7. **Second List of Cold-blooded Vertebrata collected by Mr. Fraser in the Andes of Western Ecuador.** By Dr. A. Günther, Foreign Member Zool. Soc.

(Reptilia, Pl. XX.)

The second collection of Reptiles and Fishes sent by Mr. Fraser is richer than the first, in specimens as well as in species. Many have retained their natural colours. There are thirteen species of Saurians, six of which are new to science. Three species formerly sent are not in this collection, viz. *Anolis arenus, Microphractus humeralis,* and *Amphisbaena fuliginosa.* The species formerly mentioned as *Anolis cristatellus*? (p. 89) has proved to be a new one, of which better specimens are contained in the present collection.

The Snakes belong to twenty-one species, several of which have been known for a short period only, and two of which are new. Some are particularly interesting on account of their variation from specimens of the same species collected in other parts of South America. Three species formerly sent are not in this collection, viz. *Erythromamprus venustissimus,* *Xenodon severus,* and *Spilotes pecilostoma.*

There are nine species of Batrachians, two of which are new. *Nototrema marsupiatum* has been procured of a size not seen before; four of the species formerly sent are not in this collection; and it is very strange that Mr. Fraser does not appear to have met with a single *Hyla* in the country he has just examined.

Three species of *Cecilia* were found, one being new. They are the first specimens met with by Mr. Fraser.

Eleven species of Fishes, characteristic of the fresh waters of South America, and different from those sent before, conclude the series of this splendid collection: six of them are new to science. Typical specimens of the new and interesting species will be retained for the Collection of the British Museum.

**SAURIA.**

1. **Crocodilus americanus,** Schneider.

2. **Ameiva sex-scuitata,** n. sp.

*Diagnosis.*—Abdominal shields in six longitudinal series. The upper surface of the head covered by a pair of anterior nasals, a single anterior frontal, a pair of posterior frontals with a small single shield between, three pairs of parietals, and many small occipitals. Greenish-olive, speckled with brownish; a whitish dorsal streak from the muzzle to the middle of the tail; on each side of the back from the eye to the loin a black band, edged with whitish.

*Description.*—The muzzle is rather elongate, pyramidal; the nostril is situated laterally immediately behind the rostral, between four shields, viz. rostral, anterior and posterior nasal, and the first upper labial. The successive series of the shields covering the upper surface of the head is as follows:—1. The rostral shield is obtusely
rounded, as high as wide, with the posterior extremity rectangular and slightly produced backwards on the upper side of the head. 2. A pair of anterior nasals, irregularly quadrangular, united by a suture, and forming the upper margin of the nostril. 3. A single anterior frontal, pentagonal, with the lateral angle in contact with the posterior nasal; its posterior side is very short. 4. A pair of posterior frontals with a single shield between; the former are irregularly elliptical, and form a suture with the loreal; the latter is narrow, oblong. 5. Three pairs of parietals, one behind the other, and occupying the space between the orbits. 6. The occipital region is covered by many small irregular shields. 7. The upper eyelid has two semi-elliptical shields, surrounded by granulations.

Of the lateral shields of the head the posterior nasal is mentioned above; it is in contact posteriorly with the very large loreal, which reaches to the orbit, occupying nearly the whole loreal region; four smaller shields form the lower margin of the orbit. There are five rather narrow upper labial shields with several small ones behind.

The lower jaw has a slightly convex anterior labial, and four lateral ones, the third of which is as long as the others together. There is a single pentagonal chin-shield between the first two labials, forming a straight transverse suture with the front labial. Two series of shields arise from its two posterior sides, parallel to, and broader than, the series of the lower labials; each is formed by five shields. The throat, before the folds, is covered with granular scales. There are the two folds, characteristic of the genus, with the series of shields between.

The back and the sides of the body are covered with minute granular scales, arranged in regular cross series. The ventral shields form six longitudinal and twenty-four transverse rows. A triangular space before the vent also is shielded. The scales of the tail are oblong, strongly keeled, arranged in regular rings.

The fore-leg reaches to the extremity of the snout, if laid forwards. The third and fourth fingers are equal in length, then follow the second, the fifth, and the first; its anterior side and the fingers are covered with one-rowed imbricate shields, those of the fore-arm being the largest. The posterior extremity reaches to the posterior margin of the orbit, if laid forwards. The relative length of the toes does not differ from other species of the genus. The interior side of the limb and the upper parts of the foot are shielded, the remainder being granular. The shields of the upper leg form three rows, those of the lower are larger and form two only; all are imbricate. The series of femoral pores is composed of twenty foramina.

The ground colour of the upper parts is greenish-olive, irregularly and indistinctly speckled with darker. A greenish-white stripe runs from the muzzle along the vertebral line towards the middle of the tail, where it is gradually lost. A little before the eye, and distinctly from the eye begins a black lateral band, edged with greenish-white to the hip, and is lost soon after it has reached the side of the tail. The lower parts are uniformly greenish-white.

A single specimen is in the collection.
Distance between the extremity of the snout and the tympanum................................. 0 10
Distance between the tympanum and the vent ......................................................... 2 7
Length of the tail ................................................................. 7 6
Distance between the extremity of the snout and the anterior margin of the orbit .......... 0 5
Distance between the anterior angles of the orbits .................................................. 0 3½
Length of the anterior extremity .......................................................... 1 3
—— of the third finger .......................................................... 0 5
—— of the posterior extremity .................................................. 2 7
—— of the foot ............................................................... 1 4
—— of the fourth toe ............................................................ 0 11

3. *Custa bicarinata*, L.

