5 or 6 quadrangular spots on the back, followed by a few smaller ones on the tail; a pale yellowish line along the centre of back is generally present, and the edges of the back are also pale; a yellowish band on each side from below the eye through the ear to the groin, in full grown specimens only well marked at the sides of the neck. All these pale or yellowish bands, as well as some of the large scales at the side, and particularly the front side and the hind base of the femora, and the transverse pale bands on the limbs, have a very marked fleshy or rosy tinge, most distinct in full grown males. The pouch is tinged with blue and red in the males only during the breeding season, at other times it is slightly blue, but a blue line always continues from it along the chin to the lower rostral. The labials are often blackish. Below, yellowish white.

* Dr. Anderson informs me that he believes this form to be specifically distinct from true *Ponticeriana*, differing from the latter by the intermixed larger scales &c.

The enlarged scales on the back, and especially at the sides of the body, are invariably well marked, but less numerous in female than in male specimens; they are during life yellow or golden, and during the breeding season often tinged rosy, or even vermilion. In Northern India the species does not appear to attain the size which it does in Central India, for none of the specimens from the former country are above $5\frac{1}{2}$ inches, the tail being generally more than twice the length of the body. The claws on fingers and toes are always black. The tympanum is usually covered by a yellowish hardened shield.

Jerdon (Proc. Asiat. Soc. Beng., Feb. 1870, p. 76) is, I think, correct in retaining the name *Ponticeriana*, for the smaller *Sitana* with long limbs, but I doubt that the larger form, for which he proposes the name *Deccanensis*, is really specifically distinct from *Ponticeriana*. I collected hundreds of them, in all sizes from 3 to 8 inches; they are all of the same type, as those I received from Ceylon and from South India, and I find the fore limb scarcely ever reaches the vent, while the hind-limb extends usually beyond the snout, except in a few full grown specimens.

29 CHARASIA, ORIOCALOTES and ORIOTIARIS.

The name *Charasia* has been proposed by Gray (Lizards Brit. Mus., 1845, p. 246) for the South Indian species, *Ch. dorsalis*, as type. I have examined numerous well preserved specimens of this and of another species inhabiting the greater portion of Central, and perhaps also of Northern, India, and this induces me to propose a somewhat different definition of the genus.

Char. Body elongate, somewhat depressed, covered with imbricate, or subimbricate, keeled scales, between which some slightly larger ones are intermixed, the scales being arranged in more or less indistinct transverse series; those on the lower side are often less distinctly keeled than those on the back; tympanum naked; a small tubercular spine at the posterior end of the supraciliary edge; some spines above the tympanum; nuchal and dorsal crest present, but low; (generally) a fold across the throat; scales on the tail subimbricate, not arranged in regular cross series; (no distinct gular sac, no femoral, or preanal pores).

Charasia must be classed next to *Trapelus*, to which it is very nearly allied.

Hab.—Terrestrial, generally found between blocks of gneissose rocks.

The distinctive points in the structure of *Charasia* are:—1st, the presence of a small tubercular spine on the hinder supraciliary edge; 2nd, the presence of some slightly larger scales intermixed between the smaller ones at the side of the body. It is true that these larger scales are very difficult to trace in *Ch. dorsalis*, but I have observed them in various young and old specimens. Were it not that they are, as a rule, better developed

in the allied new species, presently to be described, I would attach hardly any significance to these enlarged scales, but the variability of this character will be important in a comparison with other allied genera; 3rd, the ventral scales are in young specimens of *Ch. dorsalis* distinctly keeled, and even in old ones the keels are generally traceable on the breast and in front of the anus. A peculiar character of the type species, *Ch. dorsalis*, consists in the very small scales of the body, but this character loses its value by the other species, *Ch. Blanfordana*, having all the scales comparatively much larger.

If, after this brief explanation, we compare with the above noted characteristics of *Charasia* those of *Oriocalotes*, as recorded by Günther, (I. R., p. 146), we find that there is no essential distinction between the two. According to the description of the species, the body of *Oriocalotes minor* would seem to be less depressed, and there is besides a shoulderfold noticed, but I doubt that these characters can be looked upon as generic differences; they are certainly not regarded as such in the genus *Calotes*. The type species described by Günther, *O. minor*, is from Sikkim, but I have unfortunately never met with it. The only other species, *O. major*, noted by Jerdon from the Sutlej valley, (Proc. Asiat. Soc., Beng. 1870, p. 77) I consider intermediate between *O. minor* and *Charasia Blanfordana*.

There also appears to be very little difference between *Charasia* and *Acanthosaura*, and I think it doubtful that the species of the latter are arboreal in their habits; however, I have never observed them alive.

A third form is Günther's *Oriotiaris* (I. R., p. 150). The only known species, *O. tricarinata*, was often observed by me in Sikkim; it is like *Charasia* a ground lizard. The sole important difference from the latter genus, and the so-called *Oriocalotes*, consists in the absence of a shoulder or gular fold, a character which I do not consider to possess generic value. I believe, therefore, that *Charasia*, *Oriocalotes*, and most probably also *Oriotiaris* should form only one genus, to which *Acanthosaura* is very closely allied, if at all distinct. The three former are certainly ground lizards, as are also *Japalura*, *Agama*, *Stellio*, while *Calotes* is often not much more arboreal than terrestrial, *Bronchocele* is chiefly, and *Tiaris* entirely, arboreal.

30 CHARASIA BLANFORDANA, n. sp.

Charasia dorsalis, Gray, apud Blanford, Journ. Asiat. Soc. B., 1870, vol. xxxix, p. 368. Pl. III, fig. 5 and 5a. Upper and side views of the head, natural size.

Head elongately ovate, or subtrigonal, considerably shorter and blunter in young than in old specimens, with the paratoids very much swollen in the adult male. Head covered with small, subequal, carinated scales, those at the sharp edge of the canthus rostralis and above the eyes somewhat larger than others. Nasal shield large, swollen, single, the opening directed laterally upwards; a minute spine, or a tubercle, at the posterior end of the superciliary edge; two spines above the tympanum, one situated on the occiput and the

other somewhat posterior, but close to the tympanal edge. In size the tympanum very nearly equals the eye. A longitudinal series of about 7 or 8 enlarged scales below the eye. There are generally 10 or 11 flat upper, and 12 or 13, somewhat more convex, lower labials, both squarish, except the last which are much elongated. Lower rostral posteriorly much elongated, followed on each side by a row of 4—6 enlarged scales, separated by smaller ones from the lower labials.

All the scales of the head, body and tail above and below are imbricate, being arranged in somewhat indistinct cross series, and all are keeled. In young specimens the keels below are very distinct, in older ones they often become less marked, but except in the middle of the belly never entirely obsolete. At the sides the scales are intermixed with a few slightly larger ones, the latter being in younger specimens generally easily seen, but in adults they are more difficult to trace. There are 80—100 longitudinal rows of scales round the middle of the body. The scales on the tail are larger than those of the body, and again those along the upper median line exceed the adjoining somewhat in size. A distinct, though low, nuchal and dorsal crest is present in both sexes, disappearing on the tail; it is more developed in the male than in the female.

The fore leg reaches to the groin when laid backward. The hind leg generally reaches to the front edge of the eye, when laid foreward; in some few very old specimens it only reaches to the posterior edge.

Young specimens are olive brown above, marbled and spotted with dark brown, with two dark cross bands on the upper snout, and one connecting the middle of the supraciliary edges. Along the middle of the back there are usually some enlarged, lozenge-shaped, brown spots. The sides are speckled with white, orange or red, this colour being generally confined to the enlarged scales. A brown band proceeds from the eye to the shoulder, margined below by a more or less distinct white band. The tail is encircled with brown and alternate whitish bands, generally interrupted on the lower side which is uniform dingy white. Full grown females retain the same colouration as the young, except that the series of lozenge-shaped spots on the back is more distinct, but males vary enormously in colour, exactly as in *Charasia dorsalis*. The lateral black streak on the neck is always distinct, but the entire head and anterior part of the body above and below become brilliant scarlet, or more often zinnabár red, while the posterior part is nearly entirely black; all the colours, however, change very rapidly after death.

The largest specimen measures 12 inches, of which the body is very nearly 4 inches.

Although closely allied to the South Indian *Charasia dorsalis*, the present form is fairly separable by its comparatively longer limbs, larger, more distinctly imbricated and stronger keeled scales, which are present round the

middle of the body in a considerably smaller number, there being 130-140 series of squarish scales in *Charasia dorsalis*, while there are only 80-100 sub-imbricate ones in *Blanfordana*. Also, the nuchal crest is much better developed in the latter than in the former species.

Ch. Blanfordana is given by Mr. Blanford from a large number of localities in Central India. I found it not uncommon on the gneissose rocks composing the Pariśnáth hill, in Western Bengal; it is a true rock lizard, as noted by Mr. Blanford, who describes (loc. cit.) its habits at some length.

It is also very likely the species noticed by Blyth on one or two occasions from Birbhúm, and also, I think, from the Panjáb, under the name of *Ch. dorsalis*. Anderson in Proc. Zool. Soc. Lond., 1871, p. 168, repeated Blanford's incorrect identification of the present species, without, however, acknowledging the source he took it from.

31 CHARASIA (*Oriotiaris*) TRICARINATA, Blyth.

This species was originally described by Blyth as *Calotes tricarinatus* (J. A. S. B., xxxi, p. 650), and afterwards by Günther as *Tiaris Elliotti*, subsequently made the type of a distinct genus under the name *Oriotiaris*; (Rept. of India, p. 150, and Jerdon in Proc. A. S. B., Feb. 1870, p. 77, and Anderson, in Proc. Zool. Soc., 1871, p. 167.

I have already noted the great similarity of the generic characters of this species to typical *Charasia*.

Blyth's name '*tricarinatus*' refers to the presence of three keels on the anterior part of the body, there being besides the median crest a row of larger scales on each side of it, disappearing towards the middle of the body, but becoming again better traceable on the femoral region. The large spiny tubercles above the tympanum are always multicarinate on the upper side, and often bluish during life. The colour of the live lizard is generally bright grass green above, with the angular series of larger scales (directed backwards) often chocolate brown; the lateral keels on the neck are yellowish, sometimes margined with a dark line below. The sides of the body are either entirely green, with only two brown streaks above and below from the eye, or the sides of the head, tympanoid region, neck and anterior part of belly, are deep chocolate brown. There are, however, always some light yellow or whitish spots on the labials, and generally a yellowish streak at the base of the neck on each side. Lower side yellowish white. In spirit the green colours gradually change to more or less distinct brown.

