THE NATURAL HISTORY

OF

SOKOTRA AND ABD-EL-KURI

Being the Report upon the Results of the Conjoint Expedition to these Islands in 1898-9, by Mr. W. R. OGILVIE-GRANT, of the British Museum, and Dr. H. O. FORBES, of the Liverpool Museums, together with information from other available sources

FORMING

A Monograph of the Islands

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Reptiles.

The collection of Reptiles brought home by Mr. Ogilvie-Grant and Dr. H. O. Forbes usefully supplements those previously made by Professor I. B. Balfour and Dr. Riebeck, the former of which was reported upon by Drs. Günther and Blanford, the latter by the late Professor Peters. It shows that the field was still far from being exhausted, when six species, one of which proves to be referable to a new genus, could be described as new.

The present account is divided into two chapters, the first dealing with Sokotra, the second with Abd-el-Kuri, a small island between Cape Guardafui and Sokotra, the fauna of which had not previously been explored.

The vicinity of Sokotra to both Somaliland and Southern Arabia would, *à priori*, imply a close affinity with the faunas of both these countries, so similar to each other. This, however, is not the case, and although the Sokotran reptiles show, of course, an entirely Africo-Arabian general character, it is surprising to find the great majority of the species, and as many as three genera out of thirteen, to be endemic. This, together with the absence of many a species common to both neighbouring coasts (*Pristurus crucifer*, *P. flavipunctatus*, *Acanthodactylus boskianus*, *Chalcides ocellatus*, *Zamenis rhodorhachis*, &c.), which cannot be accounted for by the physical conditions of the island, clearly proves Sokotra to have been isolated for a very long period.

The complete absence, so far as we know, of Batrachians is another remarkable feature which this island shares with many others.

On Abd-el-Kuri, besides marine Chelonians, only three species—Geckos—were discovered; two of these belong to undescribed species, whilst the third is common to Sokotra and Arabia.

I.—The Reptiles of Sokotra.

SQUAMATA.

LACERTILIA

GECKONIDÆ.

Pristurus, *Rüpp.*

1. Pristurus insignis, *Blanford.*

Pristurus insignis, Blanford, Proc. Zool. Soc., 1881, p. 466, pl. xlii. fig. 1
Bouleng. Cat. Liz. i. p. 53 (1885).

Habit slender, very similar to that of the Iguanoid lizards of the genus

Anolis. Head short and deep; snout subacuminate, longer than the distance between the eye and the ear-opening, once and one third to once and a half the diameter of the orbit; forehead feebly concave; ear-opening large, oval, vertical, one third to nearly one half the diameter of the orbit. Limbs very long, the hind limb when stretched forwards reaching between the ear and the eye; digits very long and slender; 25 to 28 lamellæ under the fourth toe. Snout covered with large granules or polygonal convex scales; the remaining portion of the head, as well as the upper parts of the body, limbs, and tail, covered with minute granules. Rostral subquadrangular, at least twice as broad as deep, with median cleft above; nostril pierced between the rostral and two to four scales; 6 to 9 upper and 5 or 6 lower labials; symphysial extremely large, rounded or truncate behind and in contact with 3 to 5 small chin-shields. Ventral scales granular, a little larger than the dorsals. Tail much longer than head and body, slender, more or less strongly compressed and keeled above, but without even the slightest rudiment of a crest. Grey or brown above, with darker and lighter spots, and usually with more or less distinct dark bars across the back and tail; small brick-red spots or dots, or vermicular lines on the sides; belly bright yellow; throat white or bluish, mottled or marbled with grey or brown, these marblings sometimes extending on to the breast.

	♂		♀	
Total length	160	millim.	124	millim.
Head	15	,,	14	,,
Width of head	10	,,	8	,,
Body	43	,,	38	,,
Fore limb	31	,,	26	,,
Hind limb	41	,,	35	,,
Tail	102	,,	72	,,

This fine species, one of the largest of the genus, was discovered by Prof. Balfour, but only two specimens were procured by him, from which Dr. Blanford drew up his excellent description The above description, on the contrary, is based on a large number of examples obtained by Mr. Grant and Dr. Forbes at Jena-agahan, Homhil, and Adho Dimellus.

2. Pristurus rupestris, *Blanford.*

Pristurus rupestris, Blanf., Ann. & Mag. N. H. (4) xiii., 1874, p. 454; Zool. E. Pers. p. 350, pl. xxiii. fig. 1, and Proc. Zool. Soc., 1881, p. 465; Murray, Zool. Sind, p. 365, pl. —, fig. 1 (1884); Bouleng., Cat. Liz. i. p. 53 (1885), and Faun. Ind., Rept. p. 72 (1890); Anders. Herp. Arab. p. 23 (1895).

Habit not quite so slender as in the preceding species. Head longer, more depressed; snout more or less acuminate, once and two fifths to once and a half the diameter of the orbit; forehead scarcely concave; ear-opening roundish or oval and oblique, one fourth to one third the

diameter of the orbit. Limbs long, the hind limb when stretched forwards reaching the ear or between the shoulder and the ear; digits long and slender; 23 to 26 lamellæ under the fourth toe. Snout covered with rather large polygonal convex scales, the remainder of the head, the body, and the limbs with very small granules; the granules on the belly longer than those on the back, but smaller than the scales on the snout. Rostral at least twice as broad as deep, with median cleft above; nostril pierced between the rostral and two or three scales; 6 to 8 upper and 4 to 6 lower labials; symphysial very large, very variable in shape, rounded or truncate behind, with straight, convex, or concave sides, its posterior border in contact with 2 to 5 scales. Tail longer than head and body, slender, compressed, keeled above and beneath; in adult males with intact tails, both keels denticulate, the upper even forming a veritable crest, which, however, never extends to the body; in females, as well as in some males in which the tail has been regenerated, the crest is very feeble. Coloration extremely variable; upper parts greyish, brownish, or reddish, with lighter and darker markings; the light markings usually in the form of small round spots, the dark ones disposed as transverse spots, longitudinal stripes, or in elegant network; a dark streak on the side of the head, passing through the eye, is constantly present; a yellow or orange vertebral stripe, which is absent or but feebly marked in the Arabian and Abd-el-Kuri specimens, is usually sharply defined; a whitish lateral streak is frequently present, extending from the upper lip to above the hind limb. Lower parts white, gular region often spotted or reticulated with blackish; brick-red dots sometimes present on the belly and sides.

	♂		♀	
Total length	98	millim.	79	millim.
Head	12	„	10	„
Width of head	7	„	6	„
Body	28	„	24	„
Fore limb	18	„	15	„
Hind limb	26	„	20	„
Tail	58	„	45	„

This little Gecko has a rather wide distribution, being known from the island of Karrack, near Bushire, in the Persian Gulf, from Muscat and the Hadramaut in Arabia, and from Sokotra. J. A. Murray also records it from Sind. On Sokotra it occurs everywhere in great abundance, and numerous specimens were collected on Hadibu Plain at Dahamis, Jena-agahan, Homhil, and Adho Dimellus, thus from sea level to an altitude of 4500 feet. The colour variations to which I have alluded above are in no way dependent on the localities. The specimens brought home by Professor Balfour were likewise very variable in this respect.

Dr. Anderson, whose death, as these pages are passing through the press, is so great a loss to zoological science, has pointed out that the lizards from Sokotra (and, I may add, from Abd-el-Kuri) have the snout longer and more pointed than the types. This is, however, not absolutely constant, as the series before me now shows, and I therefore do not think anything would be gained, in the way of taxonomic accuracy, by raising the Sokotran specimens to the rank of a subspecies. The name of the species, coupled with an indication of the locality, is amply sufficient for all purposes.