The exact habitat of this species was not known before.

4. **Monoplocus**, n. g. (*Teideae*)

Tongue elongate, free, not sheathed, terminating in two very fine points. Palatine teeth none; the posterior teeth in the jaws bi- or tricuspid. Tympanum distinct. Throat with a single fold. Scales of the back exceedingly small, those of the sides granular; gular and ventral shields keeled. Tail rounded, covered with keeled and verticillated scales of moderate size. Femoral pores none.

**Monoplocus dorsalis**, n. sp.

*Diagnosis.*—A greenish-white longitudinal streak from the extremity of the snout to the middle of the back, where it is gradually lost.

*Description.*—The general habit is slender. The snout is of moderate length, pyramidal; the nostril is laterally situated between the two nasals. The successive series of shields covering the upper surface of the head is as follows:—1. The rostral shield is obtusely conical, as high as wide, with the posterior angle acute and produced backwards on the upper surface of the head. 2. A pair of anterior nasals, quadrangular, touching each other behind the rostral, and enclosing the greater part of the nostril. 3. A single anterior frontal, hexagonal, with the anterior and posterior angles obtuse, and with the outer sides shortest and in contact with the posterior nasal and the loreal. 4. A pair of posterior frontals, irregularly pentangular. 5. A single anterior parietal, the largest of the shields of the head, pentagonal, with the anterior side rather curved, and with the two hinder ones shortest. 6. A pair of posterior parietals, irregularly quadrangular. 7. Five occipital shields, one forming the centre, the others being symmetrically arranged. 8. The upper eyelid is covered by two larger and two or three smaller shields.

The lateral shields of the head are the posterior nasal, the loreal, which is larger than the former, and three oculars, forming the anterior and lower margin of the orbit. There are six very narrow upper labial shields and several smaller ones behind.
The single anterior labial of the lower jaw is slightly convex, as long as wide; there are five narrow shields along the side of the lip, the third being the longest. There is a single pentagonal chin-shield between the first two labials, forming a straight transverse suture with the front labial. Two series of shields arise from its two posterior sides, parallel to, and broader than, the series of the lower labials; each is formed by four shields. The throat, before the collar, is covered with granular scales; the collar itself is formed by a fold, before which are some keeled scales of moderate size.

The tympanum is round, of moderate extent, and not surrounded by any particular scales.

The scales of the back are exceedingly small, smooth, imbricate, those of the sides finely granular; the ventral shields are quadrangular, keeled, and form eleven longitudinal and thirty-one transverse series. The space before the vent also is shielded. The scales of the tail, which is rounded, are of moderate size, oblong, keeled, verticillated, each verticillus being formed by a single ring of scales.

The fore-leg reaches to the extremity of the snout, if laid forwards. The third and fourth fingers are equal in length, then follow the fifth, the second, and the first; its anterior side and the fingers are covered with imbricate scales, those of the upper and fore-arm being keeled. The hind-leg reaches to the anterior margin of the orbit, if laid forwards. The toes have the usual relative length of this family. The interior side of the limb and the upper parts of the foot are similarly scaled as the fore-leg. There are no femoral pores.

The ground colour is greenish-blue; a greenish-white streak runs from the tip of the snout to the middle of the back, where it gradually lost. A black serrated band on each side of the vertebral streak extends from the nostril to the loin, emitting cross-streaks to its fellow; the anterior part of the tail also exhibits several irregular black cross-streaks.

A single specimen is in the collection.

<table>
<thead>
<tr>
<th>Distance between the extremity of the snout and the tympanum</th>
<th>0 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance between the tympanum and the vent</td>
<td>1 7</td>
</tr>
<tr>
<td>Length of the tail</td>
<td>4 0</td>
</tr>
<tr>
<td>Distance between the extremity of the snout and the anterior margin of the orbit</td>
<td>0 3</td>
</tr>
<tr>
<td>Distance between the anterior angles of the orbits</td>
<td>0 2 1/4</td>
</tr>
<tr>
<td>Length of the anterior extremity</td>
<td>0 10</td>
</tr>
<tr>
<td>—— of the third finger</td>
<td>0 3 1/2</td>
</tr>
<tr>
<td>—— of the posterior extremity</td>
<td>1 7</td>
</tr>
<tr>
<td>—— of the foot</td>
<td>0 10</td>
</tr>
<tr>
<td>—— of the fourth toe</td>
<td>0 7 1/2</td>
</tr>
</tbody>
</table>


6. Cercosaurus rhombyfer, n. sp. (Pl. XX. fig. A.)

*Diagnosis.*—Scales smooth, in fifty cross series between the occi-
put and the origin of the tail. Brownish-grey, with a vertebral band, composed of rhombic brown spots, beginning on the middle of the trunk and distinct from the origin of the tail; a black band on each side of the neck.

Description.—The head is slightly depressed, with the muzzle rather produced; the body is cylindrical, and continued in a very long and strong rounded tail; the extremities are rather short. The successive series of shields covering the upper surface of the head is as follows:—1. The rostral shield is broader than high, semicircular, without posterior angle. 2. A single anterior frontal, pentagonal, forming a straight transverse suture with the rostral; its posterior angle is a right one. 3. A pair of posterior frontals, forming a short suture together, each being hexagonal, with three short and three longer sides. 4. A single anterior parietal, hexagonal, broadest anteriorly, with an obtuse angle in front and with the posterior sides shortest. 5. A pair of rather small posterior parietais. 6. Two series of occipital shields, the anterior being formed by three, the posterior by five; those of the anterior series are the largest, and the middle one is hexagonal, elongate. 7. The roof of the orbit is covered by three larger and several smaller shields.