As noticed by Jerdon, the species is by no means common about Darjiling; I found it between 3000 and 8000 feet, generally about large stones in sunny places on the scarp of the road. The largest specimen does not exceed 7 inches.

32 CALOTES ELLIOTTI, Günther.

Günther I. R., p. 142.—Jerdon, J. A. S. B., xxii, p. 471, and Proc A. S. B. for 1870, p. 77.

I collected this species at Matheran,* near Bombay. It is quite distinct from *Rouxii*. The shoulder-fold is bluish black. It seems to be quite as much terrestrial, as arboreal in its habit. The small scales of the body (about 56 round the middle of it), and the little spine behind each superciliary edge strongly recall *Charasia*. Some of the scales at the side of the body are yellow, but they are not apparently larger than others. *Colour*—pale brown, bright red on the head and about the shoulders, rest of upper side with indistinct dark stripes; lips and the knees dark; claws above black; throat reddish, tinged with bluish; rest of under-side white. The fore limb reaches to the groin, when laid backward, and the hind limb to the anterior edge of the eye, when laid forward.

In one specimen the head and body are $2\frac{1}{2}$, and the tail $5\frac{1}{2}$, = 8 inches.

33 STELLIO, Daudin (I. R., p. 157).

Four species of this genus can be distinguished in India, all appear to inhabit the Himalayas, or the country close to the base of the hills.

1. *St. Dayanus*, n. sp. Scales of the back moderate, smaller but continuous on the neck; enlarged scales at the side numerous. Hardwár.

2. *St. tuberculatus*, Gray. Scales of the back small, very much smaller or granular on neck; enlarged scales at the sides scattered, generally few, or nearly all obsolete. Southern slopes of the Himalayas.

3. *St. melanurus*, Blyth (comp. Proc. A. S. B., Sept. 1871, p. 189). Enlarged scales of the back unequal, those composing a few median rows considerably larger than others on either side. Panjáb and Kashmir.

4. *St. Himalayanus*, Steindachner, (Novara Rept., Pt. I, 1867, p. 22). Enlarged scales of the back smooth; Ladak, Northern Indus valley.

I shall note in greater detail the two first mentioned species, as they are closely allied to each other, while the two remaining are so entirely distinct that there can be no mistake about them.

34 STELLIO DAYANUS, n. sp.

Pl. III, fig. 4. Upper view of the anterior part of the body.

Head depressed, covered with small sharply keeled shields, irregular in form, slightly larger on the canthus rostralis and becoming gradually imbricate on the hind occiput; nostril in the hinder part of an elongate swollen shield, narrow in front, but usually separated from the rostral, as well as from the first labial, by a separate shield; a ridge of somewhat larger scales origi-

* Günther refers, I suppose, to the present species when noticing *C. Rouxi* from Matheran (Proc. Zool. Soc., 1869, p. 501).

nates a short distance behind the nostril, and passes below the eye in a slight ascending curve to the upper edge of the tympanum; 10—12 upper and as many lower labials; a short ridge of spiny scales is in continuation of the upper labials directed towards the lower edge of the tympanum, but separated from it by a tubercular group of spines; tympanum slightly smaller than the eye, with a group of spines in front of it; numerous groups or irregular short ridges of enlarged spiny scales at the side of the neck, the skin on it being rather loose. Lower rostral sharply pointed behind; first pair of chinshields large and nearly touching below the rostral; one or two rows of enlarged scales follows on either side along the labials, separated from them by one or two rows of smaller scales. The throat fold extends laterally in front of the shoulder, where only a small naked pit of soft skin exists. Enlarged dorsal scales moderate, sharply keeled, in about 13 longitudinal series in the centre of the back; they are considerably smaller, but distinctly continuous on the neck and up to the occiput; nuchal crest small, composed of separate, sharply keeled, compressed scales; numerous enlarged, almost spiny, scales at the side of the body interspersed between the smaller ones; scales on the upper side of the limbs larger than those of the body; on chin small, subtubercular, very sharply keeled; on breast and belly indistinctly keeled or nearly smooth, often with a patch of enlarged, hardened, scales in the centre of the belly, where they are arranged in about 40 longitudinal series. Each thickened scale in the preanal patch is soft or spongy in the middle, and evidently secretes a similar fluid, as do the preanal and femoral pores of other lizards. Scales on the tail irregular at the base, but farther on arranged in verticils; their size is equal to those on the upper side of the feet.

The fore-limb when laid backward fully reaches the groin, but more often extends a little further on the sacral region, the fourth finger is a trifle longer than the third; the hind leg, when laid forward, sometimes reaches the snout, but usually only the front edge of the eye; the fourth toe is longer than the third by its claw.

General colour, in young, above and at the sides pale olive, variegated and spotted with black and yellowish white; throat reticulated with dusky blackish; rest of lower side white. Adults are throughout brownish or blackish, or with some indistinct darker spots along the back; head uniform, much paler; body above all over densely spotted with yellow, throughout reticulated with bluish, and there is, in adult male specimens always, some blue tinged with red, on the chest, on the sides of the head, neck, and of the belly, most strongly marked in the breeding season; sometimes the entire throat is purplish blue; lower side of body and of tail yellowish white; terminal two-thirds of tail blackish.

Hab.—I have received some 40 specimens from Dr. Day, who collect-

ed them at Hardwár, where the Ganges leaves the hills for the plains. They measure from 4 to 18 inches, in all stages of growth, the tail when perfect is fully $\frac{2}{3}$ of the total length. I find that in former years I also obtained this species at Misouri, and on the road from Kalka to Simla, having noticed the difference of the scales on the neck and back, as compared with those of the next species, but unfortunately I have no specimens by me now.

35 STELLIO TUBERCULATUS, (Gray), (I. R., p. 157).

Pl. III, fig. 3. Upper view of the anterior part of the body.

This well known species is readily distinguished from the last by the much smaller size of the enlarged scales on the back, which are in from 13 to 17 longitudinal series in the middle of it; on the middle of the neck the scales are not at all enlarged, but there is a low, often minute, nuchal crest present. The structure of the head-shields is in both species very similar, but they are always less distinctly keeled in *St. tuberculatus*, sometimes nearly, and above the eyes always, smooth; the enlarged row of scales below the eye is well marked; the nasal sometimes touches the rostral and first labial, but more generally it is separated from them by smaller shields; the enlarged spiny scales on the side of the neck are less prominent in this, than in the former species; the scales of the belly are proportionately smaller, in 48—54 transverse series; the enlarged scales at the sides are generally few, occasionally arranged in transverse rows, but sometimes they are nearly entirely absent; rarely, in male specimens, are these spines nearly as numerous and irregularly distributed, as in the former species. The patch of enlarged callous scales on the middle of the belly is much more often present, than in *Dayanus*. The fore-limb, when laid backward, generally does not reach the groin, but occasionally it does so; the hind-limb, when laid forward, usually reaches the tympanum, sometimes the eye, rarely the front edge of the eye, but I have not seen one specimen in which it extends to the rostral shield. The largest specimen I measured is $13\frac{1}{2}$ inches, of which the body is very nearly 5, and the tail $8\frac{1}{2}$ inches. On the whole, both the limbs and the tail are somewhat shorter in the present species than in the former.

There is also a difference in coloration. Young and adult specimens are above on body and limbs of a dark olive brown or almost blackish colour, with numerous darker spots in the young, indistinct in the adult, and intermixed with yellowish spots, these being fewer, but often larger than in *Dayanus*; occasionally they are entirely absent. The head in the adult is above cinereous olive, spotted black and yellowish at the side; in front of the shoulder, on the breast, and also at the sides of the body, there are often numerous bright yellow or orange spots present. Lower side uniform dull white in young, generally spotted with dusky on the throat. In adults the throat becomes

more or less spotted and tinged with reddish blue, extending partially on the chest, and in adult males the whole of the under side, including the lower side of the limbs, is bluish black, brightest and strongly tinged with purple on the throat, the same tinge extending on the neck, the shoulders and sides of the belly. An adult male is really a gorgeously coloured lizard. The usual habitat is between large rocks on bare or open slopes of hills.

Hab.—I have received numerous specimens of this species from Kamaon (near Almorah) through Mr. A. W. Lawder; from Kangra and Dalhousie through Dr. Day, and from Marí through Mr. A. B. Wynne. About Simla, in Kulu, all through Chamba, Kishtwár and in Kashmir, I have in former years collected this species largely, it ranges up to 12,000 feet, and if the Spiti form is the same species, I have observed it up to nearly 14,000 feet.

There can be no doubt about Blyth's *St. indicus* being the same as *tuberculatus*, but whether the species really occurs in the plains near Mirzapúr and Wuzirabád, I have not as yet been able to ascertain.

36 TIARIS SUBCRISTATA, Blyth.

In addition to my description of this Andaman and Nicobar lizard in J. A. S. B., vol. xxxix, p. 180, I have to note the following.—The number of scales round the body varies between 90 and a little above 100, 18-22 scales being on the ventral side. The two groups of enlarged, or rather often only more pointed, scales on the upper side of the occiput usually exist only in old males. The subcaudals are slightly larger than the scales above and at the sides of the tail, the latter being more distinctly imbricate. The fore-limb when laid backward occasionally reaches as far as the anus, and the hind-limb when laid forward exceeds the tip of snout by one-third the length of the fourth toe.

As regards coloration I may add, that there is occasionally a distinct yellowish band present, extending from the occiput along each side of the middle of the back, on the lower side margined blackish. The two yellow bands form an outward angle opposite each femur and then unite into one, a short distance beyond the base of the tail, and are accompanied on either side by a series of large blackish spots. Extremities spotted or indistinctly barred with brown and yellowish white.

(To be continued.)

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NOTES ON VARIOUS NEW OR LITTLE KNOWN INDIAN LIZARDS,—
by DR. F. STOLICZKA.

[Continued from p. 116.]

Fam. SCINCIDÆ.

Genus. EUPREPES, Wagler, (as rest. by Günther).

EUPREPES [TILQUA] *MACULARIUS*, Blyth.

Pl. V, fig. 1, upper view of the anterior part of the body; 1a, side view of the head; natural size.

See Blanford in Journ. Asiat. Soc. Bengal, 1870, xxxix, pt. II, p. 358, and Anderson in Proc. Zool. Soc. Lond., 1871, p. 157.

This species is readily distinguished from *E. carinatus* by proportionately shorter and stouter limbs, and by a somewhat shorter head. As a rule the scales are in full grown specimens seven-carinate, the middle carina being separated from the adjoining by a somewhat deeper and wider sulcus, than exists between the other ridges. In Sub-Himalayan specimens this is particularly well marked.