[The habits of both *Pristurus insignis* and *P. rupestris* are so similar that the same remarks apply to both. They were generally found among the larger rocks on the hill sides or on the large boulders in the dry beds of water-courses, and seemed especially fond of the cracks and fissures in the perpendicular faces of the cliffs where they might frequently be seen sunning themselves. Extremely swift in their movements and constantly on the alert for danger, they were much the most difficult lizards to catch without injury. If pounced on with the hand, one was almost invariably too late, and only a struggling tail remained, the rest of the Gecko disappearing like a flash into some neighbouring crack. Far the best mode of capture is to shoot them with a saloon pistol and a few pellets of dust shot, or, at close quarters, sand may be used with excellent results. By this means eight perfect specimens were collected one morning at Adho Dimellus in a very short time, three being killed at one shot.—*W.R.O.G.*]

Phyllodactylus, *Gray.*

3. Phyllodactylus riebeckii, (*Peters*). (Plate viii.).

Diplodactylus riebeckii, Peters, Sitzb. Ges. naturf. Freunde Berl., 1882, p. 43.

Phyllodactylus riebeckii, Bouleng., Cat. Liz. i., p. 94 (1885).

Head large, with strongly swollen cheeks; snout short, not or but slightly longer than the orbit, rounded; forehead deeply concave; ear-opening oval, oblique, its greatest diameter about half that of the eye; its distance from the latter equal to the length of the snout. Limbs strong; digits rather short, depressed, with large subtriangular distal expansions and a regular series of lamellæ under the non-dilated portion; 5 or 6 lamellæ under the inner digit, 7 or 8 under the fourth. Scales on the head finely granular, more coarsely on the snout at the sides of the frontal concavity; rostral twice as broad as deep, without median cleft; nostril in the centre of a slight swelling, bordered by the rostral, the first upper labial, and three nasals; the inner nasals separated from each other, above the rostral, by one or two small scales; 10 to 12 upper and 9 to 11 lower labials; symphysial pentagonal, a little larger than the adjacent labials; a regular series of 6 or 8 chin-shields, the median pair as long as the symphysial, with which

they are in contact. Body covered, above and below, with uniform, flat, smooth, juxtaposed granules, as large as or a little larger than the larger granules on the snout. Tail cylindrical, tapering to an obtuse point, slightly prehensile, covered with uniform flat granules arranged in rings. Grey-brown above, with small dark brown markings usually disposed in pairs or forming narrow cross-bars on the back; roundish white spots, which form regular cross-bars in the young, are sometimes preserved in the adult; a dark streak from behind the eye to above the ear; intact tail with pale cross-bars, reproduced tail streaked with dark brown; lower parts white, throat sometimes spotted with brown.

Total length.....	255 millim.	Fore limb	48 millim.
Head.....	34 „	Hind limb.....	67 „
Width of head...	28 „	Tail	130 „
Body	91 „		

This species, the largest known in the genus *Phyllodactylus*, was discovered in Sokotra by Dr. E. Riebeck. Several specimens were obtained by Mr. Grant and Dr. Forbes at Homhil and Adho Dimellus.

[Most of the specimens brought home were captured in holes in the partially decayed stems of large trees (mostly *Boswellia*). One individual was found under a large stone in the bed of the river to the south of Adho Dimellus. These large Geckos are very muscular and extremely tenacious of life. When placed in the strongest Spirit of Wine they continued to struggle violently for fully a quarter of an hour, and it was painful to watch their efforts to escape. The species was only met with between about 2000 and 4000 feet.—*W.R.O.G.*]

4. Phyllodactylus trachyrhinus, *Bouleng.* (Plate ix. fig. 1).

Phyllodactylus trachyrhinus, Bouleng., Bull. Liverp. Muss., ii., 1899, p. 4.

Snout short, broadly rounded, covered with large sub-conical tubercles adherent to the skull; forehead convex; ear-opening small, round, its distance from the eye equal to the length of the snout. Limbs rather short; digits short, depressed, with well developed distal expansions, and a series of transversely enlarged lamellar scales on the lower surface. Scales on the head much larger than on the body, gradually decreasing in size on the occiput; rostral completely divided into two shields, which are not larger than the adjacent labials; nostril between the first labial and two small nasals; 8 to 10 upper and 9 lower labials; symphysial small, trapezoid, not larger than the adjacent labials; a series of small shields bordering the symphysial and the anterior lower labials. Body covered, above and below, with uniform, flat, smooth, juxtaposed granules, smallest on the sides. Tail thick, cylindrical, prehensile, covered with uniform flat granules arranged in rings. Pale brownish above, with blackish marblings; a black streak on each side of the head, passing through the eye; white beneath.

Total length	95 millim.	Fore limb	13 millim.
Head	13 „	Hind limb	18 „
Width of head	9 „	Tail	40 „
Body	32 „		

Described from two specimens from Jena-agahan (1200-2500 ft.) and Adho Dimellus (3500-4500 ft.).

Hemidactylus, *Cuv.*

5. Hemidactylus homœolepis, *Blanford.*

Hemidactylus (*Liurus*) *homœolepis*, Blanf., Proc. Zool. Soc., 1881, p. 464, pl. xlii. fig. 2.
Hemidactylus homœolepis, Bouleng., Cat. Liz. i., p. 117 (1885).

Snout obtusely pointed, longer than the distance between the eye and the ear-opening, once and one-third the diameter of the orbit; forehead scarcely concave; ear-opening small, oval, oblique. Body and limbs moderate. Digits moderately dilated, free, with rather short distal joints; 5 or 6 lamellæ under the thumb, 7 or 8 under the fourth finger, 4 or 5 under the hallux, 8 or 10 under the fourth toe. Head covered with small convex granules, largest on the snout; rostral not twice as broad as deep, with median cleft above; nostril pierced between the rostral, the first upper labial, and 5 nasals; 8 or 9 upper and 7 or 8 lower labials; symphysial large, triangular, more than twice as long as the adjacent labials; four chin-shields, median pair largest and in contact behind the symphysial. Back covered with flat, subimbricate, smooth, round scales, largest on the sides; ventral scales small, imbricate, scarely larger than the dorsals. Male with 4 præanal pores. Tail cylindrical, tapering, covered above with uniform, small, smooth, subimbricate, flat scales, beneath with a median series of transversely dilated plates, commencing some distance behind the vent. Grey or fawn above, spotted with brown; a dark streak on the side of the head, passing through the eye; tail with blackish annuli; lower parts white.

Total length	77 millim.	Fore limb	10·5 millim.
Head	10 „	Hind limb	13·5 „
Width of head	6 „	Tail	40 „
Body	27 „		

This small Gecko, discovered in Sokotra by Professor Balfour, has been obtained on Hadibu Plain, at Dahamis, Jena-agahan, Homhil, and Adho Dimellus by Messrs. Grant and Forbes. In giving an account of the Reptiles collected by Dr. Riebeck, the late Professor Peters, (l.c., p. 43), adds some remarks on *H. homœolepis*, which tend to show that he has confounded *H. flaviviridis* (= *coctæi*) with this species. Professor Bœttger's *H. homœolepis* (*Zool. Anz.*, 1893, p. 114) from Somaliland is a distinct, though closely allied species, which I have

described as *H. isolepis* (*Proc. Zool. Soc.*, 1895, p. 531, pl. xxix., fig. 1).

