

DESCRIPTION OF SOME SPECIES OF REPTILES OBTAINED BY DR. JOHN F. BRANSFORD, ASSISTANT SURGEON UNITED STATES NAVY, WHILE ATTACHED TO THE NICARAGUAN SURVEYING EXPEDITION IN 1873.

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The collection, though not large, embraces a number of interesting new and rare species besides those usually obtained in the region of Nicaragua. The whole number is twenty-eight, distributed as follows: serpents 12, lizards 9, tortoise 1, and Batrachia 6. Several interesting points in geographical distribution are established. I have added descriptions of three new snakes, one from near the same, and two from more southern localities.

OPHIDIA.

Pliocercus dimidiatus, Cope.

Ophibolus micropholis, Cope.

Spilotes pullatus, L. var.

Of the typical form; scales in fifteen or sixteen rows, the outer smaller, several median considerably enlarged, the more central only faintly keeled; generally biporous. Only seven superior labials, the eye over the fourth and chiefly the fifth; sixth and seventh much enlarged, and nearly reaching the parietal shield, being only separated by a single narrow temporal each. Orbitals 1-2, the anterior nearly reaching the frontal. Loreal small, longer than high; nasals two, quite elongate. Frontal longer than wide, with broad front and concave sides. Parietals wide, truncate, followed by four scuta, the two outer the larger. Temporals 1-1 or 1-1-1. Inferior labials eight or nine, separated from the anterior gastrosteges by two rows of elongate scales on each side, in continuation of the genecials.

The general form is elongate; head a long oval; muzzle not prominent. Gastrosteges 226; an entire anal; mosteges 118.

General color black; near the middle of the length yellow spots appear at intervals on the belly, and increase in extent and frequency until they occupy most of the space anteriorly. On the upper surface a few yellow spots appear at remote intervals on the anterior half. A yellow band extends across the occiput from angle to angle of the mouth, and one across behind the or-

bits. There are large yellow spots on the frontal and superciliaries, and the prefrontals and labials are yellow-black bordered.

Masticophis pulcherrimus, sp. nov.

Scales in quincunx, in seventeen subequal series, all smooth, many of them with two apical pores. Teeth subequal, without noticeable diastemata. Form very slender; tail one-third the total length. Gastrosteges weakly angulated, anal divided. Head flat, rostral low; loreal twice as long as high; prefrontal not reaching frontal, which is quite narrow; occipitals wide oval. Temporals 2-2-1-2 and 2-1-1-2. Superior labials nine, fourth, fifth, and sixth bounding orbit. Genecials slender. Total length m. .875; tail .285; gastrosteges .205; urosteges .152.

Ground color clay-white; a black band occupying two and two half rows of scales extends on each side from the orbit to the end of the tail. The dorsal interval is one and two half scales in width, and was yellowish or reddish in life, except anteriorly, where it is an emerald-green. This brilliant color extends over the entire top of the head. Lips white.

This species is as slender as, and is partially colored as, some of the tree-snakes of the genus *Ahætulla*. From a small collection made on the "western side of Central America" by Prof. George Davidson, which also contains *Elaps migrocinctus*, Gir., *Trimorphodon major*, Cope, *Boa eques* Eyd-Soul.

Oxybelis acuminatus, Wied.

Ahætulla bilineata, Gthr. *Diplotropis bilineatus* Gthr. Ann. Magaz. Nat. Hist., 1872, p. 24.

Ahætulla mexicana, D. B.

Leptodira annulata, L. var.

Dipsas cenchoa, L.

Leptognathus atypicus, sp. nov.

Belonging to sec. vi. of my monograph of this genus,¹ that is, with smooth equal scales, and short genecials separated by but one pair of labials from the symphyseals. The body is rather stout, and, unlike most of the genus, nearly cylindric; the neck is not contracted, but the head is wide and flat, and the muzzle short. Scales rather wide; in fifteen rows. Rostral plate subtriangular; a subquadrate loreal; no preocular; postoculars 2; temporals 2×3. Frontal and parietals broad and short, the latter truncate. Superior labials six, eye over third and fourth, fifth

¹ Proceed. Acad. Nat. Sci. Phila., 1868, p. 107.

and sixth elongate. Inferior labials ten, mostly transverse; four pairs of geneials, all except the first broader than long. Tail short, m. .047 in length, from a total of m. .243.