Blanford reported the occurrence of the species in various parts of Central India. The Indian Museum received specimens from Cachar and Asám, reported upon by Dr. Anderson. I obtained some on the Parisnáth hill, exactly identical in the small size and uniform coloration with those noted by Blanford. There are only a few whitish spots at the side of the neck and the dusky colour of the sides of the belly gradually passes below into the white one. Specimens sent by Dr. Day from the Sone river in Birbhúm

have no dark spots on the back, but numerous white spots at the side of the belly. The stripes at the side of the tail are in Central Indian specimens, and in those from W. Bengal, and also from northwards near Hardwár, very thin and often rather indistinct. Young specimens have 5, old ones 7 keels on each scale. Sikkim specimens from the Rungnu valley, (one of which attains the large size of $6\frac{3}{8}$ inches, of which tail is $3\frac{6}{8}$, and has 30 longitudinal and about 28 transverse rows of scales between the fore and hind-limb), generally have two or four rows of brown spots along the back, the spots becoming somewhat irregular and more prolonged on the posterior body; sides with blackish and more or less numerous white spots, the black spots inclining to form longitudinal series; sides of the tail very distinctly streaked with brown and white, but when the terminal half, or third, of the tail is renewed, it is uniform. In Sikkim I only saw the species in the lower valleys, up to about 3,000 feet, but generally at lower elevations, and by no means common. Asámese specimens do not differ in any particular from the Sikkim ones, and similarly coloured varieties were also collected by Dr. Day at Rurkí, only the specimens are smaller, and the white spots at the side of the body fewer, and somewhat indistinct.

The species also occurs in the neighbourhood of Calcutta, where I obtained three specimens during the last winter (1860 to 1871). Each of these has on the back two distant, almost continuous rows of brownish black spots, and the brown colour between these rows is darker than that between them and the respective edges of the back. On the hind part of the body, the spots become broken up and finally disappear. The sides are either distinctly spotted, with white as in Darjiling specimens, or they are more uniform dusky; the tail is on the anterior half always longitudinally streaked with brown, intermixed with white. The lower side is uniform whitish, with the edge between each two scales slightly darker, forming the longitudinal "obscure dark striæ," to which Jerdon alluded in his note J. A. S. B. xxii, p. 479. Some of the specimens obtained at Pankabará, on the northern edge of the Sikim Terrai, agree in coloration with those from Calcutta, having the middle back darker brown than the sides of it, while others again have as many as eight longitudinal, more or less continuous, black bands along the back.

Pegu specimens do not differ from those from Asám and Darjiling, and I suspect that Theobald's Burmese species, identified by him with Kuhl's *E. multicarinatus* from the Philippines, is the same as Blyth's *macularius*, but the two are by no means identical, as suggested by Theobald, (Journ. Linn. Soc. Zool. x, p. 26). In comparing specimens from various localities, it struck me that the hill forms generally have stouter legs and shorter toes than specimens found in low country.

E. macularius appears, at least partially, to replace *E. carinatus* in Central India, but not apparently in South India; it is, however, in all the locali-

ties East of the Hooghly much rarer, than the latter species. There are evidently two distinct races: a smaller and almost uniform coloured variety, occurring all through the Central Provinces and extending northwards to the base of the hills at Hardwár, and westward probably into southern Panjáb; and a larger, and generally striped, variety, occurring eastwards all through Bengal, Asám and extending into Pegu.

Beddome (Madras Journ. Med. Sc. for 1871) appears to question the distinctness of *macularius* from *carinatus* (= *rufescens*), but there can, I believe, be no doubt on that point. Whether his 5-keeled specimens are *carinatus*, and the 7-keeled ones true *macularius*, must be decided on a re-examination of his specimens. Both species often occur together.

EUPREPES [TILIQUA] CARINATUS, Schneider.

Colour above brown or olive brown, with or without dark edgings to the scales, a pale band on the edges of the back; upper half of sides blackish with or without white spots, lower half pale, a short pale streak from ear to shoulder; below whitish, tinged with orange or red in males during breeding season, particularly at the sides of the belly. This is the usual colouration in specimens from Bengal, Central Provinces, Dakhin (at Púna) and Bombay. (Comp. Günther, I. R., p. 79 and Blanford, J. A. S. B., 1870, xxxix, pt. ii, p. 356). Specimens from Burma and the Malayan Archipelago are very similarly coloured (see J. A. S. B., xxxix, pt. ii, p. 169). Bengal specimens, of which I examined a very large number, have quite as often 5 as 3 keels on the scales, those from the Dakhin (Dekhan) and Bombay are mostly only three-keeled. As a rule there are 32 longitudinal rows of scales round the middle of the body in full grown specimens, in younger ones often 30, very rarely only 28.

EUPREPES [TILIQUA] TRIVITTATUS, Gray.

Gray, Ind. Zool.—Jerdon, J. A. S. B., xxii, p. 478.—Theobald, Cat. Rept. Asiat. S. B., p. 24.—Blanford, J. A. S. B., xxxix, pt. ii, p. 357.—Anderson, Proc. Z. S., 1871, p. 158.

This is undoubtedly a species distinct from *Tiliqua carinata*, and in part combining the characters of the latter, and of *T. monticola* which it considerably resembles in coloration. I received two specimens from Púna (in the Dakhin,=Dekhan) through my collector. They are both young, only $4\frac{1}{2}$ inches long, but when compared with equally large specimens of *carinata*, the head is, as stated by Jerdon, shorter and somewhat higher, the rostral is flattened above, the supranasals form a distinct suture, frontals proportionately smaller, (the anterior in one specimen obliquely divided in two shields), posterior frontals form a suture, the vertical is longer and posteriorly narrower, than in any specimens of *T. carinata* I saw. The other shields of the head do not differ. Edge of ear in front with 3 or 4 small, pointed, subequal lobules. Scales

round the middle of the body in 36 longitudinal series, and in 40-42* transverse series between fore and hind-limb; each scale with 3† median well defined keels, two others at the sides being only occasionally indicated.

Colour, above, olive brown, with three narrow, equidistant, greenish white bands, margined with blackish brown, and with one on each side of the body, passing through the ear; all five bands continue on the tail, but are less distinct; shields of head margined with dark; edge of eyelids yellow; feet above brown. Below, uniform yellowish white, tinged with fleshy posteriorly.

The head and body together are proportionately shorter than in the preceding species:

	<i>T. trivittata.</i>	<i>T. carinata</i> from Matheran.
Total length,	4.25	4.5 inches
Body,	1.85	1.85 „
Head alone,	0.85	0.90 „
Tail,	2.5	nearly 3 „
Fore-limb including claw,	0.6	0.6 „
Hind-limb,	0.75	0.85 „
Girth round the middle of body,	1.1	0.95 „

EUPREPES MONTICOLA, (I. R., p. 80).

This species has been found by Mr. Wood-Mason at Sahibgunj on the Ganges, and I obtained it also at Jabbalpúr in the Central Provinces; in both cases in the plains. The specimens exactly agree in structure with Günther's figure and description, but there usually is on each scale (particularly towards the edges of the back) a third median keel, between the two more distinct ones, traceable. Scales in 35 or 36 longitudinal series round the middle of the body, and in 34-40 transverse ones between the limbs. The lower eyelid has a distinct transparent simple disc, a character not noticed by Günther.

Colour, above and on the upper half of the sides greenish brown, with numerous black spots, sometimes inclined to arrange themselves in transverse series, a yellowish white band on each side and in the middle of the back, about one scale broad, but generally running along the sutures of two rows; sides greenish, spotted with pure white, their lower halves more or less tinged with black and white, and sometimes with an indistinct white band between the limbs, appearing better marked at the side of the tail; a yellowish black-edged streak below the eye, continued to near the ear, the frontal denticulations of which are yellow; edges of eyelids bright yellow. Below, uniform yellowish white.

I very much doubt that this is an inhabitant of the highlands of Sikkim, and Schlagintweit's specimens were most likely obtained in a low valley of that province, at 1000 or 2000 feet elevation, but not at 8000 feet, though probably preserved and ticketed in a comfortable station at that height; or

* 49 rows in adult, loc. cit.

† 5 keels are recorded in an adult, loc. cit.

else those gentlemen's barometers must have been, as usually in similar cases, out of order.

What Theobald quotes as *Tiliqua monticola* in Cat. Rept. Asiat. Soc. Mus., p. 24, is not this species, but to all appearance *Euprepes olivaceus*; there are three very slight keels on the dorsal scales, 30 longitudinal series round the body, and about 34 between fore and hind-limb; anterior frontal in contact with rostral, but separated from vertical by a short suture of the posterior frontals. Uniform olivaceous above, paler below.

EUMECES, PLESTIODON, HINULIA, RISTELLA and allied genera.

I adopt the name *Hinulia* as originally proposed by Gray.

The name *Eumeces* cannot any longer be retained for the species which are referred to it in Günther's 'Reptiles of Brit. India'. Already in J. A. S. B., vol. xxxix, p. 174, I have drawn attention to Dr. Peters' observation, that Wiegmann's name *Eumeces* had been proposed for Geoffroy's *Scincus pavimentatus* = *Sc. auratus*, Schneid., = *Scincus Schneideri*, Geoff., = *Plestiodon Alrovandi*, Dum. and Bib. &c. Therefore, *Plestiodon* is to be considered as identical with *Eumeces*, which is the oldest name. The only as yet known representative, we have of this restricted type of Lizards in India, is Blyth's *Eurylepis* from the Panjáb, which province has to a large extent an admixture of African forms in its fauna (Comp. Jour. Asiat. Soc. Bengal, xxiii, p. 739). Blyth, when describing *Eurylepis*, correctly refers to the figure of *Sc. pavementatus* in the 'Descr. de l'Egypt', but he was not aware that the species is identical with *Sc. Schneideri*, and that it is the type of *Eumeces*.* There does not appear to be a difference† between *Eurylepis* and

* Dr. Anderson (Proc. Asiat. Soc. B., for Sept. 1871) suggests that Fitzinger's name *Mabouia*, (or rather *Mabuya*, as invariably written by Fitzinger), should replace *Eumeces*. I do not think that there is sufficient reason for this. Fitzinger, when suggesting the name *Mabuya* in 1826, (in Verz. Rept. p. 23), certainly says that the lizard possesses palatine teeth, and the author places the genus in opposition to Gray's *Tiliqua* which, he says, does not have palatine teeth. But Gray's old genus *Tiliqua* includes a vast number of Scines with and without palatine teeth. Moreover, Fitzinger, when giving in the same work (p. 52) a list of the species of *Mabuya*, quotes as the first species *Scincus quinque-carinatus*, Kuhl, as the second *Sc. carinatus*, Daudin, as the 12th *Sc. agilis*, Radde, and as one of the last *Sc. ocellatus*, Daudin, the *Mabouya par excellence* of old author's; but neither for the first nor for the last species has Fitzinger's name *Mabuya* been retained. When writing his Syst. Rept., published in 1843, Fitzinger was perfectly well aware of this confusion, and dropped the name *Mabuya* altogether, most likely because it had not been accepted by Dum. and Bibron. He quotes (l. cit.) Lacepede's "Mabouya" (*Sc. ocellatus*, Daud.) as the type of Wiegmann's *Gongylus*, and distributes the other species which he formerly referred to *Mabuya* into about half a dozen genera. In 1845 Gray wished to rescue Fitzinger's name, (more correctly written in the form of *Mabouya*), retaining it for Radde's *Sc. agilis* as type, and only in this signification can, I believe, the name *Mabouya* find a place in our literature, if we wish to avoid a greater confusion than already exists.