[Fairly common, found under rocks and stones generally in the dry beds of the streams.—*W.R.O.G.*]

6. Hemidactylus pumilio, *nom. nov.* (Plate x. fig. 1).

Hemidactylus pumilus (non Hallow.), Bouleng., Bull. Liverp. Muss., ii., 1899, p. 6.*

Head elongate, nearly twice as long as broad; snout rounded, longer than the distance between the eye and the ear-opening, once and a half the diameter of the orbit; forehead slightly concave; ear-opening small, oval. Body and limbs moderate. Digits short, free, with very short distal joint, moderately dilated; inner digit with sessile claw; 4 lamellæ under the inner digit, 6 under the fourth finger, 7 or 8 under the fourth toe. Head covered with uniform granules, which are larger on the snout; rostral tetragonal, nearly twice as broad as deep, with median cleft above; nostril pierced between the rostral and 4 small scales; 8 or 9 upper and 6 to 8 lower labials; symphysial triangular, twice as long as the adjacent labials; 4 chin-shields, inner pair largest and forming a suture behind the symphysial. Body covered above with fine granules intermixed with small round or oval feebly keeled tubercles disposed irregularly. Ventral scales small, cycloid, imbricate, smooth. Male with an angular series of 5 or 6 præanal pores. Tail cylindrical, tapering, covered with small flat scales, above with transverse series of pointed tubercles; no transversely enlarged scales below. Pale brown or buff above, with or without small brown spots; a dark brown streak on each side of the head, passing through the eye; white beneath.

Total length	53 millim.	Fore limb	7 millim.
Head	8 „	Hind limb	11 „
Width of head	4·5 „	Tail	27 „
Body	18 „		

Several specimens from Dahamis (350 ft.) and Jena-agahan (1200-2500 ft.).

[This little Gecko was only met with on the lower and middle slopes of the Haghier range. The specimens collected were all found under the boulders and stones in or near the dry beds of streams.—*W.R.O.G.*]

7. Hemidactylus granti, *Bouleng.* (Plate x. fig. 3).

Hemidactylus granti, Bouleng., Bull. Liverp. Muss., ii., 1899, p. 4.

Closely allied to *H. mabuia*, Mor. Head regularly oviform; snout longer than the distance between the eye and the ear-opening, once and a half the diameter of the orbit; forehead concave; ear-opening

* In describing this species I overlooked *H. pumilus*, Hallowell, 1860, a probable synonym of *H. frenatus*, D. & B. I have therefore changed the name to *H. pumilio*.

large, oval, oblique. Body and limbs moderate. Digits moderately dilated, free; 7 or 8 lamellæ under the thumb, 8 or 9 under the fourth finger, 6 or 7 under the hallux, 9 to 11 under the fourth toe. Head covered with uniform granules, which are much larger on the snout than on the occiput; rostral subquadrangular, not twice as broad as deep, with median cleft above; nostril pierced between the rostral, the first upper labial, and three small scales; 8 to 10 upper and 7 to 9 lower labials; symphysial large, triangular or pentagonal, twice as long as the adjacent labials; four chin-shields, median pair largest and in contact with the symphysial. Back covered with very small granules intermixed with numerous small, round, feebly keeled or subconical tubercles disposed irregularly; ventral scales small, cycloid, smooth, feebly imbricate. Male with an angular series of 8 to 12 præanal pores. Tail feebly depressed, tapering to a fine point, covered with granular scales intermixed with enlarged pointed tubercles forming regular transverse series; a series of transversely enlarged plates inferiorly. Greyish or brownish above, with dark irregular marblings or dark black-edged wavy cross-bars, 4 in number, on the nape and back; a dark streak on each side of the head, passing through the eye; tail with regular dark cross-bars; lower parts whitish.

Total length.....	172 millim.	Fore limb.....	26 millim.
Head.....	22 ,,	Hind limb.....	33 ,,
Width of head...	16 ,,	Tail	94 ,,
Body.....	56 ,,		

Numerous specimens from Adho Dimellus, Sokotra (3500-4500 ft.).

[Common on the high ground round Adho Dimellus, the highest pass in the central Haghier range; found below stones on the hill sides.—*W.R.O.G.*]

8. **Hemidactylus turcicus**, *Linn.*

Hemidactylus turcicus, Bouleng., Cat. Liz. i., p. 126 (1885).

This widely-distributed Gecko, the range of which extends from the borders of the Mediterranean to N. W. India, has not been recorded from Sokotra before. Specimens were obtained on Hadibu Plain and at Homhil.

9. **Hemidactylus flaviviridis**, *Rüpp.*

Hemidactylus coctæi, Dum. & Bibr. iii., p. 365 (1836).
Hemidactylus homœolepis, Peters, Sitzb. Ges. naturf. Freunde, Berl., 1882, p. 43.

Another widely-distributed Gecko, ranging from the borders of the Red Sea to the Malay Peninsula. It was first obtained in Sokotra by Dr. Riebeck, but the specimen brought home by him was recorded under *H. homœolepis*. Mr. Grant and Dr. Forbes collected a single specimen on Hadibu Plain. The British Museum possesses specimens from Suez,

Suakin, Aden, Muscat, Hadramaut, Fao (Persian Gulf), Jask (Persia), Benares, Patna, Ellore, Bombay, Calcutta, Penang.

The family *Agamidæ* appears to be unrepresented in Sokotra. I strongly suspect *Uromastix ocellatus* mentioned by Peters (*Op. cit.*, p. 45) to have been obtained in Arabia by Dr. Riebeck on his way to Sokotra, together with the *Chamæleon calyptratus*, Peters *nec* A. Dum. (= *C. calcarifer*), recorded by the same author (p. 43).

[VARANIDÆ.

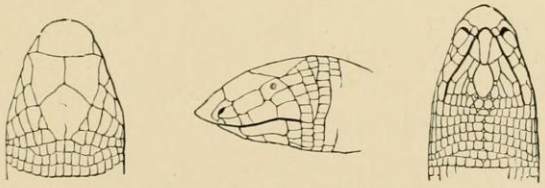
Although we neither saw nor heard of the presence of Monitors in Sokotra, yet the observation by the author of *The Periplus of the Erythræan Sea* that the island of Dioscorides had . . . "lizards of enormous size, of which the flesh serves for food, while the grease is melted down and used as a substitute for oil," can hardly apply to any other than a species of *Varanus*. I have seen the Malayan Monitors applied by the natives to both the uses here stated. A widespread belief exists in the efficacy of their fat when rubbed over the body as a curative remedy in all sorts of illness. The species would probably be either the *Varanus griseus* (Daud.), which is distributed over Northern Africa, South-West Asia, from Arabia to the Caspian Sea and North-West India, or *V. niloticus* (Linn.), Its extinction in Sokotra may be due to the fact of its being used as food and medicine in an island where both are scarce.—*H.O.F.*]

AMPHISBÆNIDÆ.

Pachycalamus, *Günth.*

Pachycalamus, Günth., Proc. Zool. Soc., 1881, p. 461 (figs. in text); Peters, Sitzb. Berl. Ac., 1882, p. 583; Bouleng., Cat. Liz. ii., p. 461 (1885).

Acrodont. Nostril inferior, between two small nasals, on the side of the large rostral; three large upper head-shields. No limbs. A ventral line, no vertebral or lateral lines. Tail depressed, obtusely pointed. Præanal pores.



Head-Shields of Pachycalamus brevis.
(From the Proceedings of the Zoological Society of London.)

This genus is, like *Parachalcides*, peculiar to Sokotra. Although first described by Günther, from Professor Balfour's collection, its correct systematic position was not ascertained until specimens, obtained by Dr. Riebeck, fell into the hands of Peters, who showed it to belong to the Acrodont section of the family, and to be allied to the North African *Trogonophis* and the Somali *Agamodon*.