The lateral shields of the head are, a single nasal, pierced in the centre by the nostril, a loreal of moderate size, and two antecorbitals. There are seven upper labials, longer than high. The front labial of the lower jaw is very much like the rostral; there are six rather narrow lower labials. A single pentagonal anterior chin-shield forms a straight transverse suture with the front labial; then follow three pairs of shields, the posterior ones the largest, forming sutures together, and not leaving a free space between them for smaller scales. The temples are scaly. The tympanum is placed immediately behind the cleft of the mouth; it is small, rounded, and rather deeply situated.

All the body and the tail are covered with square smooth scales, arranged in rings, completely surrounding the body; the scales of one ring always alternate with those of the following. There are fifty rings between the occiput and the origin of the tail, thirty on the belly. The scales on the sides are rather smaller. The space before the vent is covered with larger shields, the extremities with hexagonal scales. A trace of a collar fold is just visible.

The extremities are rather short: the fore-leg reaches to the middle of the eye, if laid forwards. The third and fourth fingers are equal in length, then follow the second, the fifth, and the first. The hind-leg reaches a little before the middle of the trunk, if laid forwards; the fourth toe is the longest, the third and fifth are nearly equal in length, then follow the second and the first.

There are no palatine teeth; the posterior maxillary teeth are indistinctly tricuspid.

The ground colour of the upper parts is brownish-grey from the middle of the trunk; the dorsal line appears spotted with darker, the spots assuming the regular form of rhombs at the origin of the tail, and forming a continuous band to its tip; there is a similar
though paler band on each side of the tail. A dark stripe passes the eye and is continued as a black band to the axil. The lower parts are whitish, the tail dotted with greyish.

A single adult female is in the collection.

<table>
<thead>
<tr>
<th>Description</th>
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<th>lines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance between the extremity of the snout and the tympanum</td>
<td>0</td>
<td>5 1/4</td>
</tr>
<tr>
<td>Distance between the tympanum and the vent</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Length of the tail</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Distance between the extremity of the snout and the anterior margin of the orbit</td>
<td>0</td>
<td>2 1/2</td>
</tr>
<tr>
<td>Distance between the anterior angles of the orbits</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Length of the anterior extremity</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>of the third finger</td>
<td>0</td>
<td>1 1/2</td>
</tr>
<tr>
<td>of the posterior extremity</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>of the fourth toe</td>
<td>0</td>
<td>2 2/5</td>
</tr>
</tbody>
</table>

7. Proctoporus pachyurus, Tschudi.

8. Enyalius laticeps, Guichen.

A large adult specimen, probably a male; differs from the other smaller ones by having a series of larger scales along the side of the back, by having a distinct black collar, and a yellowish longitudinal band from the tympanum to the shoulder.

9. Anolis fraseri, n. sp.

**Diagnosis.**—Snout moderately elongate and depressed, with a distinct canthus rostralis, and with a pair of obtuse ridges arising from the bony superciliary margins; a slight groove between those two ridges; the upper surface of the snout and the space between the orbits are covered with innumerable very small shields. Occipital shield none, or scarcely distinguishable from the others. All the scales exceedingly small, those of the abdomen rather larger and keeled. Neck without any crest; trunk with a very slight serrated ridge, perceptible in large individuals only; tail not crested. Pouch of the throat well developed. Tail not compressed, not verticillated, with the scales keeled and small. Greyish- or brownish-olive; back and tail with indistinct broad brown cross-bands.

**Description.**—The snout is moderately depressed and slightly elongate, the distance between the anterior angles of the orbits being three-quarters of the distance between the orbit and the extremity of the snout; anteriorly it is rounded. The canthus rostralis is distinct, but not very sharp, and there is another pair of low convergent ridges, arising from the superciliary margin of the bony orbit and extending a little beyond the middle of the snout; there is a shallow groove between those ridges, but the space between the ridges and the canthus rostralis is rather flat.

The species is distinguished (especially from *A. sugrae* and *nebulosus*) by the exceedingly small shields of the upper parts of its head;
it is quite impossible to state their number; there is no occipital shield, or it is very small; in the middle of the upper eyelid is a group of somewhat larger shields, like those along the superciliary margin and the canthus rostralis, but they also are very small, compared with other species. The nostril opens laterally, and is situated immediately behind the extremity of the snout. The labial shields are exceedingly narrow; there are three or four series of smaller shields running parallel to that of the lower labials, the remainder of the throat being covered with granular scales.

The tympanum is a small cleft, without any particular scales round its margin; the scales on the temple and on the neck are exceedingly small, granular. The pouch of the throat is well developed.

There is a very low serrated ridge along the back of the largest of the specimens; the other dorsal scales are minute, those on the sides yet smaller, and those of the belly the largest, ovate and keeled. The scales on the side of the pouch are rather smaller than the others, and those on the pelvis and round the vent are uniformly granular. The tail is rounded, not verticillated or crested, but very slightly compressed in the upper part of the middle of its length. All the scales are sexangular, of moderate size, strongly keeled, the keels forming longitudinal ridges.

The fore-leg does not, or scarcely, reach to the loin, if laid backwards; it is covered with minute keeled scales, with granulations inferiorly. The inner finger is not dilated; the fourth is the longest; then follow, in the order of their length, the third, fifth, second, and finally the first. The total length of the hind-leg appears to vary according to age or sex; it reaches to the humeral joint only in the largest of the specimens, and to the anterior margin of the orbit in the smaller ones. It is covered with minute scales, the anterior ones being keeled.