† Compare Anderson in Proc. A. S. B., Sept. 1871.

Eumeces. The dorsal scales of *pavimentatus* are often very irregular in their size, and enlarged, as are also those of Blyth's species.

The Indian and Malayan species, referred by Günther in his 'Reptiles of India' to *Eumeces*, are arranged by the same author under two groups. One includes *Hinulia*, *Mocoa*, and *Podophis*, the other *Mabouya* (type *Sc. agilis*, Radde) and *Riopa*, to which *Senira* has to be added, if Mr. Theobald is correct in identifying a lizard from Rangún with *Senira bicolor* of Gray (Linn. Soc. Jour., Zool., x, p. 27). Whether the three first named should be considered only as subgenera of *Lygosoma*, Gray, as adopted by several continental herpetologists, or whether they should be retained as distinct genera, is for the present not of very material importance. I can only say that the Indian species of *Hinulia* and *Mocoa* are fairly divisible, and the same is the case with *Mabouya* and *Riopa*. All have the palatal notch situated far backward and the palate itself toothless, but this is a very general character, and equally applies to *Hagria*, *Ristella* and several other well distinguishable genera.

Of *Hinulia* there are as yet only three species known from British India, and as they had been rather misunderstood, I shall give a figure of the head and of the sole of the hind foot of each, shewing the characteristic distinctions between them. *H. indica* is as yet only known from Sikkim and the adjoining hills; *H. maculata* occurs throughout Bengal and Barma; *H. Dussumieri* is from the Malabar coast. Of *Mabouya* and *Podophis* I do not know a single species which occurs within the limits of British India, as now understood (excluding Penang). Of *Mocoa* and *Riopa*, the species are numerous and mostly of small size.

HINULIA INDICA, Gray.

Pl. iv. fig. 1, 1a, side and upper views of the head, natural size; 1b, sole of left hind limb, twice the natural size.

Eumeces indicus apud Günther, I, R., p. 89, exclusive of the synonyms quoted under *Lygosoma* and *Mocoa*.—*E. indicus*, apud Anderson in Proc. Zool. Soc., 1871, p. 158 (in part).

The general structure of scales is as described by Günther. The number of longitudinal rows is usually 36 or 38; there are 60-70 transverse rows at the side of the body between fore and hind limb, but there are only 46-55 scales in a row at the edge of the vent between axil and loin. The fore foot, when laid forward, scarcely ever reaches the snout, but it usually extends in front beyond the eye. The four supraciliaries are followed by two small shields; ear opening large, without any denticulations in front.

The usual coloration is as originally described by Gray. Upper side brown, generally bronze, rarely with an olive tinge, uniform, or with a few

scattered dark spots; limbs above almost uniform brown; sides towards the back with a dark brown or blackish band, separated from the back by an indistinct, partially interrupted, narrow, white band; on the lower half of the sides the colour gradually passes into dull brown, more or less spotted or marbled with paler, which markings are generally also traceable in the dark band; sides of tail greyish brown with an upper dark edge, and marked with darker and paler small spots, or indistinct stripes. Below, uniform greenish iridescent white; limbs and tail of a pale fleshy brown colour during life.

This is a much larger species than any of the two following, but it is by no means common in Sikkim. I found it from the base of the valleys up to about 6,000 feet, and also received it from the Bhután hills. It very likely extends eastwards into Asám.

The young specimen referred to by Dr. Anderson (l. cit.) under the head of *Eu. indicus* belongs to the next species; and judging from the description of the coloration in Günther's I. R. (l. cit.), it appears probable, that specimens of the next species were also referred to this one as young. There can, however, be no mistake about the distinctness of the two. *H. indica*, as compared with *H. maculata*, is a much stouter and larger form, with comparatively larger scales, arranged in a smaller number of transverse rows between fore and hind limb; the former has 10 rows of scales on the back between the dark bands, the latter only 8; in *indica* the rostral, anterior frontal, and the supraorbitals are slightly convex, the interspace between the latter moderately wide, the preanal shields comparatively small; the palm and sole entirely covered with spinous tubercles, with some larger ones on the posterior edge of the sole. In *H. maculata* on the contrary the rostral reaches far backwards, is flat or almost concave above, the anterior frontal is also flat, the supraorbitals tumid with a very narrow space between them, and the palm and sole are only partially tubercular. There is also a difference in coloration; the lateral band at the side in *indica* is never very distinct, and is not margined below by a white line, which is always well marked in *maculata*.

In six specimens examined the length of the body varies between 3 and 3.75 inches, the tail being, when in its natural growth, about twice that length, but often it is reproduced and then about equal in length to the body.

HINULIA MACULATA, Blyth.

Pl. iv, fig. 2, 2a, side and upper views of the head, natural size, 2b, sole of hind limb, twice the natural size.

Comp. Stoliczka, in Journ. Asiat. Sc. B., xxxix. 1870, p. 174.

The 5th and part of the 6th labial are below the orbit, both are nearly equal in size; the median pair of the enlarged preanals is sometimes (though

rarely) united into one large shield. The hand has no tubercles on the extreme inner edge, and the sole is only partially tubercular, being generally smooth all along the bases of the 3rd and 4th toes; there are 17-22 sharp tubercles on the 4th free toe.

I have examined specimens from the Andamans,* Moulmein, various parts of Pegu, Asám, Sikkim and from the Parisnath hill in W. Bengal. The Moulmein specimens are the largest, attaining 7 inches; next come those from Asám and the base of the Sikkim hills, just above the Terrai at Pankabari; specimens collected at greater elevations, as for instance those about Darjiling (7-8000 feet) very rarely appear to attain 6 inches in length, and on the Parisnath I did not get (in April) a single specimen above 5 inches. All from the latter locality are, above, distinctly bronze brown, while those from the Himalayas are generally somewhat olivaceous or, when young, with greenish metallic lustre; they also often have the back much spotted with blackish, and the sutures between the head shields are more or less black, but in every point of structure the two forms are identical.

In all the specimens, I saw, the fore foot when laid forward, reached beyond the eye, but never to the front of the rostral. The fifth or last supraciliary is the smallest, but rarely united with the fourth, which is then followed by one or two small shields. The number of transverse rows of scales on the side of the body between fore and hind limb varies from 80 to 95, but the number of scales in one row at the edge of the belly is only about 60.

HINULIA DUSSUMIERII, Dum. and Bib.

Pl. iv, fig. 3, 3a, side and upper views of the head; 3b, sole of left hind limb.

Lygosoma Dussumierii, D. and B., Erpet. Gen., v, p. 725.

Eumeces Dussumieri, apud Beddome, Madras Journ. Med. Sc. for 1870.

I am indebted for a specimen of this very rare species† to Major Beddome, who obtained it in Malabar, where also the original specimens have been procured by Mr. Dussumier. As the species is rare, a slightly verbal alteration of Major Beddome's description may not be out of place.

Head conical, depressed above; body high, roundly subquadrangular; tail much longer than the body, gradually tapering to a point. The fore leg, when laid forward reaches to the tip of the snout, and the hind leg ex-

* One of the two specimens, noted by Theobald in Cat. Rept. Asiat. Soc. Museum, 1868, p. 25 (letter b.) as coming from the Andamans is an *Euprepes* which, if not identical with Steindachner's *E. macrotis*, from the Nicobars, belongs to a new species. Scales in 30 longitudinal series, each sharply three-keeled; supranasals not quite in contact, frontal forms a broad suture with vertical, occipitals as usually distributed; lower eyelid scaly, but the scales are rather larger in the middle; greenish olive above; ear large with scarcely any projecting denticles in front; sides blackish, below white.

† In the specimen described by Major Beddome the first and second supra-orbitals appear to have been united.

tends with half of the fourth toe beyond the shoulder. Rostral large, reaching far backward, and flat above; anterior frontal above broadly truncate, but very narrowly behind, the two posterior frontals nearly meeting; vertical very narrowly in contact with the anterior frontal, and much contracted and elongated posteriorly; supraorbitals 5, much swollen, the last followed below by two small shields; interorbital space very narrow; a pair of anterior occipitals, narrowed in front, broad behind; median occipital obtusely pointed in front, acutely behind, and in size subequal to one of the anterior occipitals; posterior occipitals larger, meeting behind with a narrow suture, in front in contact with the anterior occipital, the fifth supraorbital, and a small shield following it; shields on the side of the head regular; 8 upper and 7 lower labials, the last very small; first chin-shield single, second in a pair, forming a suture, followed by 3 other separate and widely diverging pairs; opening of the ear a long vertical slit, not denticulate in front; 40-42 longitudinal rows of scales round the middle of the body, those on the sides considerably smaller than on the belly;* about 76 transverse series on the side between fore and hind-limb, but only 66 on the edge of the belly; preanal scales moderately enlarged; of the subcaudals there are very few in front enlarged, but near the middle and posteriorly all; palm nearly entirely covered with tubercles, sole only at the bases of the 1st and 5th toes, and on the posterior edge, the remainder being smooth; about 23 sharpened tubercles under the free portion of the fourth toe.

Colour, above, fulvous, tinged olive in front and reddish posteriorly, with two longitudinal, submarginal, black bands, partially or entirely broken up into spots and becoming obsolete on the tail, which is red; along the edges of the back runs a metallic greenish white line, originating on the supraciliary edge; it is most distinct on the neck, but gradually disappears on the tail. A pure black band originates at the nasal, continues through the eye along the upper side of the body, and on the tail, disappearing towards its termination; the black band is bordered below by a narrower white band, which originates below the eye, passes through the lower part of the ear to the loin, and is below, particularly at the side of the vent, again bordered with black. Legs above olive brown with darker marblings and indistinct fulvous spots; tips of toes dark. Below, uniform greenish iridescent white; tail red.