10. Pachycalamus brevis, *Günth.*

Pachycalamus brevis, Günth., loc. cit. ; Bouleng., loc. cit.

Præmaxillary teeth 3; maxillaries 3-3; mandibulars 6-6. Head depressed, with truncate projecting snout. Rostral large, trapezoid, its posterior border largest, straight, in contact with a pair of large præfrontals; a large frontal, angular anteriorly, nearly as long as broad, sometimes with more or less distinct traces of median division; eye slightly distinct through the ocular, which is sometimes in contact with the fourth upper labial; a large præocular; a subocular (rarely divided into two); 5 upper labials, first very small, fourth and fifth largest. Symphysial narrow, elongate, a little broader anteriorly; chin-shields very small, median hexagonal; 3 lower labials, second largest. Body short. 164 to 173 annuli on the body, and 16 to 20 on the tail; in the middle of the body an annulus contains 48 to 50 segments. Anal segments narrow, 6 to 10. 4 præanal pores. Brown or dark purplish above; head and lower surfaces yellowish white.

Length to vent, 198 millim.; tail, 15; diameter of body, 9·5.

Discovered, in numerous specimens, by Professor Balfour. Further examples were obtained by Dr. Forbes and Mr. Grant on Hadibu Plain, at Dahamis, Jena-agahan, and Homhil.

[This Amphisbænid is common from sea-level to an elevation of about 2000 ft. It is found below stones and is easily captured.—*W.R.O.G.*]

LACERTIDÆ.

Eremias, *Wiegm.*

11. Eremias guttulata, *Licht.*

Eremias (*Mesalina*) *balfouri*, Blanf., Proc. Zool. Soc., 1881, p. 467, fig. 2 p. 468.

Sokotran examples of this widely distributed (Morocco to Sind) and highly variable species have been described in detail by Mr. Blanford, and copious notes on the variations in scaling are to be found in the late Dr. John Anderson's beautiful work on the *Reptiles of Egypt*, p. 174. I will therefore content myself with recording the numbers of scales and pores in the specimens collected on the recent expedition.

	Scales round body.	Transverse rows of ventrals.	Femoral pores.
♂ Hadibu Plain	50	26	13—12
„ Hadibu Plain	50	28	14—14
„ Hadibu Plain	52	27	14—15
„ Dahamis	48	28	14—14
„ Homhil	50	27	13—12
„ Jena-agahan	47	26	12—13
„ Jena-agahan	52	26	14—15

	Scales round body.	Transverse rows of ventrals.	Femoral pores.
♀ Hadibu Plain.....	48	30	14—14
,, Hadibu Plain.....	49	30	13—13
,, Hadibu Plain.....	51	30	12—12
,, Homhil.....	47	29	15—14
,, Jena-agahan.....	50	30	11—11
,, Jena-agahan.....	48	30	13—13

The number of scales round the body includes the ventrals, which are constantly in 10 longitudinal series.

[Common from sea level to an elevation of about 2000 feet. Generally seen basking on the ground or on small stones, it is more a lizard of the stony plain than of the rocks.—*W.R.O.G.*]

SCINCIDÆ.

Mabuia, *Fitz.*

12. Mabuia socotrana, (*Peters*).

Euprepes perrotteti, *var.*, Blanf., Proc. Zool. Soc., 1881, p. 469.
Euprepes socotranus, Peters, Sitzb. Ges. naturf. Fr Berl., 1882, p. 45.
Mabuia socotrana, Bouleng., Cat. Liz. iii. p. 168 (1887).

Snout moderate, obtuse. Lower eyelid with a transparent disk. Nostril just above or behind the suture between the rostral and the first labial; a postnasal; anterior loreal usually in contact with the first labial: supranasals in contact behind the rostral; frontonasal broader than long, sometimes in contact with the frontal; latter as long as the frontoparietals and interparietal together, in contact with the second, or second and third supraoculars; four supraoculars, second largest and usually touching the præfrontal; four supraciliaries, second longest; frontoparietals distinct, smaller than the interparietal; parietals entirely separated; a pair of nuchals; subocular between the fourth and fifth upper labials, nearly twice as long as these shields, not narrowed inferiorly. Ear-opening oval-subtriangular, not quite so large as the eye-opening, with three or four long pointed lobules anteriorly. Dorsal scales mostly tricarinate, sometimes quinque-or septemcarinate; nuchal and lateral scales feebly keeled; 30 to 34 scales round the middle of the body. The hind limb reaches the wrist of the adpressed fore limb, or a little beyond. Subdigital lamellæ smooth. Tail about once and a half as long as head and body. Uniform olive, or with two to six rather indistinct darker longitudinal stripes, head rufous brown; lower parts yellowish white, throat sometimes spotted with black. Young black above, with six white longitudinal lines.

Total length.....	218 millim.	Fore limb.....	27 millim.
Head.....	19 ,,	Hind limb.....	38 ,,
Width of head...	13 ,,	Tail	125 ,,
Body.....	74 ,,		

Numerous specimens from Hadibu Plain, Dahamis, Jena-agahan, Homhil, and Adho Dimellus.

[Very common. Frequents the stony plains, and open places and paths on the higher ground.—*W.R.O.G.*]

Parachalcides, *Bouleng.*

Parachalcides, Bouleng., Bull. Liverp. Muss. ii., 1899, p. 6.

Allied to *Chalcides*, Laur., and *Sepsina*, Bocage. Palatine bones not meeting on the middle line of the palate, which is toothless. Teeth conical. Eyelids developed. Ear distinct. Nostril pierced in the rostral, bordered by a supranasal and the first labial; præfrontals and frontoparietals absent. Body much elongate; limbs short.

13. Parachalcides socotranus, *Bouleng.* (Plate xi. fig. 1).

Parachalcides socotranus, Bouleng., loc. cit.

Snout short, obtuse, not projecting beyond the labial margin; eye moderate; lower eyelid with a transparent disk; ear-opening small. Frontal more than twice as long as the frontonasal, longer than broad, brownish behind, angularly notched on each side by the supraocular; interparietal nearly as long as the frontonasal; 5 supraoculars, second largest; no postnasal; first upper labial nearly as deep as the rostral; fourth upper labial entering the orbit. 24 smooth scales round the middle of the body, subequal in size. Limbs short, pentadactyle; the fore limb, stretched forwards, does not quite reach the ear; hind limb a little longer than the head; third finger longest; fourth toe a little longer than third. Tail thick, cylindrical. Reddish brown above, each scale with a black spot; sides blackish, or closely spotted and dotted with black; yellowish white beneath, uniform or dotted with black.

Total length.....	118 millim.	Fore limb	7 millim.
Head.....	10 „	Hind limb.....	11 „
Width of head...	6 „	Tail	58 „
Body.....	50 „		

Numerous specimens from Dahamis (350-1000 ft.), Jena-agahan (1200-2500 ft.), Homhil (1500-2500 ft.), Adho Dimellus (3500-4000 ft.).

[This interesting new Skink was met with on the granite from the lower slopes of the Haghier range, to an elevation of about 4000 ft. It was also fairly common in the limestone ranges round Homhil, at the east end of the island. In spite of its short legs it is extremely active and rather difficult to catch, without injuring the tail. It was never seen moving about in the daytime, unless disturbed from beneath stones, and it may therefore be concluded that, like the various species of Gecko, *Hemidactylus* and *Phyllodactylus*, its habits are nocturnal.—*W.R.O.G.*]

RHIPTOGLOSSA.