Color pale, with black transverse spots, which are wide anteriorly (the second covers seven transverse rows of scales) and become gradually narrower, having a width of only two cross-rows on the hinder part of the body. Posteriorly their lateral ends are broken off, and alternate with the dorsal portion. A few small blotches on the ends of the gastrosteges.

This serpent and two fishes were presented to the Academy of Natural Sciences with the statement that they were derived from some portion of the Peruvian Andes, from an elevation of twelve thousand feet. One of the fishes is *Trichomycterus dispar*, C. V., and the other is described below as *Protistius semotilus*.¹

¹ PROTISTIUS SEMOTILUS, gen. et sp. nov.

Family ? Mugilidæ.

First dorsal fin represented by a single rudimental spine; second originating a little behind the line of the first anal radii. Ventrals present; lateral line rudimental. Mouth bordered above by the premaxillary only, which supports a band of rather large bristle-like teeth, those of the outer series the largest. Dentary bones with strong symphysis, with a band of teeth like those of the premaxillary. Swim-bladder present; alimentary canal short, simple.

Char. Specif.—Snout conical both from the lateral and vertical views. Premaxillary bone viewed from above, wide and angular crescentic; top of head moderately convex in cross section, its integument not separated by a fold from the premaxillary. Lower jaw horizontal and angulated at the rictus, and symphysis, as in the genus *Mugil*. Pectoral fin elevated, rather short, the ventral commencing below its apex. Fin radii D. I. I. 10; P. 15; V. 5; A. I. 13; C. forked 2+8—9+2. Scales 4—81—17; lateral line very imperfect; isolated tubes visible at various points between scapula and tail. Head a little more than four times in length minus caudal fin; depth of body 5.5 times in the same; caudal peduncle deep. Eye with round adipose margins, 4.75 times in length of head, and twice in inter-orbital width. Top of head, opercula, and cheeks entirely scaled, the latter in four rows.

Above olivaceous, below yellow, a broad lead-colored lateral band on the posterior .66 of the length.

Length to opercular border m. .027, to ventral fins .052, to first dorsal .066, to second dorsal .078 to end of caudal fin .140, all axially measured.

There are three gills and a half, and no pseudobranchus; the first branchial arch is the only one furnished with rakers. Branchiostegal radii six.

In its physiognomy this fish is intermediate between that of the *Mugilidæ*

Leptognathus nebulatus, L.

Elaps nigrocinctus, Gird.

Bothrops atrox, L.

Teleuraspis schlegelii, Berth.

Yellow variety with short superciliary horns.

LACERTILIA.

Anolis bransfordii, sp. nov.

Abdominal scales smooth, pavement-like, longer than the dorsal and lateral scales, which are small, subequal, and smooth. Scales of tail subequal, carinate. Muzzle medium, shorter (from eye) than wide at orbits. Auricular meatus large, fully half of eye. Facial rugæ obsolete, bounding a distinct cavity, which is covered by smooth scales of the size of those on the remaining portions of the muzzle, in six longitudinal series. Superciliaries wide, separated from each other by one, and from the large occipital by two rows of scales. Twelve supraorbital scuta keeled; six loreal rows; fan little developed. Infralabials equal, small. Limbs slender, the anterior extending to the groin, the posterior to the end of the muzzle; dilatations well developed. Brachial and femoral scales equal ventral. Tail long and slender.

Color above golden-lead color, beneath silvery, the line of separation defined from the orbit to the groin. No cross bands on head or body; front brown speckled; feet blackish.

and that of *Cyprinodontidæ*. The form and scaling of the head and mouth, with the small spinous dorsal, are very similar to those of the *Mugils*, while the posterior position of the ventral fins and supporting bones, with the simple stomach and intestine, are characters of the latter family. I was unable to find any *ductus pneumaticus*, and if it exist it must be very slender.

The weight of evidence is in favor of referring this genus to the *Cyprinodontidæ*, and should its only dorsal spine occasionally be wanting, the reference will be less inappropriate than might at first appear.

The rudimental dorsal consists of a short (.002 m.) spine, but little elevated above the dorsal line on account of the small extent of the membrane which binds it. It is well separated from the second dorsal.