Total length 4.75 inches, body 1.87, tail 2.87 inch. In general structure of the scales, the flattened upper rostral, tumid supraorbitals, narrow vertical, imperfectly tubercular soles, and in general style of coloration, the Malabar form agrees with the Bengal *maculata*, but the limbs are longer in proportion, and the details of coloration considerably different. The black band is at the side of the body broader, and the white one, bordering it below, originates in the present species below the eye and passes through the lower angle of the opening of the ear, while in *maculata* it begins almost behind the eye and

* This is also the case in *H. maculata*.

passes through the upper edge of the ear; the number of longitudinal rows of scales also appears to be slightly larger in the present species.

MOCOA SIKKIMENSIS, Blyth.

Pl. v, figs. 2, 2a, side and upper views of the head; three times the natural size.
Journ. Asiat. Soc. Bengal, 1854, xxii, p. 652.

Body slender, head short, obtuse and rather flattened above; no supranasals; lower eyelid with a transparent disk in the middle. Shields of the head regular, anterior frontal in contact with the rostral and vertical, which is much attenuated posteriorly; posterior frontals small, and not in contact, unless exceptionally; 4 supraciliaries; posterior pair of occipitals about twice the size of the anterior, middle shield small, shaped like the vertical, but shorter; 3 to 4 pairs of elongate transverse shields behind the occipitals; 2 loreals and 2 pre-oculars, each pair sometimes united into one vertically, or horizontally, elongated shield; 7 upper labials followed by two smaller shields, the 5th under the orbit, but not much elongated; 8 lower labials, the last smallest; anterior chin-shields enlarged; ear small rounded, generally with 2 or 3 small projecting shields on the front-, and a few still smaller lobules on the hinder, edge. Scales generally in 24 longitudinal series, and in 46 transverse series between fore and hind-limb; these numbers vary very little; young specimens have occasionally only 44, but the largest never appear to have more than 48, transverse series. A pair of large preanals. Subcaudals also enlarged, except the first few. The fore foot reaches to the anterior angle of the orbit, when laid forward, and the hind foot is three fifths the distance between fore and hind-limb. Palm and sole tubercular; fourth finger barely longer than the third; fourth toe nearly a quarter longer than the third.

Colour, above, bronze brown, (sometimes with an olive tinge and a metallic lustre during life,) uniform, or with three to five irregular series of small dark brown dots, the centre ones often arranged into dark lines; sides darker, near the back more or less blackish brown, commencing with a dark band at the rostral shield. Above, at the edges of the back, the black is margined by a somewhat indistinct pale line or band, occasionally dissolved into more or less confluent white spots; below, there is also an indistinct pale, undulating, band, passing from the ear to near the loin; the upper portion of the sides is less, the lower more numerous, spotted with white; the brown, as well as the somewhat indistinct whitish, spots extend on to the sides of the tail. Upper labials whitish, spotted with brown. Chin uniform greenish white in young, spotted with greenish dusky in older specimens. Vent below greenish white, on the posterior part, but especially between the femora and below the tail, reddish, this colour being more or less bright according to sex and season. The brown spots on the back are very variable, both in number and distinct-

ness. Young specimens generally have a distinct greenish metallic tinge on the whole body.

Largest specimen measures 5.25 inches, of which the body is 2", or a little less; some specimens have a stouter tail than others.

Hab. Sikkim, at elevations of from 3,000 to 10,000 feet; generally found between large stones in places exposed to the sun.

Jerdon* says that Günther's *Eumeces Himalayanus*† is identical with *Sikkimensis*, which latter Günther quoted as doubtfully belonging to *Hinulia indica*.‡ Dr. Anderson (Proc. Zool. Soc. 1871, p. 158) also says, that the Sikkim form "agrees in its transparent eyelid and all its other details with Günther's *Eum. himalayanus*;" he has, however, I believe, never seen an example of the true *Mococa Himalayana* of Günther. I have specimens of the latter from Simla and the hills to the West, and I find that although they closely resemble *Sikkimensis*, they are nearly as well distinguishable, as are *Hin. indica* and *maculata*. Among five specimens of *Himalayana* only one has 26 longitudinal rows of scales, the four other specimens have each 28 longitudinal rows; there are 48 to 50 transverse rows between fore and hind-limb, but only 42 to 44 scales in a row along the edge of the belly. On the back there are, as in *Sikkimensis*, only 4 longitudinal rows, but at the sides and below the scales of *Himalayana* are decidedly smaller. Other differences are: the limbs, though not longer than in *Sikkimensis*, are in *Himalayana* somewhat more slender, the transparent disk on the eyelid is larger, the ear-opening is also larger and with much more distinct lobules in front, the posterior frontals are more developed, almost meeting the anterior frontal and the vertical in a point, as stated by Dr. Günther, while in *Sikkimensis* the two posterior frontals always remain well separated.

The colour of *Himalayana* is, as described by Günther, above, greenish olive (not bronze brown, or only tinged with olive, as in *Sikkimensis*), with a few interrupted series of dark and whitish dots; a blackish band commences at the nasal and continues through the eye along the upper side of the body to near the tip of the tail, it is either uniform or with a few white spots, and on the tail it becomes generally less distinct. At the edge of the back the black band is margined by a white line, (most distinct on the neck), and below by a much broader white band, commencing at the lower edge of the orbit and terminating at the hind limb. Below this white band the sides are mottled or speckled with dark. The lower surface is uniform greenish white; tail reddish below (seasonal). All this strongly contrasts with specimens of *Sikkimensis* of which I collected a very large number of specimens in Sikkim. I do not wish to say that the two forms may not be shown to represent mere varieties of

* Proc. Asiat. Soc. for February 1870, p. 73.

† Reptiles of India, p. 86.

‡ Ibidem, p. 89.

one type species, but unless direct transitions, or transmutations, from one form into the other had been proved by observations, we have no right to ignore the distinctions which had been pointed out, and which do in reality exist.

M. Sikkimensis appears to be, however, more closely related to *Mococa Schlegelii*, Günther (l. c., p. 86), which also has been described from a Sikkim specimen. In size, form and general structure there does not appear to be a great difference between the two; the number of longitudinal rows of scales round the body is given as 25, and that between the axil and groin as 35, the latter number is, however, too small for *Sikkimensis*. The colour of *Schlegelii* is said to be black above, blackish below, which I certainly never observed among a few hundreds of *Sikkimensis*.

MOCOA SACRA, n. sp.*

Pl. iv, fig. 4, side view of the animal, natural size; 4a, 4b, 4c, upper, side, and lower views of the head and neck, enlarged.

Habit slender, head somewhat depressed, obtuse in front, body shorter than the tail, the latter gradually tapering to a point. No supranasals, eyelid with a perfectly transparent disc; scales in 22 longitudinal series round the middle of the body, and in 40 transverse series between fore and hind-limb. Head shields regular, like in *Sikkimensis*, but the postnasal scarcely reaches the top of head, and the fifth upper labial is comparatively longer than in that species. A few enlarged scales behind the occipitals. Subcaudals single, enlarged, except the two first pairs. A pair of large preanals. Ear in front denticulated with three equal lobules.

Total length 3.37 inches of which the tail is 2"; feet slender; the fore foot reaches to the middle of the eye, when laid forward, the 3rd and 4th fingers are equal or subequal; the hind foot is two-third the distance between fore and hind limb, or half that between the latter and the ear; the 4th toe is slightly longer than the 3rd.

Above, light iridescent bronze brown, with a few dark brown spots scattered on the head and body, each of these dark spots being accompanied by an indistinct pale spot, on both, or only on one side; a narrow black band from the rostral through the eye, passing above the ear and becoming indistinct on the sides of the belly; a white band below the black, best marked through the ear and above the fore foot, but becoming also indistinct on the belly where a few whitish spots separate the lower light from the upper darker parts; labials somewhat spotted with dark; chin white; breast and belly, below, greenish iridescent white; femoral region and tail below pale vermilion, that colour passing also on the sides of the tail, where only a few indistinct pale spots exist.

This species is very closely allied to *Sikkimensis*, differing from it by its more slender and comparatively longer hind feet, smaller number of

* See Proc. A. S. B., September 1871, p. 195.

longitudinal rows of scales, those on the vent being decidedly more transversely elongated, than in the Himalayan form ; further in the more elongated 5th upper labial, few enlarged shields behind the occipitals, and by the subcaudals being enlarged almost from the beginning. There is also a slight difference in coloration.

Hab. Parisnáth hill in West Bengal. The only specimen was obtained near one of the Jain shrines on the top of the hill.

RISTELLA, Gray.

Ann. and Mag. Nat. Hist., Ser. I, 1839, p. 333.

Cat. Lizards B. M., 1845, pp. 71 and 85.

Body and tail elongate, subcylindrical ; limbs four, feeble, anterior with 4, posterior with 5 toes, thumb and inner toe shortest ; all toes provided with retractile claws, lying between two terminal enlarged shields ; head shields regular ; nostril in a single lateral shield ; supranasals none ; lower eyelid scaly ; ear opening small ; scales of body keeled or nearly smooth ; gape situated far backward ; palate toothless ; teeth of the jaws small, equal, numerous, compressed.

This generic character has been derived from a specimen, kindly sent to me by Major Beddome ; it belongs, I believe, to a genus which was originally established by Gray for a North Indian specimen, *Ristella Rurkii* (l. cit. p. 86), but the species appears to be different ; at least it is impossible to identify both from the short description given of *R. Rurkii*, and it is not noted in Günther's Reptiles of India.

The 4 anterior toes and the retractile claws are important distinctions of the genus which must be classed next to *Heteropus*.

RISTELLA TRAVANCORICA* Beddome.

Ateuchosaurus Travancoricus, Beddome, Madras Journ. Med. Sc., 1870, p. 33.

Pl. iv, fig. 5, upper view of the animal, natural size ; 5a, 5b, 5c, upper, side and lower views of the head, enlarged ; 5d, inner view of hand with the claws retracted, 5e, sole with the claws drawn out.