Nothing can be said of the coloration during life. The ground colour of the upper parts is now a greyish- or brownish-olive, with several indistinct broad bands across the back, and rings of the same colour round the tail; the lower parts are whitish, speckled with brown between the hind-legs; in the largest specimen the throat (not the pouch) and the lower side of the tail are brown.

This is one of the largest species of the genus, as will appear from the following measurements:

| Distance between tympanum and the extremity of the snout | 1 4 |
| Distance between tympanum and vent | 3 8 |
| Length of the tail | 11 0 |
| Total length | 16 0 |


The specimens sent by Mr. Fraser belong to a variety of this species, without spots before the shoulder, and with a broad black gular band in very old individuals.
11. **Liocephalus iridescens**, n. sp. (Pl. XX. fig. B.)

The upper surface of the head covered with scales, without distinct shield; shoulder and throat without any fold. Scales of the upper parts distinctly keeled, of the belly nearly smooth. Above greenish-brown, with a dorsal series of black angular transverse streaks; a black collar.

**Description.**—The head is rather short and high, above slightly convex, with the interspace between the bony orbits very narrow, and with the muzzle rather short, blunt, and rounded in front; the distance between the extremity of the snout and the anterior margin of the eye is equal to the distance between the anterior angles of the orbits. The nostril is directed upwards, round, situated more on the upper surface of the head than on the side, and formed by a tubular opening at the posterior extremity of a single small shield. The eye is of moderate size, with round pupil and an upper and a lower eyelid. The cleft of the ear is subelliptical, a little behind the cleft of the mouth and in front bordered by some small prominent scales. All the upper surface of the head is covered by scale-like imbricate shields, the two hindmost of which (on the sides of the occiput) are the largest; two series of these shields cover the space between the bony orbits, the roof of the orbit itself being formed by a series of five shields, and by small scales anteriorly and externally. Some of these head-shields exhibit feeble keels. The rostral shield is very low, but broad, covering all the anterior margin of the jaw; four very narrow upper labials, above which is situated another series of similar shields, the loreal region being irregularly shielded. The temples are covered with scales similar to those on the neck. The lower front labial is higher, but shorter, than the rostral; five narrow lower labial shields, internally to which are two other series of small oblong shields; there are two diverging series of broad shields arising from the posterior part of the front labial, passing posteriorly into the ordinary scales of the throat; all the throat is covered with smooth imbricate scales, similar in size and form to those of the belly.

The trunk is subquadriangular, slightly depressed, and covered with rhombic scales of moderate size, keeled, and arranged in series which converge towards the vertebral line. There is a serrated and rather low crest from the neck along the back, which is lost near the middle of the tail. The scales on the belly form oblique series, and are smooth or very indistinctly keeled. No preanal pores, the space before the vent being scaly like the belly. The tail is slightly compressed and covered with scales, arranged and shaped like those of the back, but rather more strongly keeled. The scales of the extremities also do not differ from the others. The fore-leg reaches to the loin, if laid backwards: the fourth finger is very little longer than the third; the second and fifth are considerably shorter, and nearly equal in length to each other; the first is the shortest. They are smooth above, rough beneath, and provided with claws of moderate strength. The hind-leg reaches rather beyond the anterior
margin of the eye, if laid forwards; the toes have the usual relative length of the species of this genus. No femoral pores.

The ground colour of the upper parts is shining brownish-green, darker on the sides; a series of black cross-stripes, angularly bent, and with the angle pointing backwards along the middle of the back; they are more distinct in young than in old individuals; the extremities have some indistinct irregular brown spots: there is, in some of the old specimens, a lighter stripe from above the tympanum along the side of the back to the origin of the tail. A black gular band, with some black dots besides, is complete in mature specimens, indicated by two black lateral spots only in young ones; the throat before the collar is beautifully iridescent, the chest behind it intensely yellow, and the belly and the anterior lower portion of the tail rosc-coloured. The latter colours are merely indicated in very young specimens.

<table>
<thead>
<tr>
<th>Distance between the extremity of the snout and the tympanum</th>
<th>inches.</th>
<th>lines.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distance between the tympanum and the vent</td>
<td>2 4</td>
<td></td>
</tr>
<tr>
<td>Length of the tail</td>
<td>6 0</td>
<td></td>
</tr>
<tr>
<td>Distance between the extremity of the snout and the anterior margin of the orbit</td>
<td>0 3 1/2</td>
<td></td>
</tr>
<tr>
<td>Distance between the anterior angles of the orbits</td>
<td>0 3 1/2</td>
<td></td>
</tr>
<tr>
<td>Length of the entire fore-leg</td>
<td>1 4</td>
<td></td>
</tr>
<tr>
<td>—— of the fourth finger</td>
<td>0 5</td>
<td></td>
</tr>
<tr>
<td>—— of the entire hind-leg</td>
<td>2 4</td>
<td></td>
</tr>
<tr>
<td>—— of the foot</td>
<td>1 2</td>
<td></td>
</tr>
<tr>
<td>—— of the fourth toe</td>
<td>0 9</td>
<td></td>
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</tbody>
</table>

12. Iguana tuberculata, Laur.

13. Gymnodactylus caudiscutatus, n. sp.

Diagnosis.—Scales of the back and of the sides granular, of the belly rhombic and imbricate. The lower part of the tail with broad shields, extending from one side to the other: five upper labials. Snout rather depressed, nearly twice as long as the distance between the eyes. Head white, reticulated with black.

Hub. Andes of Ecuador.