This fish must be regarded as an interesting annectant form between types usually placed in the distinct divisions of *Physostomi* and *Physoclysti*.

	M.
Length from end muzzle to eye . . . . .	.0057
“ “ “ ear . . . . .	.0105
“ “ “ axilla . . . . .	.0170
“ “ “ groin . . . . .	.0350
“ “ “ end of tail . . . . .	.1190

This species resembles both the *A. longicaudus*, Hallow., and *A. trochilus*, Cope.¹ From the former it differs in the smooth abdominal scales, large auricular meatus, etc.; resembling more the latter. In *A. trochilus*, a fine specimen of which accompanies the collection, the scales of the frontal area are much smaller, forming nine rows; four rows separate the superciliaries from each other and from the occipital. The muzzle is longer, and the head is marked with brown chevrons and cross-bands.

Dedicated to Dr. Bransford, who has been successful in his zoological investigations in connection with the expedition.

Anolis trochilus, Cope.

A female, with a single large egg in each oviduct.

Anolis cupreus, Hallow.

Anolis biporcatus, Wieg.

The most southern locality recorded for this species.

Anolis pentaprion, Cope.

The most northern locality yet discovered for this *Anolis*.

Chamæleopsis hernandezii, Weig.

Stenodactylus fuscus, Hall.

Sphærodactylus glaucus, Cope.

Amiva eutropia, Cope.

TESTUDINATA.

Kinosternum leucostomum, Dum.

BATRACHIA.

Bufo sternosignatus, Gthr.

Bufo, sp.

Dendrobates auratus, Girard.

Dendrobates ignitus, sp. nov.

First finger shorter than second; end of the tarsus of the extended foot reaching the end of the muzzle. Membranam tympani visible, one-fifth the eye slit in extent; muzzle little prominent, as long as eye measured on the side. Derm of the back

¹ Proceed. Acad. Sci. Phila., 1871, 215.

rather thick and glandular in fresh specimens; of the belly and limbs smooth. Color, vermilion red, all four limbs black, in four specimens. In a fifth which represents a variety, the red is replaced on the upper surfaces of the body and femur by a pink, which is thickly black speckled; the faces of all the limbs, which are concealed when the latter are drawn up, are vermilion. Size small.

	M.
Length from end muzzle to axilla	0.0095
“ “ “ “ “ vent . . . . .	.0115
“ of fore limb . . . . .	.0138
“ of hind limb . . . . .	.0253
“ of hind foot . . . . .	.0120
Width at tympana . . . . .	.0060
“ of sacrum . . . . .	.0040

Hyla ebraccata, sp. nov.

Of the type of *H. leucophyllata*, and perhaps to be regarded as a color variety of it. It is a very distinct one and probably geographically circumscribed, and hence until intermediate forms are discovered, may be considered as a species. Head broad, short, lores nearly vertical. Tympanum one-fifth orbit; skin above perfectly smooth. Fingers palmate to end of first phalange, toes to end of second. Tongue little free behind; vomerine teeth in fasciculi opposite anterior margin of nares. The heel extends to beyond the muzzle, which marks the middle of the forearm. Color above very light golden-brown; a deep brown triangular spot between the eyes, whose apex is produced backwards to a similar large spot on the back. A purplish-brown band from the end of the muzzle to the end of the coccyx, which fades below into the white of the belly. Edges of the upper lip white marked; a large yellow spot below the eye, and small yellow spots in the lateral band. On the foreleg, the humerus like the forearm is brown above, silver spotted. On the hind leg, the femur is entirely colorless; tibia is brown with silver bands and spots; bases of all the toes colored. Fingers uncolored except on the metacarpus. Belly yellow. Length of head and body 29 mm., width head 11 mm. Length hind leg 51 mm., to hind foot 22 mm.

Hypsiboas xerophyllum, Dum. Bibr.

Differing slightly from the typical form Surinam; probably a geographical variety.

APPENDIX.

Propus vermiformis, gen. et sp. nov.

Char. Gen.—Family *Chalcididæ*. Scales smooth, in annuli; a lateral longitudinal fold. Limbs one pair, the anterior only, without digits or claws. A few pores at the side of the vent. Head shields above, two internasals, one frontal, a narrow superciliary which descends in front of each eye, and a pair of parietals. Nostrils on the suture between internasal and first labial; a loreal shield. Tail elongate.