CHAMÆLEONTIDÆ.

Chamæleon, *Laur.*

14. Chamæleon monachus, *Gray.*

Chamæleon monachus, Gray, Proc. Zool. Soc., 1864, p. 470, pl. xxxi.; Blanf., Proc. Zool. Soc., 1881, p. 464; Bouleng., Cat. Liz. iii., p. 451 (1887).

Casque moderately raised posteriorly; a strong parietal crest; the distance between the commissure of the mouth and the extremity of the casque equals or slightly exceeds the length of the mouth; no rostral appendages; lateral crest strong, not extending to the occiput; occipital lobes very large, united behind the extremity of the casque, covered with large, flat, roundish tubercles separated by fine granulation. Body and throat covered with small granules intermixed with strongly enlarged, round, flat or subconical, equidistant tubercles; large conical tubercles form a distinct crest along the vertebral line; a crest of long pointed tubercles along the throat; a series of slightly enlarged granules along the ventral line, not forming a crest. Male with a tarsal process or spur. Tail as long as or a little longer than head and body. Gular-ventral line white; many of the tubercles of the dorsal crest white; mouth margined with white; sides with white spots or marblings.

	♂		♀	
Total length	352	millim.	289	millim.
From end of snout to extremity of mandible	37	,,	34	,,
From end of snout to extremity of casque	52	,,	46	,,
Greatest width between lateral cranial crests	20	,,	16	,,
Depth of skull (mandible included)	37	,,	33	,,
Width of head	27	,,	21	,,
Body	137	,,	110	,,
Tibia	32	,,	29	,,
Tail	178	,,	145	,,

Numerous specimens were obtained by Professor Balfour, and by Mr. Grant and Dr. Forbes in the following localities: Hadibu Plain, Dahamis, Homhil, Adho Dimellus.

[The Chameleon was fairly common on all parts of the island visited, ranging from sea-level to the highest ground. One finds it walking slowly and sedately about among the branches of the low bushes or perched motionless lazily enjoying the hot sunshine, its goggling eyes

fixed apparently on space, and with an air of sleepy indifference to the world in general. It always cost one a pang to have to put this delightful reptile in spirits, for it makes no attempt to escape, and is apparently devoid of all fear. One brought off alive to the 'Elphinstone' lived happily in a cabin for some days till a wretched cabin-boy knocked it on the head and threw it out of the port.—*W.R.O.G.*]

OPHIDIA.

TYPHLOPIDÆ.

Typhlops, *Schn.*

15. Typhlops socotranus, *Bouleng.*

Typhlops socotranus, Bouleng., Cat. Snakes, i., p. 21, pl. ii., fig. 2 (1893).

Snout rounded, very prominent; nostrils lateral. Rostral about one-third the width of the head, not extending to the level of the eyes; nasal incompletely divided, the cleft proceeding from the second labial; præocular present, broader than the nasal or the ocular, in contact with the second and third labials; eyes distinct; upper head-scales slightly enlarged; 4 upper labials. Diameter of body 31 to 50 times in the total length; tail as long as broad, ending in a spine. 24 or 26 scales round the body. Yellowish white, with brown or black lines running between the dorsal series of scales.

Total length, 260 millim.

The types of this burrowing snake were obtained by Professor Balfour. A larger specimen, from Dahamis, forms part of Messrs. Grant and Forbes's collection.

GLAUCONIIDÆ.

Glauconia, *Gray.*

16. Glauconia filiformis, *Bouleng.* (Plate xi. fig. 2).

Glauconia filiformis, Bouleng., Bull. Liverp. Muss., ii., 1899, p. 7.

Very closely allied to *G. macrorhynchus*, Jan, with which it agrees in the very prominent, hooked snout, the number and arrangement of the head shields, and the extremely slender form. It differs in the more pointed snout, and in the rostral shield not extending so far back as the level of the eyes. 14 scales round the body. Diameter of body, 100 to 140 times in the total length, length of tail 13 times. Caudal spine small. Flesh-coloured, each dorsal scale with a pale brown spot.

Total length, 155 millim.

Four specimens from Dahamis (350 ft.), Jena-agahan (1200-2500 ft.), and Homhil (1500-2500 ft.).

[This curious species, met with on the lower and middle zones of the granite and limestone hills, was either very rare or difficult to find, for after catching the first at Dahamis, we made every effort to obtain more, but without much result. It lives in holes in the ground below stones, and when one has been lucky enough to turn up the right one, a portion of the worm-like body may be seen protruding from the burrow. The movements are fairly swift, and, when once exposed to the light, the body, unless promptly seized, is quickly withdrawn.—*W.R.O.G.*]

17. Glauconia macrura, *nom. nov.* (Plate xi. fig. 3).

Glauconia longicauda (non Peters), Bouleng., Bull. Liverp. Muss., ii., 1899, p. 7.

Snout pointed, strongly projecting, slightly hooked ; supraocular present ; rostral moderately large, not extending to the level of the eyes, its upper portion a little longer than broad ; nasal completely divided into two, the lower part very small ; ocular covering the lip, between two labials, the anterior of which is very small ; five lower labials, 14 scales round the body. Diameter of body 40 to 48 times in the total length ; length of tail 5 to 7 times. Caudal spine strong. Brown above, white beneath. Total length 170 millim.

Numerous specimens from Dahamis, 350 feet ; Jena-agahan, 1200-2500 feet ; and Homhil, 1500-2500 feet.

In describing this snake for the first time I overlooked the fact that the name *longicauda* had already been bestowed on a species of the genus *Glauconia*.

[The range and habits of this reptile are similar to those of the last, but it was much more abundant.—*W.R.O.G.*]

COLUBRIDÆ.

Zamenis, *Wagl.*

18. Zamenis socotræ, *Günth.*

Zamenis socotræ, Günth., Proc. Zool. Soc., 1881, p. 463, pl. xli. ; Bouleng., Cat. Snakes i. p 408 (1893).

Snout feebly projecting, obtuse. Rostral once and one third to once and a half as broad as deep, the portion visible from above measuring one fourth to one third its distance from the præfrontals ; frontal much wider than the supraocular, once and a half to once and two thirds as long as broad, longer than its distance from the end of the snout, as long as or a little shorter than the parietals ; loreal nearly twice as long as deep ; two præoculars, separated from the frontal, with a subocular below them ; two postoculars, and a subocular separating the eye from the sixth and seventh labials ; temporals 3 + 3

or 2 + 3; 10 upper labials, fifth entering the eye; 4 or 5 lower labials in contact with the anterior chin-shields; posterior chin-shields longer than the anterior, but extremely narrow and separated from each other by two or three series of scales. Scales smooth, in 23 rows. Ventrals obtusely angulate laterally, 219-228; anal divided; subcaudals 107-123. Head olive above; body with olive, sometimes black-edged transverse bands, separated by narrower salmon-red interspaces; belly yellowish or pale olive.

Total length 860 millim.; tail 225.

This beautiful snake is only known from Sokotra, three specimens having been brought home by Professor Balfour. The present expedition yielded but a single specimen from Hadibu Plain, a female with 227 ventral shields and 123 pairs of caudals.

[Only once seen, the day we landed on Sokotra, by the side of a path near the sea.—*W.R.O.G.*]

Ditypophis, *Gunth.*

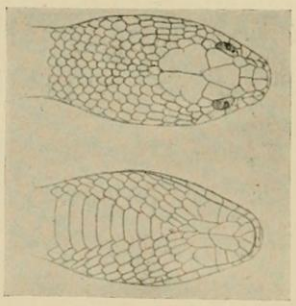
Ditypophis, Günth., Proc. Zool. Soc., 1881, p. 462; Bouleng., Cat. Snakes, iii., p. 46 (1896).