Description.—This species is allied to Homonota gaudichaudi and Gymnodactylus d’orbignyi, from which it may be distinguished by the caudal shields. The head and snout, the latter especially, are much more depressed than in H. gaudichaudi, and appear also more produced. The rostral shield is large, rounded, extending on to the upper surface of the head; the upper lip is bordered by five plates, all the upper surface of the head and the sides being granular. The lower median labial shield is oblong, far produced backwards, and has a pair of small shields behind: there are three lower labials. The ear-opening is small, situated horizontally on the same level with the cleft of the mouth. All the upper and lateral parts are granu-
lar, the granulations of the posterior part of the back being a little more scale-like. The belly and the inner side of the extremities have rhombic, imbricate scales. The shields of the lower side of the tail are narrow, broad, extending from one side to the other. No preanal or femoral pores.

The fore-leg, if laid forwards, reaches beyond the anterior margin of the orbit. The fingers are slender, of moderate length; the first is the shortest, then comes the second, the third, and finally the fourth and fifth, which are nearly equal. The hind-leg, if laid forwards, reaches to the humeral joint. The toes are similar to the fingers: the first is the shortest, then comes the second, then the third and fifth, which are equal in length, and finally the fourth, which, although the longest, does not extend beyond the tip of the third.

The teeth are small: the palate is toothless.

The ground colour is greyish or brown. Some of the specimens (the light-coloured ones) have a lighter dorsal streak, with pairs of brown spots; the brown specimens have the dorsal streak and spots indistinct, but are irregularly spotted with bluish, each spot being edged with darker colouring. The head of all is whitish, with symmetrical, reticulated black lines, one from the eye towards the snout being very constant. Chin, throat, and breast white, the throat sometimes speckled with black; the belly greyish; the lower parts of the tail grey.

| Distance between the extremity of the snout and the tympanum | 0 5 |
| Distance between the tympanum and the vent | 1 4 |
| Length of the tail | 1 6 |
| Total length | 3 3 |

**OPHIDIA.**

1. **Rhabdosoma crassicaudatum,** Dum. and Bibr. p. 103.

A single specimen, with the back uniform lead-coloured, which colour extends on the sides of the belly; the middle of the belly uniform yellowish.


There are some beautiful specimens of this species in the collection, one of which is twenty-three inches long. The light ground colour becomes darker with age, and is changed into light brown; consequently the brown spots become less distinct, are more dilated, and the white edges nearly lost. Brownish spots appear sometimes on the belly.

A single specimen, which belongs to a very distinct variety; the collar is absent; the body uniform black above, and brownish below.

5. Homalocranium melanocephalum, L.

A single specimen, which somewhat differs in colour from those described before,—the back and the sides of the belly being greyish-black, and the yellow lateral band on the anterior part of the trunk being reduced to three spots on each side of the head and neck.

7. Liophis cobella, L.
A single small specimen.


Three examples, which differ from the typical specimens in having one upper labial shield less, the anterior two being united into one; they all have the dark streak through the eye distinct. In one of the specimens, thirty-one inches long, the three series of quadrangular spots continue to be distinct, whilst they have nearly disappeared in another of forty-one inches length; this specimen has, however, a pair of lighter indistinct longitudinal streaks, like some specimens of Herpetodryas boddertii, running along the line where the dorsal series of spots meets the lateral one. The throat in these two specimens is spotted with black—not entirely black. The third specimen, of thirteen inches length, is beautifully preserved; the ground colour of the back is white, and all the spots are of a deep black; the belly is black, with scattered white spots.

12. Ahætulla occidentalis, n. sp.

Diagnosis.—Loreal shield none; eight upper labials, the fourth and fifth coming into the orbit; the length of the snout equals the distance between the eyes. Scales in fifteen rows, those of the back keeled. Uniform green, rather darker on the back; an indistinct blackish temporal streak.

Hab. The western parts of tropical South America (Ecuador, Guayaquil, New Granada, Peru, Chile).

This species has been confounded with the most common tree-snake of eastern South America, Ahætulla liocercus. Schlegel mentions a uniformly greenish variety of the latter from Chile (Essai, ii. p. 226), undoubtedly identical with the present one. On a former
occasion I did not venture to separate a single specimen from Guayaquil, in the collection of the British Museum, and in a bad state of preservation, from the common species (Catal. Col. Snakes, p. 133, spec. z); but now, having found a very fine individual in Mr. Fraser's collection, I can no longer doubt its specific difference. The most striking character is the number of the upper labials, which in *A. liocercus* is nine, the fourth and fifth coming into the orbit. It is true that there occur scarce specimens of *A. liocercus* which have one upper labial less, so far agreeing with *A. occidentalis*; but the relative length of the snout, nevertheless, remains the same. As the snout and the head are considerably shorter in *A. occidentalis*, so are the trunk and the tail; it is altogether a stouter snake. Corresponding to this, the scales are less elongate, especially those of the outer rows, which are nearly rhombic. Further, the coloration is nearly uniform, as in *Philodryas viridissimus*, the belly not being white—merely of a lighter greenish than the back. The lips and the chin, which are white in *A. liocercus*, are greenish; and the black streak through the eye in *A. liocercus* is here indicated only by a blackish temporal streak. These differences together induce me to separate the two species, which in the dentition agree with each other, although the teeth of *A. occidentalis* appear to be rather stronger and more widely set.