Body very elongate, subcylindrical, but somewhat depressed ; muzzle short, obtuse, tail considerably longer than the body and very gradually tapering. Rostral convex in front, reaching to the upper surface of the head ; one large prefrontal, two small posterior frontals, widely separated ; the vertical forms a broad suture with anti-frontal and is posteriorly much elongate ; four or five supraciliaries, slightly elevated, the first shield largest, but it is sometimes divided in two, last shield smallest ; five occipitals, the two anterior and the median one subequal, the posterior pair larger, and the adjoining scales are

* *R. malabaricus*, (olim), Proc. A. S. B., 1871, p. 195.—Since my description of this species was drawn up, I observe that Major Beddome redescribed the species, in Mad. Med. Journal for 1871, also under the name *Ristella*, which name I had pointed out to him.

slightly larger than the rest on neck. Nasal shield moderate, pierced nearly in the middle by the nostril; one loreal, one preocular separated from the angle of the eye by a few minute shields; 3 or 4 small shields at the hinder angle of the eye, followed by regular scales. Upper labials 6, the eye above the 3rd and 4th; lower labials 5, narrow but long; lower rostral large, followed by one single and 3 pairs of enlarged chin shields. Scales on neck smooth, on body slightly two-keeled, round the middle of body in 26 longitudinal rows, there being 6 rows on the back, exclusive one row on either edge; on the belly there are also 6 rows, the scales being slightly larger than those of the back; 35 transverse rows between fore and hind limb; the two median preanal shields somewhat larger than the others; subcaudals not very conspicuously enlarged, (but they are generally enlarged in this group of SCINCIDÆ when the tail has been reproduced). The fore limb, when laid forward, reaches to the angle of the mouth, and the length of the hind limb is equal to half the distance between axil and groin. Total length of specimen 3.62 inches, head and body being 1.5 inches.

General colour, above, dark fulvous brown, each of the scales in the 6 dorsal rows with a median black streak, forming black longitudinal lines, continued on the tail; edge of back a little more distinctly fulvous brown, sides blackish with small white spots; below, yellowish white, spotted with black on chin and throat; tail below variegated with black and yellowish white, (during life probably reddish).

Hab. According to Major Beddome, common in moist jungles of the Western Ghats between 2000 and 5000 feet elevation.

RIOPA ANGUINA, Theobald.

Pl. v. fig. 4, animal, natural size; 4a, 4b, 4c, top, side and lower views of the head, enlarged; 4d, upper side of hand; 4e, inner side of foot.

Theobald, Journal Linn. Soc., Zool. vol. x, p. 27.

Anderson, Proc. Zool. Lond. 1871, p. 159 (in part).

RIOPA CYANELLA, n. sp.

Pl. v. fig. 3, 3a—3e, exactly corresponding figures with 4, 4a—4e.

? *Riopa Bowringi* apud Theobald, Linn. Soc. Journ., Zool. x, p. 26.

Riopa anguina, apud Anderson, P. Z. S., p. 159, (in part).

Theobald's description of *R. anguina* is somewhat incomplete. Dr. Anderson having kindly shown me the specimens in the Museum, I found that they belong to two distinct species, and that his description, as regards coloration at least, partly refers to *anguina*, partly to *cyanella*. In order to prevent misapprehension I give a brief description of the characters of both, and add a figure of each species.

R. anguina. Body elongate, subcylindrical, slightly depressed; head conical, rather short; supranasals in contact behind the rostral; anterior

frontal in contact with the vertical which is rather narrow, and barely reaches beyond a straight line connecting the middle of the orbits ; four supraciliaries followed by a small shield ; anterior pair of occipitals nearly equal to,* or only slightly larger than, the median occipital shield, the former narrower in front, the latter attenuate behind ; posterior occipitals elongate, each being anteriorly in contact with the 4th supraciliary and the small shield following it, or sometimes it also touches an additional small shield placed obliquely behind that small posterior supraorbital ; two scales, touching on each side the posterior occipitals, are enlarged ; other head shields regular, as usual in *Riopa*, (they are indicated in the figure). The upper labials are sometimes 8 instead of 7, the 3rd or 4th being occasionally divided. Lower eyelid with a large translucent shield. Ear small, sometimes one or the other of the front scales slightly projects in the space. Scales in 22 longitudinal rows round the middle of the body, those on the lower side scarcely larger than those on the back ; the two median preanal shields are only very little larger than those superseding them ; 65-70 transverse rows between fore and hind-limbs.

Limbs very short and rather stout, with very short toes and distinct claws ; palm and sole coarsely granular. The fore limb when laid forward does not reach the ear, and is only a little longer than the lateral gape of the mouth. The hind-limb equals the distance between the ear and the tip of snout, or it is a trifle longer.

Colour, above, uniform brown or greyish brown, pale at the sides, and whitish or brownish white below, the brownish or yellowish tint being especially conspicuous on the lower side of the tail. There is no lateral streak at the side of the body, but the sutures between the dorsal scales are in young specimens conspicuously darker than the rest, and form longitudinal dark lines, which in mature specimens become indistinct, or obsolete. In some specimens there is also a transverse, submarginal, dark line to each scale.

Usual size about 4 inches, of which the tail is generally somewhat less than one half. Length of head and body of the largest (figured) specimen 2.25 inches.

Hab. Pegu, British Barma.

Riopa cyanella. Body slender, with a conical head. Head-shields quite similar to those of the last species, but the vertical is somewhat longer and more slender ; the median occipital is conspicuously smaller than one of the anterior pair ; scales adjoining the posterior occipitals moderately enlarged. Lower eyelid with a translucent large shield. Opening of the ear small, a front scale very little projecting into the space. Scales of body in 22 longitudinal rows, 60-64 transverse rows between fore and hind limb ; preanals scarcely larger than the preceding scales. Limbs of moderate

* Theobald in his original description rightly places particular stress upon this character.

length and slender. The fore-limb, when laid forward, nearly or fully reaches the opening of the ear, and is only a little shorter than the distance between the snout and the ear; the hind limb is less than half the distance between the axil and loin, and it barely exceeds the distance between the fore limb and the anterior angle of the eye.

Colour, above, olive brown, with an iridescent blue tinge, purer brownish on the tail, pale brownish olive at the side of the body; each scale, above and at the sides, is indistinctly mottled with dark, and there are generally a few white spots on the side of the neck and about the shoulder; a narrow white, slightly black margined band rises from behind the orbit and continues on each side of the back; it becomes indistinct in the middle of the body, but is again slightly more conspicuous above the hip, gradually disappearing on the tail, which is indistinctly speckled with dark brown at the sides; limbs above with longitudinal, broken up, dark lines; chin and anterior neck below yellowish, vent whitish; tail below brownish white.

This description is drawn up from a specimen which was presented to the Indian Museum by Mr. W. Theobald, and is not unlikely the same which he in his Catalogue of Burmese Reptiles noticed under the name of *R. Bowringi*. The greater length of the limbs and the coloration readily distinguish this from the preceding species.

Hab. Pegu; British Barma.

RIOPA ALBOPUNCTATA, (I. R., p. 92).

Pl. v, fig. 6, 6a, upper and side views of head, enlarged.

RIOPA HARDWICKII, (I. R., p. 92).

Pl. v, fig. 5, 5a, same views as in figure 6.

RIOPA PUNCTATA, (I. R. p. 93).

The differences in structure between these three species are very few. In the first and third the vertical and the median occipital shield are comparatively narrower and longer, than in the second.

In *R. albopunctata* the scales of the body are slightly smaller and more quadrangular, the number of longitudinal rows varies between 26 and 28, (the two numbers being almost equally common, at least in Bengal specimens), the transverse rows between fore and hind limb vary between 50-60, 56 being the most usual number, as stated by Günther. The fore leg reaches, when laid forward, to the front edge of the ear, or a little beyond it, rarely to the angle of the mouth; the length of the hind leg is generally a little less than $\frac{1}{4}$ th of the body, rarely exactly $\frac{1}{4}$ th.

In *R. Hardwickii* all the scales are somewhat larger and more transversely elongate, the number of longitudinal rows varies between 24 and 26, both being almost equally common; the transverse rows between fore and hind limbs vary between 48 and 56, 53 being the most usual

number; the fore leg extends generally somewhat beyond the ear, and often as far as the angle of the mouth, but very rarely beyond it; the hind leg is generally somewhat more than one fourth the length of the body.

In the form, greater or lesser thickness, and in the length of the body and of the tail, the two first mentioned species are identical, and equally variable; both have in front of the ear two lobules, the upper of which is the larger one, while the lower becomes occasionally obsolete. Both species also have the shields on the preanal edge slightly larger than those above them, and both have the lower eyelid covered with enlarged shields, but in the former the centre large shield is opaque, and generally broken up in two or three smaller ones, while in the latter it always remains entire, but it is generally only in young specimens perfectly transparent. The usual size of either species is a little above 4 inches, the tail if normal being about equal to the length of the body, but often it is reproduced, becoming thinner, or thicker, and shorter, and with the subcaudals often somewhat enlarged. The coloration is generally tolerably distinct in the two species.

In *albopunctata* of South India the back is often uniform brown; in Bengal specimens, each of the six median rows of scales of the back has a black dot, forming longitudinal lines and continuing on the tail, the extreme edges of the upper back are sometimes pale coloured, and some varieties of this type occasionally very much resemble those of *Hardwickii*; sides purplish black, spotted with white; lower side of the tail uniform white, like the vent, or more often each scale with a blackish dot. Legs above black spotted.—This species extends from South India through Central India, the whole of Bengal, into N.-Eastern Asám, and westwards into Pégu. At Calcutta it is very common during the winter months, but I have seen extremely few specimens in the time between May and the end of the rainy season.

R. Hardwickii is more variable in colour. The back and sides of the body are sometimes entirely purplish black; the edges of the upper back from the nostril, and the whole of the lower side purely white, tail vermilion in young, pale brownish above, white below, in older specimens. Other specimens, particularly those from Northern India, (about Agra and northwards towards the base of the Himalayas), have the four median rows of dorsal scales each with a large blackish spot, or rather the spots are generally situated on the suture between each two scales, and the scales in the two middle rows have their lower margins apparently serrated; the upper edges of the back have the usual white or yellowish bands; the sides are above purplish black, further down paler and each scale has a black spot; white dots occur either over the entire side, or only on the anterior half, or they are restricted to the side of the neck; vent always uniform white; tail with a black spot to each scale, sometimes absent on the lower side, its general colour fleshy. The reddish or purplish tinge is gradually lost in spirit.—This species is found in South India,* extending

* According to Blyth also in Ceylon.

through Central India northwards as far as Rurki and Hardwár, and eastwards as far as Calcutta, but it is very rare here. I have only within the last year obtained two specimens on the western side of the Hughli river at Howrah, but do not know of any record of the species eastward of the Hughli, that is even in Calcutta itself.