Maxillary teeth 8 or 9, strongly increasing in length to the last but one, followed, after an interspace, by a large, grooved fang; second to fifth mandibular teeth strongly enlarged, fang-like. Head distinct from neck; eye moderate, with vertically elliptic pupil. Body short, cylindrical; scales smooth, with apical pits, in 21 or 23 rows; ventrals rounded. Tail short; subcaudals single. Hypapophyses developed throughout the vertebral column.

Like *Pachycalamus* and *Parachalcides*, this genus is represented by a single species peculiar to Sokotra.

19. Ditypophis vivax, *Günth.*

Ditypophis vivax, Günth., loc. cit. pl. xl.; Bouleng., loc. cit., fig. 3.



Head-shields of Ditypophis vivax.
(From the Proceedings of the Zoological Society of London.)

Snout short, broad, truncate, with distinct canthus and feebly grooved

loreal region ; rostral more than twice as broad as deep, scarcely visible from above ; internasals as long as broad, or a little longer than broad, as long as or longer than the præfrontals ; frontal not broader than the supraocular, once and two-thirds to twice as long as broad, as long as its distance from the end of the snout, shorter than the parietals ; nostril pierced in the upper part of an undivided nasal ; loreal a little longer than deep ; one præocular, forming a suture with the frontal ; a subocular below the præocular ; two postoculars ; temporals small, scale-like, 2 × 3 or 4 ; 8 upper labials, fourth and fifth entering the eye ; 4 or 5 lower labials in contact with the interior chin-shields, which are nearly as long as the posterior. Scales in 21 (rarely 23) rows. Ventrals 142-154 ; anal entire ; subcaudals 34-44. Reddish, sandy, or orange-red above, uniform, or with indistinct darker cloudy spots on the back, and a dark streak on each side of the head, passing through the eye ; grey or grey-brown with black spots disposed alternately, with two principal series along the back, a black streak on the side of the head, and black vertical bars on the lips ; lower parts white.

Total length, 440 millim. ; tail, 60.

This remarkable snake, of viperine aspect due to its short body and vertical pupil, was known from a single specimen in Professor Balfour's collection. The present collection contains 8 specimens, one of which (from Hadibu Plain) is remarkable for its uniform orange-red coloration and the presence of 23 series of scales instead of 21. The numbers of ventral and caudal shields are as follows :—

♀	Hadibu Plain	v. 152	c. 37
♂	Adho Dimellus	150	42
♂	„	146	42
♀	„	154	36
♀	„	154	34
Hgr.	Jena-agahan	142	44
„	Homhil	153	35
Yg.	„	148	41

[Apparently most numerous on the higher hills of the Haghier range where most of the specimens were secured.—*W.R.O.G.*]

VIPERIDÆ.

Echis, *Merr.*

20. Echis coloratus, *Günth.*

One specimen of this species, which inhabits Palestine, Egypt, and Arabia, was found by Professor Balfour. It is the only Sokotra Reptile which was not re-discovered by Mr. Grant and Dr. Forbes.

[*The Periplus of the Erythræan Sea* (A.D. 100) mentions the presence of "a great many vipers in Sokotra," a note which may refer to the very viper-like *Ditypophis vivax*.—*H.O.F.*]

CHELONIA.

[TESTUDINIDÆ.

Among the products of the Island of Dioscorides mentioned by the author of the *Periplus*, besides turtle-shell of the largest size and best kind, are also tortoises, "the genuine land, white and mountain sort, with shells of extraordinary size," "the lower shell of a ruddy yellow and too hard to be cut." Considering that the investigation of the Flora of Sokotra unquestionably indicates that in former times there existed between Sokotra and the Mascarene Group, if not an actual union (which is highly probable), at least a near approximation of the latter to the larger Africa of which Sokotra then formed a part, this observation appears to me to be peculiarly suggestive. Could this mountain tortoise really be a *Testudo* related to those of the Scychelles, Aldabra, and others of the Mascarene archipelago? I think it highly probable. I regret that I did not sufficiently note this passage in the *Periplus* before setting out for Sokotra, and so made no enquiries as to the remains of such a tortoise now in any of the limestone caves or sequestered valley-heads of the Haghier range. Were any survivor of those giant reptiles still to be found, I think we could hardly have failed to hear of it, for I was constantly making enquiries of the natives about bone-deposits and all the products of the island through our most intelligent interpreter; but it would be specially interesting and important to discover if any traditions of their former presence be still lingering among the people. I trust that some future visitor to Sokotra may try and obtain information on this subject. None of the limestone caves I examined contained osseous remains of any kind.—*H.O.F.*]

CHELONIDÆ.

Chelone, *Brongn.*

21. Chelone imbricata ? (*Linn.*).

Chelone imbricata, Bouleng., Cat. Chelon., p. 183 (1889).

The Hawk's-bill Turtle, we learned, frequents the south coast of Sokotra, but in former times it appears to have been captured more abundantly than now. We did not see it on the north coast, and its shell was not, so far as I could learn, much collected as an article of commerce. It would seem to have been far more so eighteen centuries ago, when the merchants of Mooza [on the Arabian shore of the Red Sea] and Barugaza [in the Gulf of Cambay] visited the island and received in exchange for their Indian and Arabian wares "as fresh cargo, great quantities of turtle shell."

[Although we did not hear or see any evidences of the presence of *Chelone mydas*, there can be no doubt it also occurs in Sokotra.—*H.O.F.*]

EMYDOSAURIA.

[We are again indebted to the *Periplus of the Erythæan Sea* for the record that in the first century of our era Crocodiles were included in the fauna of Sokotra, which has "rivers and crocodiles and a great many vipers and lizards of enormous size . . ." They have now, however, gone the way of, no doubt, many another species, and we did not even hear of their former existence. The species one would expect to have found would be *Crocodilus niloticus*.—*H.O.F.*]

II.—Reptiles of Abd-el-Kuri.

Examples of three species of Geckos are all that was collected in the way of Reptiles on this small island, but two of them constitute very well marked new species.

LACERTILIA.

GECKONIDÆ.

Pristurus, *Rupp.*

1. Pristurus rupestris, *Blanf.*

See remarks above, p. 66.

The few specimens collected do not show the stripes which are so well defined in many of the Sokotra examples. In this respect they are quite similar to the types from Arabia and the Persian Gulf.

Hemidactylus, *Cuv.*

2. Hemidactylus oxyrhinus, *Bouleng.* (Plate x. fig. 2).

Hemidactylus oxyrhinus, Bouleng., Bull. Liverp. Muss., ii., 1899, p. 5.

Snout pointed, slightly longer than the distance between the eye and the ear-opening, which equals the diameter of the orbit; forehead slightly concave; ear-opening small, oval, oblique. Body and limbs moderate. Digits moderately dilated, free; 7 or 8 lamellæ under the thumb, 8 or 9 under the fourth finger, 6 or 7 under the hallux, 11 or 12 under the fourth toe. Head covered with small convex granules increasing in size posteriorly; rostral subquadrangular, not twice as broad as deep, with median cleft above; nostril pierced between the rostral, the first upper labial, and 3 small scales; 8 to 10 upper and 7 or 8 lower labials; symphysial large, triangular, more than twice as long as the adjacent labials; four chin-shields, median pair largest and in contact behind the symphysial. Back covered with equal or subequal, rather large, obtusely keeled, juxtaposed tubercles; ventral scales much smaller, cycloid, smooth, subimbricate. Male with two præanal pores. Tail cylindrical, tapering, covered with uniform small smooth scales, with a median series of transversely enlarged plates inferiorly. Pale buff or greyish brown, with more or less distinct darker markings in the form of 4 wavy cross-bars on the nape and back and annuli on the

tail; the caudal annuli black in the young, separated by white interspaces; a dark streak on each side of the head, passing through the eye.