The numbers of the plates are as follows:

<table>
<thead>
<tr>
<th></th>
<th>Ventrals</th>
<th>Caudals</th>
</tr>
</thead>
<tbody>
<tr>
<td>In <em>A. liocercus</em> from New Granada*</td>
<td>166</td>
<td>158</td>
</tr>
<tr>
<td>In <em>A. liocercus</em> from Demerara</td>
<td>166</td>
<td>163</td>
</tr>
<tr>
<td>In <em>A. occidentalis</em> from Guayaquil</td>
<td>172</td>
<td>133</td>
</tr>
<tr>
<td>In <em>A. occidentalis</em> from Ecuador</td>
<td>160</td>
<td>130</td>
</tr>
</tbody>
</table>

This similarity in the number of the ventral shields appears to contradict my statement of *A. occidentalis* having a stouter trunk than *A. liocercus*; but there is a remarkable difference in the form of those shields: their length is one-half only of their width in *A. liocercus*, whilst it is nearly one-fourth in *A. occidentalis*.

Therefore the diagnosis of *Ahaetulla* *liocercus* will now be:

Loreal shield none; nine upper labials, the fifth and fourth coming into the orbit (exceptionally, the second and third united); the length of the snout is more than the distance between the eyes. Scales in fifteen rows, those of the back keeled. Green above, white beneath. A black streak through the eye; the upper lip white.

Berthold, l. c., describes *Dendrophis liocercus* from New Granada, and it appears to me as if that specimen also ought to be referred to *A. occidentalis*. He describes the body as slender, though rather stout. "One would take it for a *Herpetodryas*, the body being at least twice as thick as in *D. liocercus*; the head also is much broader. The colour is uniform leek-green; belly and margins of the ribs yellowish-green."

13. **Leptodeira (Dipsas) annulata**, Schleg.

* Berthold, Ueber Reptilien aus Neu Granada, p. 11.

The specimens in the collection are darker-coloured than usually; some have additional praecoculars, some not; and all have three pairs of chin-shields, which do not differ in form from those of the Brazil specimens. The lateral blotches extend on the belly, which is densely marbled with black, and posteriorly entirely black. The white edge of the dorsal spots is scarcely visible.

15. Leptognathus catesbyi, Weigel.


Scales in seventeen series, those of the dorsal series being distinctly larger. In two of the specimens the loreal shield is united with the posterior frontal.

17. Oxyrhopus petolarius, L.

A single specimen of a variety, apparently not yet recorded, has been sent by Mr. Fraser. The scales of the dorsal series are a little larger. The muzzle and crown are black, the neck red. The body and tail are surrounded by thirty-three black bands, a little broader than the red interspaces between.


A single beautiful specimen with the colours preserved, thirty-one inches long. The occipital region is light vermilion. The ground colour of the trunk is yellowish-white and appears in very narrow rings, which occupy two scales superiorly and two plates inferiorly; the ground colour of the tail is dark vermilion and forms rather broad bands. The trunk is encircled by seventy-six black rings, the tail by four.

19. Craspedocephalus atrox, L.

One of the young specimens has a whitish tail (Cr. leucurus, Dum. and Bibr. p. 1508).


A single adult specimen of this scarce snake is in the collection.

21. Lachesis nitidus, n. sp. (Pl. XX. fig. C.)

Diagnosis.—Nasal single; eight upper labials, the second forming the anterior margin of the loreal pit; a series of rough scales between the superciliary and the orbital margin; all the caudal plates simple. Twenty-two series of scales. Greenish-brown, speckled with black; pairs of darker spots along all the back, the spots of each pair confluent on the vertebral line, laterally including a red, superiorly yellow spot; the yellow parts alternating with those of the other side. A yellow longitudinal band along the two outer series of scales. Belly yellow along the middle, brownish-green on the sides, the latter parts being spotted with red and speckled with black.

Hab. Western Andes of Ecuador.
Description.—Little can be added to the diagnosis of this beautiful species, the colours of which are exceedingly well preserved. The upper part of the head is entirely covered with keeled scales, those on the canthus rostralis being rather larger. The eyebrow is covered with an elliptical shield, separated from the orbital margin by a series of rough scales, as in *Trigonocephalus schlegelii*. The scales of the trunk and tail are strongly keeled. One hundred and fifty-four abdominal, one entire anal, and sixty-five undivided caudal plates. The yellow median line on the belly disappears on the tail, where the lateral streak also is interrupted by the red spots.

<table>
<thead>
<tr>
<th>Length of the head</th>
<th>0 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>——— of the trunk</td>
<td>13 0</td>
</tr>
<tr>
<td>——— of the tail</td>
<td>3 0</td>
</tr>
<tr>
<td>Total length</td>
<td>16 9</td>
</tr>
</tbody>
</table>

**BATRACHIA.**


4. *Bufo cæruleostictus*, n. sp.

Diagnosis.—Crown of the head without bony enlargement, broad, flat. Parotids narrow, oblong, parallel to the vertebral line; tympanum not visible externally. Toes half-webbed; the third finger longer than the fourth. Tarsus with a cutaneous fold. Uniform brownish-black; the posterior part of the sides and the extremities with small, smooth, bluish tubercles.

Description.—The skin of this species is comparatively smooth, there being small and smooth tubercles on the sides of the body only and on the extremities, a few also on the upper eyelids. The head is large and broad, with the sides nearly vertical, with the canthus rostralis angular, and with the upper surface quite flat. The snout is rather short and truncated. The tympanum is not visible; the interior nostrils and the eustachian tubes are small. The tongue is ovate, with the posterior half free. The parotid is narrow, elongate, nearly as long as the head, and situated in a line parallel to the vertebral column. The extremities are more slender than usually in this genus; the total length of the anterior extremity equals the distance between the vent and the ear. The first (interior) finger is the thickest, longer than the second, but rather shorter than the fourth; the third and fourth are united at the base, the third being the longest; the metacarpus with two tubercles, the interior of which at the root of the thumb is elongate, the exterior broad, rounded. The length of the posterior extremity, from the hip to the carpal joint, equals the length of the animal from the snout to the vent;
the tarsus has a cutaneous fold, the metatarsus two tubercles. The toes are half-webbed, the third and fifth being equal in length.