This genus is near to the *Ophiognomon*¹ discovered by Prof. Orton in Equador, and is principally distinguished from it by the absence of the posterior limbs.

Char. Specific.—Scales in twenty-six longitudinal rows on the posterior, and twenty rows on the anterior part (with closed lateral folds) of the body, and fifty-one transverse annuli between the nape and the vent. Anteriorly they are imbricate on the dorsal surface; posteriorly they are truncate. The abdominal and thoracic scales are subequal, those of the seventh row from the gular groove excepted, which embrace two between the fore limbs, and are not longer but wider than the others, but not so wide as long.

There are five upper labial plates, of which the third and fourth are of subequal length, and bound the orbit below; the second is the least. A large rhombic temporal separates the fourth and fifth from the parietals, behind which are two others. There are four narrow inferior labials and three infralabials, of which the two anterior are in contact on the middle line, with those of the opposite side. They are preceded by a large genial and small symphyseal. The last infralabials are separated from each other by four narrower scuta and from the temporal on each side by two scales. Two pores on each side of the vent, and three elongated scuta in front of it. Tail subquadrate in section (perhaps contracted).

¹ Cope, Proceedings Academy, Philadelphia, 1868, p. 100.

	M
Length of head and body . . . . .	.064
“ of head . . . . .	.006
Width of head . . . . .	.004
Length of tail (extremity lost) . . . . .	.058
“ of fore limb . . . . .	.0027

Color, a dark reddish-brown; a dorsolateral series of pale spots one each side, separated by an average width of eight scales.

From Nauta on the Peruvian Amazon; obtained by Professor Orton. Various peculiarities distinguish this little saurian from the *Ophiognomon trisanale*, among which are the more numerous scales, and mutual contact of the second pair of infralabials.

Gerrhosteus prosopis, gen. et sp. nov.

Dentition opisthoglyph; cranial scuta normal except that the prefrontals are united into a continuous shield. A loreal and a preocular; pupil vertical. Anal scutum undivided; subcaudals two rowed. Scales poreless, smooth, subequal. The neural spines of the vertebræ each supporting a shield-like expansion, giving a T-shaped cross section, which is divided by a median groove.

This genus is the first of the *Ophidia* known to possess the osseous expansions common to some genera of Batrachia, etc., of the western tropical part of the Neotropical region, and the miocene salamanders of the genus *Chelotriton*, Pom. The great development of the neural spine is not unlike that seen in frogs of the genus *Dendrobates*, which are characteristic of this region. The series of closely consecutive bony parallelograms, forms an elevated rib throughout the length of the animal, which is clearly visible through the skin, which is not involved in it, though thin and closely adherent. The structure would appear to be an additional protection to the spinal cord from blows or falling objects.

Char. Specif.—General appearance that of a Lycodont, while the dental and scutal characters ally it most to *Oyrrhopus*. Head an elongate oval, very distinct from the narrow neck; body moderately stout; tail short, terminating in a corneous spine. Rostal plate small, not prominent, internasals small. Frontal broad as long, straight in front with two subequal lateral facets for the preocular and the short superciliary. Parietals elongate. Nasal apparently single, large, descending nearly to the edge of the lips. Dorsal small, not longer than high. Preocular large,

postoculars two, small. Eye small. Temporals 1-2 narrow. Superior labials seven; eye over the third and fourth, fifth and sixth the longest; geneials rather short, subequal. Scales in seventeen longitudinal series, rather wide; the first not materially larger. Gastrosteges 137; anal 1; urosteges 32. Total length, m. .305 (12.5 inches); of head .011; of tail .046.

Color light brown, with black triangular spots on each side of the middle line, the apices directed downward and extending half way to the gastrosteges. The intervals between the apices are about four scales in length, and are centrally darker than immediately round the black spots. The spots are sometimes connected by a black vitta on the median line, giving, when they alternate, the appearance of zigzag band. Top of head dark brown; lower surfaces and lips pale and unspotted.

The neural osseous plate is deeply longitudinally fissured, each half having a tubercularly rugose superior face. The anterior border is notched, while the posterior is a little produced on each side of the groove. Length of plate, m. .0018; width of plate, .0013.

From Nauta on the Peruvian Amazon; two specimens obtained by Professor James Orton during his last survey of that region.