Total length	95 millim.	Fore limb	15 millim.
Head	13 „	Hind limb	20 „
Width of head	10 „	Tail	52 „
Body	30 „		

The largest specimen, with reproduced tail, measures 50 millim. from snout to vent.

Several specimens were obtained by the Expedition.

[Not very common.—*W.R.O.G.*]

3. **Hemidactylus forbesii**, *Bouleng.* (Plate ix. fig. 2).

Hemidactylus forbesii, Bouleng., Bull. Liverp. Muss., ii., 1899, p. 5.

Closely allied to *H. flaviviridis*, Rüpp. (*coctæi*, D. and B.). Snout obtusely pointed, longer than the distance between the eye and the ear-opening, once and one-third the diameter of the orbit; forehead concave; ear-opening large, oval, oblique. Body and limbs moderate. Digits moderately dilated, less than in *H. flaviviridis*, free; 11 or 12 lamellæ under the thumb, 11 or 12 under the fourth finger, 10 or 11 under the hallux, 14 or 15 under the fourth toe. Head covered with uniform granules, largest on the sides of the snout; rostral not twice as broad as deep, notched and cleft above; nostril pierced between the rostral and 3 small scales; first upper labials sometimes entering the nostril; 10 or 11 upper and 8 or 9 lower labials; symphysial large, triangular, at least twice as long as the adjacent labials; a pair of large chin-shields, forming a suture behind the symphysial, usually flanked by a pair of much smaller shields. Back covered with minute granular scales, among which slightly enlarged, round tubercles may be irregularly scattered; ventral scales slightly larger, much smaller than in *H. flaviviridis*, juxtaposed or subimbricate. No præanal or femoral pores. Tail moderately depressed, tapering to a fine point, covered very small smooth scales, and a few scattered pointed tubercles on its basal part; no regular series of transversely enlarged, lamellar plates on the lower surface. Pale greyish above, with rather indistinct brown spots and marblings on the head and body and cross-bars on the tail; white beneath.

Total length	198 millim.	Fore limb	36 millim.
Head	24 „	Hind limb	45 „
Width of head	17 „	Tail	115 „
Body	59 „		

Numerous specimens were collected.

[Very common below stones.—*W.R.O.G.*]

CHELONIA.

[CHELONIDÆ.

Chelone, *Brongn.*

4. Chelone mydas (*Linn.*).

Chelone mydas, Bouleng., Cat. Chelon., p. 180 (1889).

I saw fragments of carapaces of the Green Turtle in the neighbourhood of the hut-cluster inland from our anchorage at Abd-el-Kuri.—*H.O.F.*

5. Chelone imbricata (*Linn.*).

Chelone imbricata, Bouleng., loc. cit., p. 183.

Round the huts of the natives were scattered great numbers of the entire but stripped carapaces of the Hawk's-bill Turtle, showing that they collect the shell in considerable quantity This small island, with its numerous sandy beaches, is quite a tempting place for these reptiles to deposit their eggs upon. I purchased a small quantity of shell of excellent quality.—*H.O.F.*

Thalassochelys, *Fitzing.*

[6. Thalassochelys caretta (*Linn.*).

Thalassochelys caretta, Bouleng., loc. cit., p. 184.

I found on the beach at Bander Saleh the bones of the Loggerhead Turtle in great numbers. The length of a femur, which seemed to me to be unusually large, measured 17·5 centimetres; the mandible, of apparently the same skeleton, was 18 centimetres long.—*H.O.F.*]

PLATE VIII.

PHYLLODACTYLUS RIEBECKII, *Blgr.*, **p. 78.**

J. Green del. et lith.

Mintern Bros. imp.

PHYLLODACTYLUS RIEBECKII.

PLATE IX.

Fig. 1. **PHYLLODACTYLUS TRACHYRHINUS,** *Blgr.*, **p. 79.**

Fig. 1a. *Labial scales of same.*

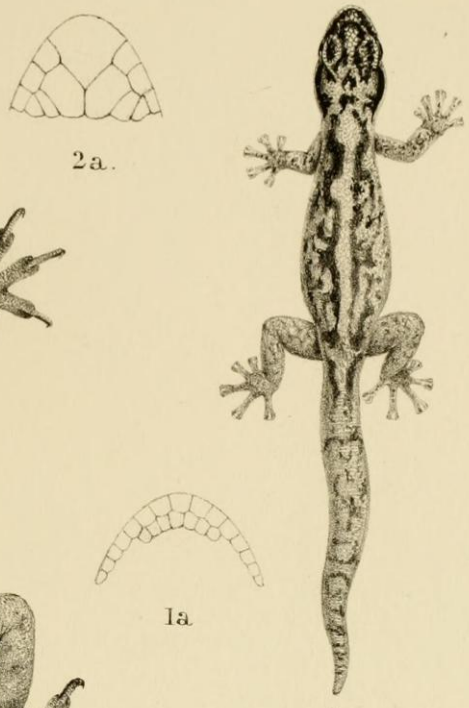
Fig. 1b. *Under surface of foot of same.*

Fig. 2. **HEMIDACTYLUS FORBESII,** *Blgr.*, **p. 95.**

Fig. 2a. *Labial scales of same.*

Fig. 2b. *Under surface of foot of same.*

2.



1.

2a.

1a.

1b.

2b.

J. Green del. et lith.

Mintern Bros. imp.

1. PHYLLODACTYLUS TRACHYRHINUS.
2. HEMIDACTYLUS FORBESII.

PLATE X.