The colour of the upper parts is a uniform brownish-black, of the lower parts a dirty greyish-brown; the upper eyelids, the sides of the trunk, and the extremities exhibit small, smooth, bluish tubercles.

Two specimens are in the collection.  

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Inches</th>
<th>Lines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length from the snout to the vent.</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Length of the head</td>
<td>0</td>
<td>11 1/2</td>
</tr>
<tr>
<td>Breadth of the head</td>
<td>1</td>
<td>3 1/2</td>
</tr>
<tr>
<td>Length of the parotid</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>——— of the anterior extremity</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>——— of the third finger</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>——— of the posterior extremity</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>——— of the fourth toe</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

5. Otilophus margaritifer, Laut.

6. Hylodes unistrigatus, n. sp.

Diagnosis.—Habit as in Hyla arborea. Skin smooth above, granular on the sides and on the belly; a fold across the chest. Vomerine teeth in two oblique series; tongue ovate, with an exceedingly slight nick behind. Olive (in spirits), marbled with darker; a fine white dorsal line from the snout to the vent.

Description.—This species would be taken for a Hyla at the first glance: the snout is rather short and rounded anteriorly and over the canthus rostralis; the tongue is ovate, with the posterior two-thirds free, and with a scarcely visible nick. The vomerine teeth are arranged apparently in two oblique series, but can scarcely be distinguished on account of the small size of the species. The width of the tympanum is one-third of that of the eye. There is a distinct fold across the chest, as in many species of Hyla. The extremities are short, the disks of the fingers and toes of moderate size; the fifth toe is rather longer than the fourth. The upper parts are dark olive, marbled with brown; a fine white dorsal line reaches from the tip of the snout to the vent; the lower parts are whitish, the throat marbled with brown.

There are several specimens in the collection, among which is an adult female, with the eggs comparatively as large as in Hylodes conspicillatus.

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Inches</th>
<th>Lines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length from the snout to the vent.</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>——— of the anterior extremity</td>
<td>0</td>
<td>7 1/2</td>
</tr>
<tr>
<td>——— of the posterior extremity</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>


There are many specimens of this species in the collection, and among them two varieties: the one with a white margin on the upper lip, the other with a white lateral stripe from the tip of the muzzle above the eye to the loin.

This species grows to a larger size than was hitherto known, there being specimens in the collection the body of which measures three inches, and the posterior extremity four inches and a half. In such very large specimens the crown of the head becomes rough, as in Trachycephalus, although without ridges, and with the skin not firmly adherent.


This species is subject to such variation of colour, that it may prove to be identical with Phryniscus varius, which perhaps has been established from specimens which had lost the prickles on the sides. Among the numerous specimens sent by Mr. Fraser are several of a dark bluish-green ground-colour, and with green spots on the back. Others are greenish-grey, with the back spotted with black and yellow; each phalanx with a green spot. Others are intermediate between these and the black variety.

Cœcilia.

1. Cœcilia rostrata, Cuv.

The habitat of this scarce species has not been hitherto known with certainty.

2. Cœcilia gracilis, Shaw.

The circular folds are more distinct than is stated by Duméril, but become very inconspicuous towards the anterior part of the body. The length is to the diameter of the body as 115:1.

3. Cœcilia pachynema, n. sp.

Diagnosis.—The length of the body is to its greatest diameter as 92:1; body with 168 folds; muzzle depressed, rather truncated anteriorly; posterior extremity of the body obtusely rounded, very short behind the vent.

Description.—This species, which is based on a single specimen in the collection, belongs to those with the body elongate, and is distinguished from C. gracilis by having the folds very distinct from behind the head. The folds do not reach entirely round the body, being smoothed down on the dorsal and ventral side. The body is covered all over with rudimentary scales, which have more the appearance of minute granulations. The folds on the posterior portion of the body are not deeper than the others, nor do they contain any scales, as in C. gracilis. The head is depressed, with the muzzle obtusely rounded or rather truncated anteriorly, although overlapping the anterior portion of the cleft of the mouth. The latter is wide, reaching as far backwards as the head. The upper and the lower jaws are armed with five hook-like teeth, directed backwards on each side, the anterior of which (and, among these, those of the mandibula) are the strongest. The palate has three similar teeth on each side. I cannot find any

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prominences on the tongue, nor distinguish the eyes. The vent is close to the posterior extremity of the body, which is bent downwards over it.

The colour is a blackish-ash; there is a whitish blotch between every pair of folds all along the side of the body.

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Inches</th>
<th>Lines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total length</td>
<td>34</td>
<td>6</td>
</tr>
<tr>
<td>Greatest diameter of the body</td>
<td>0</td>
<td>4 1/2</td>
</tr>
<tr>
<td>Length of the head</td>
<td>0</td>
<td>8 1/2</td>
</tr>
<tr>
<td>Width of the head</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Length of the cleft of the mouth</td>
<td>0</td>
<td>6</td>
</tr>
</tbody>
</table>

PISES.