A third species which I have to notice is Linné's *R. punctata* from South India and the Dakhin (Dekhan). The structure and colour of this closely corresponds with that of *albopunctata* from Bengal, but the difference in size is very great, the former often attaining 12 inches. The number of scales round the body is usually 24, and those between fore and hind limb 78—84. Colour, brown above and at the sides, pale below, all scales with blackish, and the anterior half of sides with white, spots.

At Matheran near Bombay (about 2,500 feet on the trappean plateau) I have met with a peculiar form, which might be looked upon as a hybrid or a transitional form, between *R. albo punctata* and *R. Hardwickii*. The form of the body, its structure, proportions of the limbs and the posteriorly narrowed vertical shield best agrees with *punctata*, as described. The largest specimen measures only $7\frac{1}{2}$ inches, the body being $3\frac{1}{4}$ inches. Of eight specimens examined, all have 26 longitudinal rows of scales, a number tolerably common in *Hardwickii*, but rarely to be met with in typical *punctata*. There are 74—80 transverse rows of scales between the limbs, agreeing with *punctata*. The colouration is exactly the same as in a pale *R. Hardwickii*: above and at the sides more or less dark brown, a pale brown or yellowish band on each side from the snout to the base of the tail, anterior half of sides of body with white dots; below whitish; all scales have blackish spots which sometimes become obsolete on the lower side. It is really difficult to decide to which species this particular form, which I have just noticed, should be referred. The structure and form of the body agrees best with *punctata*, while the colouration is that of *Hardwickii*, and the size is intermediate between both. To consider the Matheran form as an independent species, seems to me quite unnatural; it is certainly nothing else than a local variety, and most probably the same which Jerdon notices as *R. Hardwickii* from the Carnatic, '9 inches' long (J. A. S. B., xxii, p. 478). The question to be answered is: do we know the young *punctata* in all its progressive stages up to the adult? I got the adult from Púna, and with it one younger specimen which has the general colouration of *Hardwickii*, the body is 2.6 inches, greater than in any known *Hardwickii* from the N. West or Central Provinces, tail reproduced, short, 24 longitudinal rows round the body, and 80 transverse rows of scales between the limbs. If we have to look upon this specimen as the young of *punctata*, what I do not doubt it really is, and take into consideration what I said about true *Hardwickii* and the Matheran form, the only reasonable conclusion we can draw is, that *punctata* and *Hardwickii* are actually only one species which

attains its greatest size and development on the Gháts of South India, and gradually diminishes in size as it extends further north, and into the plains. Careful observations of the younger stages of *punctata* must settle this presently doubtful point, but it is one of extreme interest for the study of the development of our Indian fauna.

CHIAMELLA LINEATA, Gray.

Gray, Cat. Lizards B. R., p. 97.—Günther, I. R., p. 95.

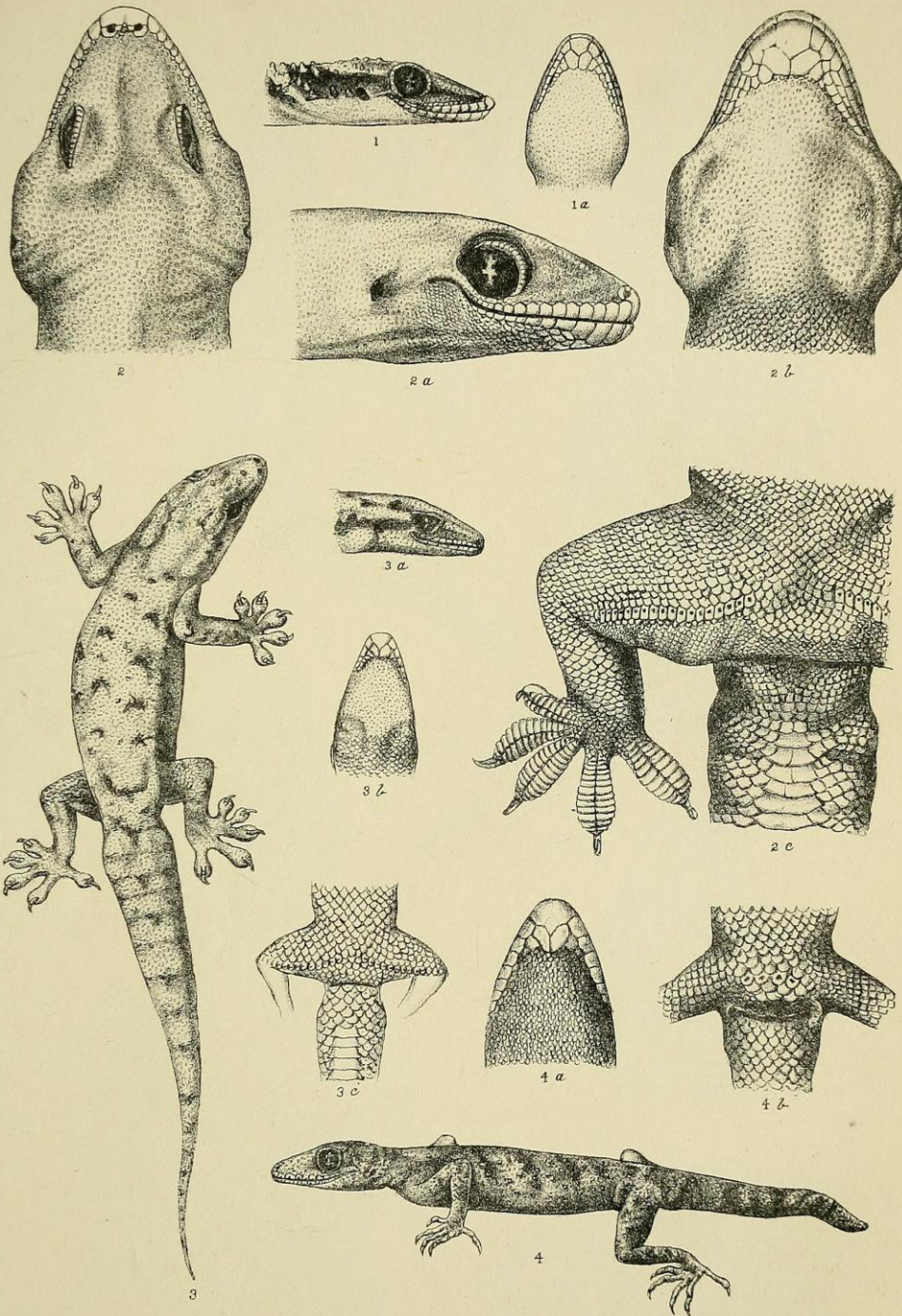
I obtained an adult specimen* of this very rare form near Púna (Dak-hin), on the sandy banks of the river between shrubs.

Body very slender and long, muzzle moderately obtuse, head flattened above. Rostral shield broader than high, slightly reaching to the top of head. Anterior frontal large, single; posterior frontals small, separate; vertical small, in contact with anterior frontal, angular in front, obtusely rounded (sub-elliptically) behind; supraciliaries four; anterior occipitals united into one obtusely triangular shield, median occipital small, pointed behind and the posterior occipitals elongate, forming a suture posteriorly. Nostrils lateral, in a single elongate shield; supranasals narrow, separated by the anterior frontal which is in contact with the rostral. Two loreals. Lower eyelid transparent. Seven upper labials, fifth largest and under the orbit; six lower labials. Ear small, with smooth edges. Scales perfectly smooth, shining, in 22 longitudinal rows round the middle of the body, and in 82-84 transverse series between the limbs; preanals and subcaudals not perceptibly enlarged. Limbs very short, each with four toes, the inner toes on both very small, the fourth toe on the fore-limb is only a little longer than the second and sensibly shorter than the fourth; on the hind-limb the third is very little longer than the fourth. When laid forward the anterior limb does not reach the ear, and the hind-limb is equal to one sixth the length between it and the fore-limb.

Colour, above, iridescent bright golden brown, sides paler with a greenish tinge, lower side whitish; all scales with blackish median spots, forming continuous lines above, but they are slightly more interrupted at the sides and on the belly, and are least distinct on the throat; head shields marbled with dark; edge of lips yellowish; limbs and tail similarly striped as the body.

Gray's characteristic of the genus is excellent, with the exception that the contiguity of the supranasals cannot be considered of generic value. My specimen measures 4·3 inches, body 2 (head alone 0·2), tail 2·2, reproduced towards the tip; fore-limb 0·2, hind-limb very nearly 0·3 inch.

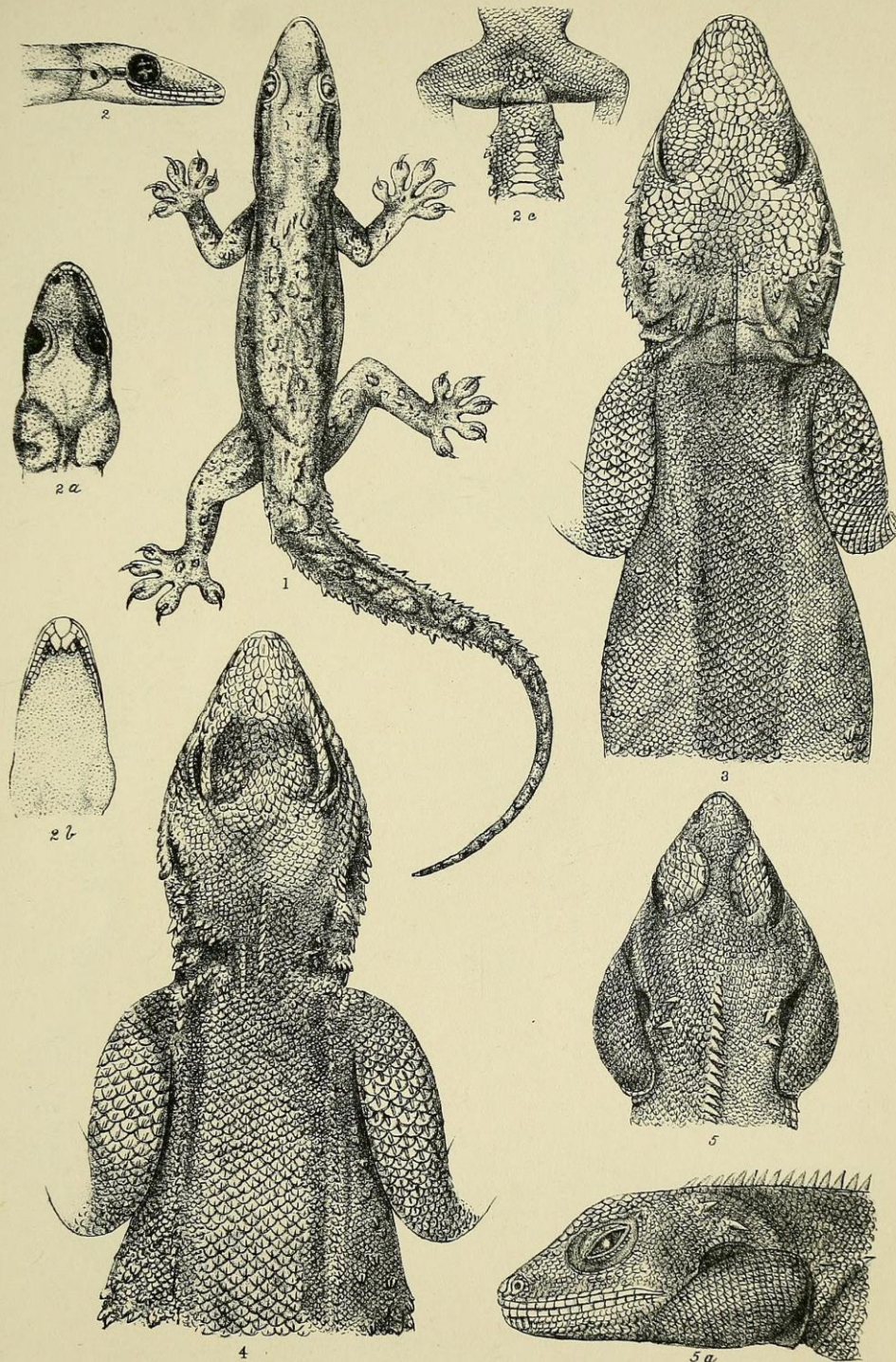
* The only type specimen in the British Museum is a young one, and its proper locality was unknown.