Fig. 1. **HEMIDACTYLUS PUMILIO,** *Blgr.*, **p. 81.**

Fig. 1a. *Labial scales of same.*

Fig. 1b. *Under surface of foot of same.*

Fig. 2. **HEMIDACTYLUS OXYRHINUS,** *Blgr.*, **p. 94.**

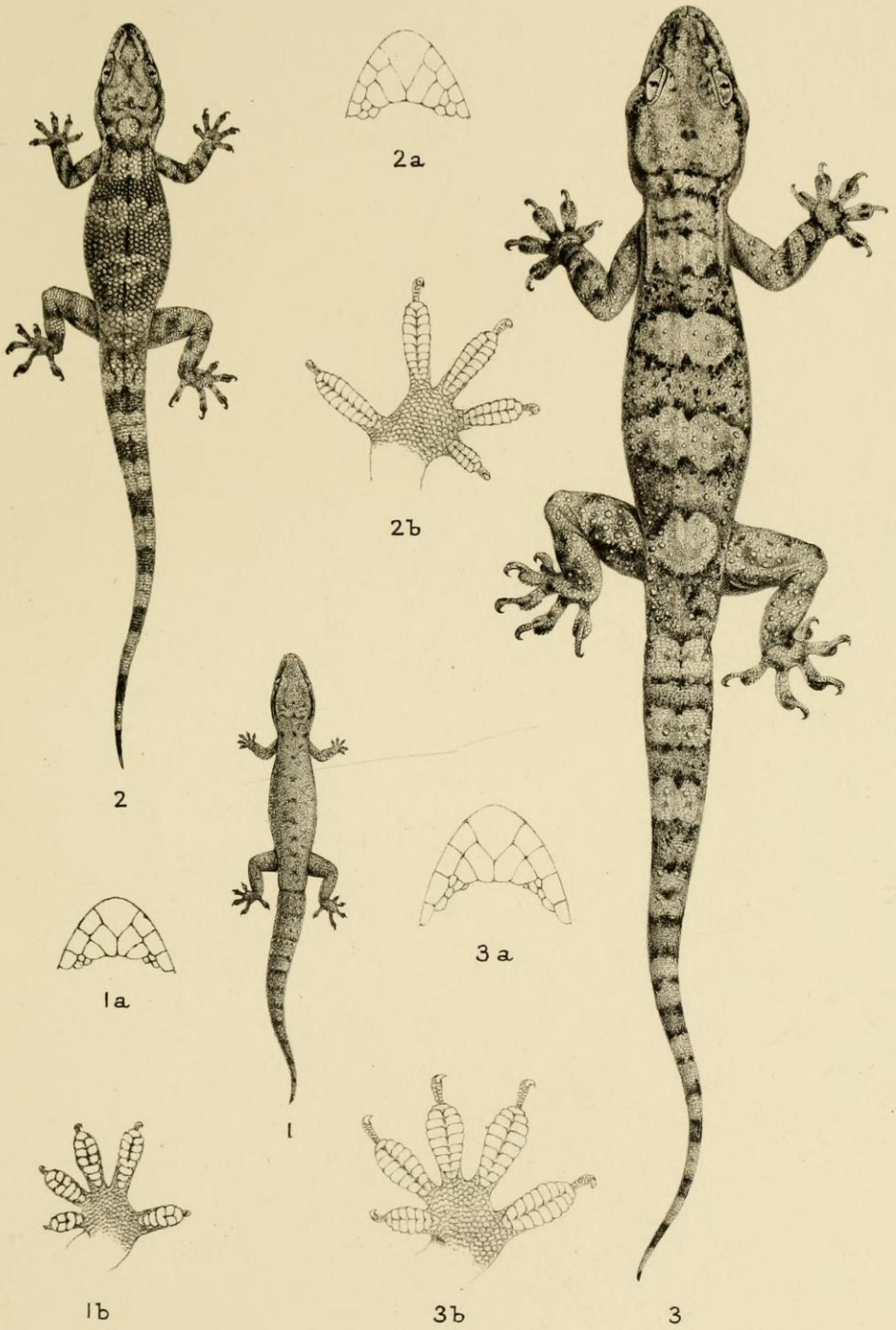
Fig. 2a. *Labial scales of same.*

Fig. 2b. *Under surface of foot of same.*

Fig. 3. **HEMIDACTYLUS GRANTI,** *Blgr.*, **p. 81.**

Fig. 3a. *Labial scales of same.*

Fig. 3b. *Under surface of foot of same.*



J. Green del. et lith. Mintern Bros. imp.

1. HEMIDACTYLUS PUMILIO. 2. H. OXYRHINUS.
3. H. GRANTI.

PLATE XI.

Fig. 1. **PARACHALCIDES SOCOTRANUS,** *Blgr.*, **p. 86.**

Fig. 1a. *Head of same from above.*

Fig. 1b. *Head of same, side view.*

Fig. 2. **GLAUCONIA FILIFORMIS,** *Blgr.*, **p. 88.**

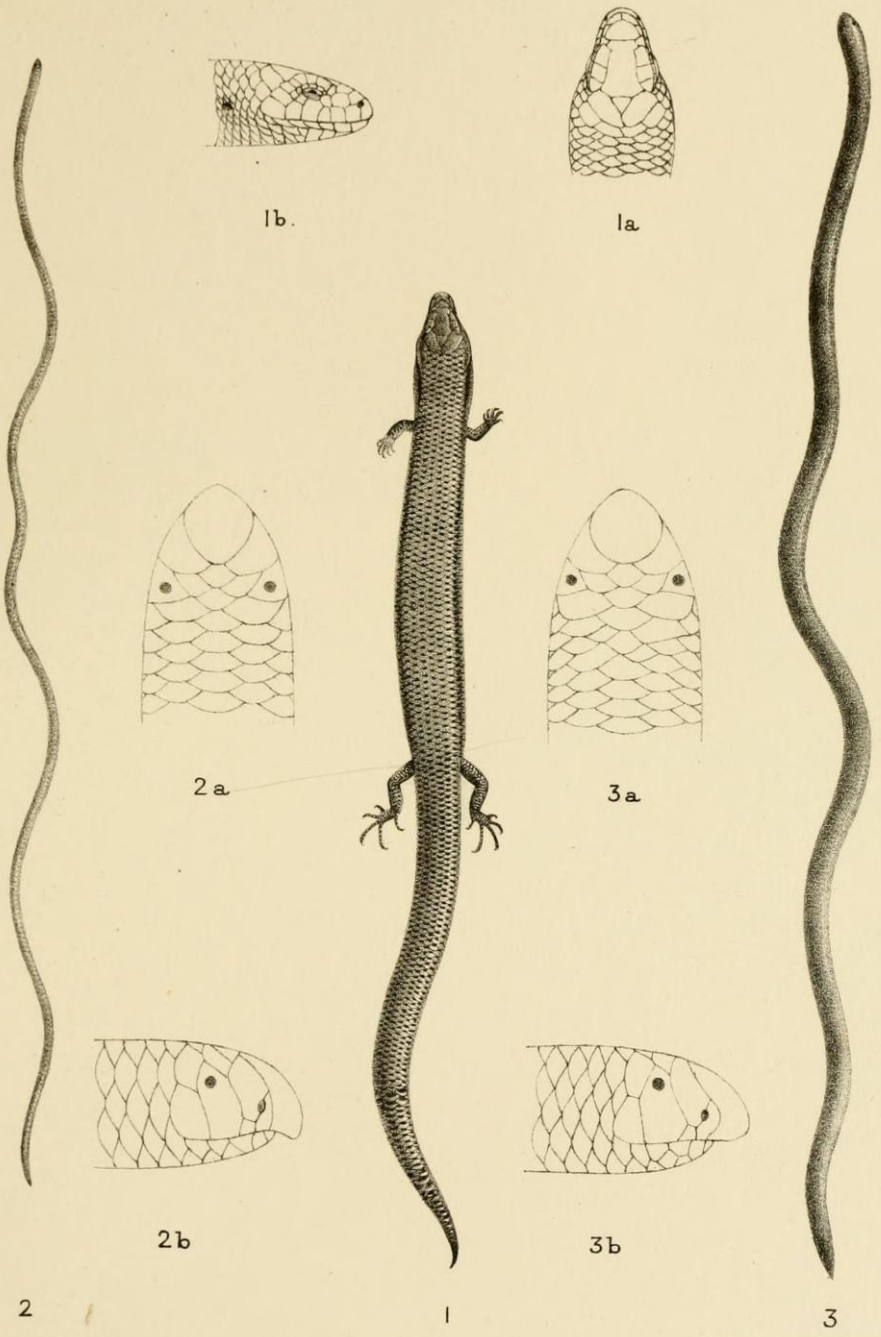
Fig. 2a. *Head of same from above.*

Fig. 2b. *Head of same, side view.*

Fig. 3. **GLAUCONIA MACRURA,** *Btgr.*, **p. 89.**

Fig. 3a. *Head of same from above.*

Fig. 3b. *Head of same, side view.*



J. Green del. et lith. Mintern Bros. imp.

1. PARACHALCIDES SOCOTRANUS.
2. GLAUCONIA FILIFORMIS 3. G. MACRURA.