2. Chromis rivulata, n. sp.


Nape of the neck convex; the upper profile of the head is straight, abruptly descending. The total length is three times the height of the body, and 3 2/3 times the length of the head. The width between the orbits equals 1 1/2 diameters of the eye. The posterior dorsal and anal rays reach to the middle of the caudal, if laid backwards, and the ventral to the second anal spine. Greyish-green, with broad dark vertical bars, less distinct with age. A black blotch below the lateral line, corresponding to the last four dorsal spines; preorbital and cheeks with oblique, waving, bluish, shining silvery streaks; the scales of the operculum and of the anterior part of the body with spots of the same colour. Dorsal fin with dark longitudinal streaks; ventral and anal greyish; pectoral and caudal colourless.—Several specimens of different ages; the largest 4 inches long.

3. Lebiasina bimaculata, Cuv. et Val.

4. Macrodon tareira, Cuv. et Val.

5. Leporinus frederici, Bloch.

6. Anodus troeschelli, n. sp.


The total length is four times the height of the body, and 4 2/3 times the length of the head. The width of the space between the eyes is not quite one-half the length of the head; the diameter of the eye is one-fourth of it. The height of the dorsal is much less than the length of the head, and its origin corresponds to the fourteenth scale of the lateral line; the base of the ventrals falls vertically below the middle of the dorsal. Silvery, back greenish; a black spot on the root of the caudal.

Hab. Western Andes of Ecuador.
There can be no doubt that this is quite a different species from *Anodus alburnus*, described and figured by Müller and Troschel in the ‘Hornæ Ichthyologicae.’ The difference from *Curimatus gilberti*, figured by Quoy and Gaimard, and insufficiently described by Valenciennes, must be rather inferred, by help of the figure of *Anodus alburnus*. Valenciennes describes it as a fish of entirely the same form as *A. alburnus*; therefore it is very improbable that our species is identical with it, as it has the back very little elevated (as in *Leuciscus vulgaris*), the dorsal fin much lower and situated far more backwards, so that its end falls vertically as much behind the ventral as its origin before it. The somewhat greater number of the scales of the lateral line corresponds with these differences.

7. **Prochilodus humeralis**, n. sp.


The total length is 3½ times the height of the body, and nearly five times that of the head. The width between the eyes is one-half the length of the head, or nearly twice the diameter of the eye; the end of the dorsal falls vertically above the end of the base of the ventral. Back greenish, sides and belly yellowish; each longitudinal series of scales with a shining streak. A black spot behind the shoulder on the fourth, fifth, and sixth scales of the lateral line. No spot on the root of the tail; dorsal dotted with blackish posteriorly; the other fins immaculate.

*Hab.* Western Andes of Ecuador.

8. **Chalceus alburnus**, n. sp.

D. 11. A. 35. V. 8. L. lat. 60. L. transv. 13/5.

The height of the body is one-fifth of the total length, the length of the head one-fourth. The width between the orbits is rather more than that of the eye, and one-fourth the length of the head. The snout is produced, and equals 1½ diameters of the eye. Anterior teeth rather small; several of the lateral teeth of the mandibula much
stronger than those of the upper jaw. The ventral fin reaches to
the origin of the anal, the pectoral somewhat beyond the base of the
ventral. Scales very thin; the lateral line descends abruptly above
the pectoral towards the belly, and runs much nearer to the abdo-
men than to the back. Silvery, with a light blackish spot behind
the shoulder, above the lateral line; caudal red.

Hab. Western Andes of Ecuador.

<table>
<thead>
<tr>
<th>inches</th>
<th>lines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total length</td>
<td>5 3</td>
</tr>
<tr>
<td>Height of the body</td>
<td>1 1</td>
</tr>
<tr>
<td>Length of the head</td>
<td>1 4</td>
</tr>
<tr>
<td>Width between the eyes</td>
<td>0 4</td>
</tr>
<tr>
<td>Diameter of the eye</td>
<td>0 3½</td>
</tr>
<tr>
<td>Height of the dorsal</td>
<td>0 9½</td>
</tr>
<tr>
<td>Height of the anal</td>
<td>0 7½</td>
</tr>
</tbody>
</table>

One of the specimens has blackish vertical lines all along the side,
and the fins broadly margined with blackish. Another has the ven-
tral fins very short, only half the usual length, though with the full
number of rays.

9. Chalceus brevirostris, n. sp.


The height of the body is one-fourth of the total length, the length
of the head one-fifth. [The width between the orbits equals the
diameter of the eye, and is rather more than the extent of the snout*.
] The snout is short and obtuse, the upper maxillary slightly overreach-
ing the vertical from the anterior margin of the eye. The anterior
teeth are the strongest, those of the lower jaw much stronger than
the upper ones. The ventral fin reaches to the origin of the anal, the
pectoral somewhat beyond the base of the ventral. Scales very thin.
The lateral line descends in a gentle curve from its origin, and runs
a little nearer to the ventral margin than to the dorsal. Shining
silvery, with an indistinct lateral band, continued to the middle of
the caudal margin, where it is black.

Hab. Western Andes of Ecuador.

<table>
<thead>
<tr>
<th>inches</th>
<th>lines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total length</td>
<td>2 7</td>
</tr>
<tr>
<td>Height of the body</td>
<td>0 7½</td>
</tr>
<tr>
<td>Length of the head</td>
<td>0 6</td>
</tr>
<tr>
<td>Diameter of the eye</td>
<td>0 2</td>
</tr>
</tbody>
</table>

10. Pimelodus, sp.?
A single mutilated specimen.

11. Hypostomus erinaceus, Cuv. & Val. = Chaetostoma lobor-

D. ½. A. ½.

* These statements may require modification upon examination of mature spe-
cimens, as those collected by Mr. Fraser are perhaps young ones.