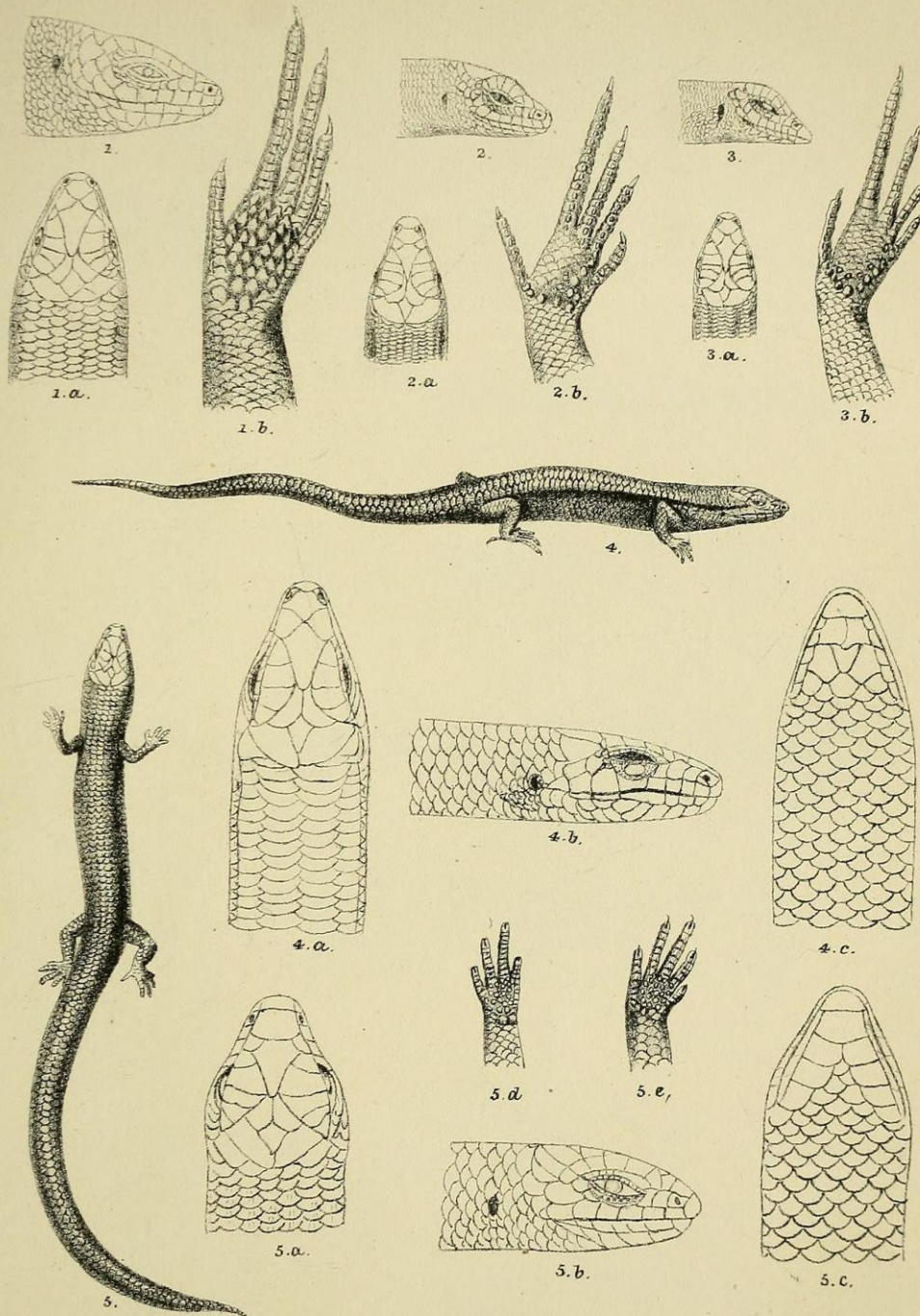
S. Sedgfield Lith.

Calcutta.

1. *Hemidactylus sub-triedrus*, Jerd. (p) 3. *Hemidactylus (Doryura) Berdmorei*, Blyth.
2. " " *giganteus*, n. sp. 4. *Gymnodactylus Lauderanus*, n. sp.

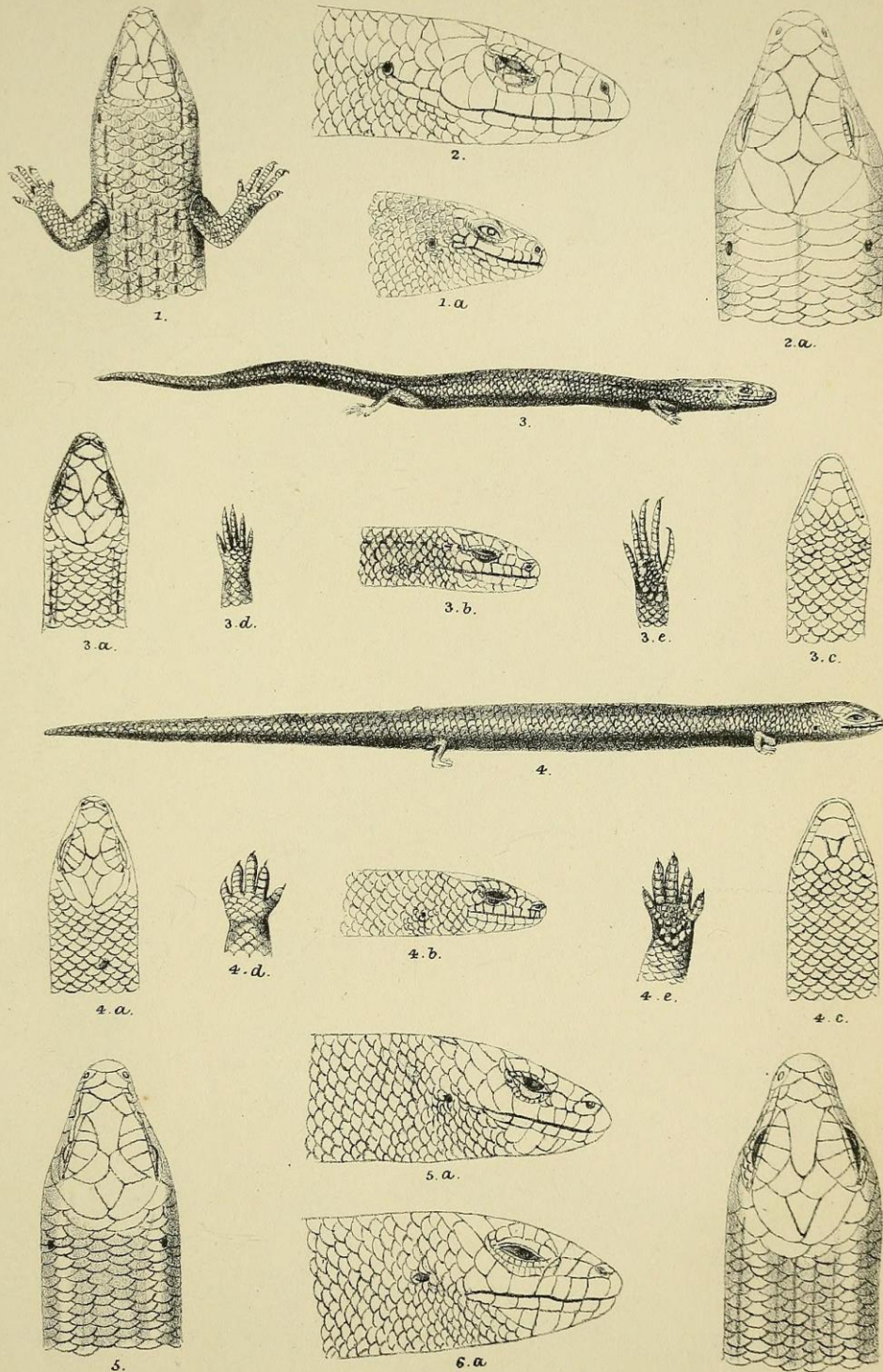


1-2 Hem. (Doryur.) Mandellianus, n. sp. 4. Stellio Dayanus, n. sp. S. S. Lith. Calcutta.
3. Stellio tuberoulatus, Gray. 5. Charasia Blanfordiana, n. sp.



1. *Hinulia indica*, Gray.
 2. " *maculata*, Blyth.
 3. " *Dussumieri*, D & B.

4. *Moco sacra*, n. sp.
 5. *Ristella Travancorica*, Bedd.



1. *Euprepes macularius*, Bl.
2. *Mocoia Sikkimensis*, Bl.
3. *Riopa cyanella*, n. sp.

4. *Riopa anguina*, Theob.
5. " *Hardwickii* Gray.
6. " *albopunctata*,