

NOTES ON THE HERPETOLOGICAL COLLECTIONS  
MADE BY DR. W. L. ABBOTT ON THE  
ISLAND OF HAITI

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For the past thirty-five years Dr. W. L. Abbott has enriched the collections in the United States National Museum by frequent contributions of the results of his collecting expeditions in various parts of the world. Since 1916 he has turned his attention particularly to the island of Haiti, from which he has sent much valuable material, including many new or rare species of animals and plants.

During the summer and autumn of 1916 Doctor Abbott collected natural history specimens on the Samana Peninsula in northeastern Santo Domingo. This trip proved so beneficial to the needs of the National Museum that Doctor Abbott has returned to the island each year. His second trip was made during the first six months of 1917 when he secured many specimens from Tortuga Island and from the northern and northwestern parts of the Republic of Haiti. In November of the same year he made a third trip, this time covering southwestern Haiti and Cayemites Island. From February to October, 1919, he visited the Samana Peninsula once more, and worked to the southwest toward Duvergé. In the spring and early summer of 1920, Doctor Abbott visited Gonaives Island and some small villages in the vicinity of Furey, Haiti. The three expeditions taken since that time have all been to the Samana Peninsula, from which district very rich collections have been secured where formerly few specimens had been obtained.

**ELEUTHERODACTYLUS WEINLANDI** Barbour

One specimen (U.S.N.M., No. 65709) collected at Las Cañitas on February 27, 1923; one (No. 65054) at Laguna in May, 1923, and three (Nos. 65706-65708) at Samana and Laguna in March, 1923. Our specimens agree in color-pattern with the figure published by Schmidt,<sup>1</sup> but the disks on the toes of our specimens are somewhat larger than those of the figured specimen.

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<sup>1</sup> Bull. Amer. Mus. Nat. Hist., 1921, vol. 44, art. 2, p. 8.

**ELEUTHERODACTYLUS FLAVESCENS** Noble

Nine specimens (U.S.N.M., Nos. 65697-65705) collected at Samana and Laguna in March, 1923. Of these, seven are young, but the skin is fully as warty as in the adult.

**ELEUTHERODACTYLUS ABBOTTI** Cochran

The type (U.S.N.M., No. 65055) and two paratypes (Nos. 65056 and 65057) collected at Laguna, Samana Peninsula, in May, 1922. Twenty-five more specimens were secured at Samana and Laguna in March, 1923. Out of the twenty-five, eleven resemble the type in having a very definite white line beginning at the snout, bifurcating above the vent and continuing on the posterior femur, on the distal half of the tibia and to the sole of the foot. The remaining fourteen specimens lack the white line, although there is the same distinct mid-dorsal ridge in the skin from snout to vent, which in the typical specimens appears without pigment. The largest specimen (No. 65683) measures 21 mm. from snout to vent.

**ELEUTHERODACTYLUS MONTANUS** Schmidt

Eleven specimens (U.S.N.M., Nos. 60627-60635, 60650-60651) collected in Moron during December, 1917.

**ELEUTHERODACTYLUS SCHMIDTI** Noble.

One specimen (U.S.N.M., No. 60626) collected in Moron on December 23, 1919.

**ELEUTHERODACTYLUS INOPTATUS** (Barbour)

Seven specimens (U.S.N.M., Nos. 65022-65027, 65089) from Laguna taken in May, 1922; one (No. 65721) from Samana and Laguna taken in March, 1923; three (Nos. 65722-4) from Las Cañitas taken February 27, 1923; two (Nos. 55085-55086) taken in 1916, no definite locality other than Santo Domingo.

**ELEUTHERODACTYLUS RUTHAE** Noble

Four specimens (U.S.N.M., Nos. 65710-65713) from Jovero taken February 4 and 5, 1923; seven (Nos. 65714-65720) taken at Samana and Laguna in March, 1923.

**LEPTODACTYLUS DOMINICENSIS** Cochran

The type (U.S.N.M., No. 65670) was taken at Las Cañitas on February 25, 1923. This is probably the most important of the herpetological discoveries made by Doctor Abbott. Two more specimens (Nos. 66675-6) received after the foregoing list was made, show a very definite color pattern on the dorsal surface. These two frogs were collected four miles west of Jovero on December 4, 1923, from a muddy gully in the forest.

**HYLA VASTA** Cope

One adult male (U.S.N.M., No. 65090) taken at Lo Bracito on April 15, 1922, at an altitude of 1,000 feet; eight adult males (Nos. 65752-65759) taken at Liali on February 9 and 10, 1923; one (No. 55301) taken at El Rio on October 8, 1916.

**HYLA DOMINICENSIS** (Tschudi)

Two specimens (U.S.N.M., Nos. 60637-60638) collected at Jeremie on December 10, 1917; one (No. 60639) at "La Grotte," Jeremie, on December 9, 1917; ten (Nos. 60640-60649) from Moron taken in December, 1917; one (No. 65091) from Lo Bracito collected on April 12, 1922; twenty-seven (Nos. 65028-65039, 65040-65053, 65120) from Laguna taken in May, 1922; one (No. 65725) from Las Cañitas on February 25, 1923; two (Nos. 65726 and 65727) from Liali captured February 9 and 12, 1923; two (Nos. 65728 and 65729) from Samana and Laguna taken in March, 1923; one (No. 64909) from Petit Trou taken February 16, 1922; one (No. 60636) from Jeremie on December 2, 1917; one (No. 61930) from Laguna near Samana on March 10, 1919; six (Nos. 55087-55092) taken in 1916, with no definite locality other than Santo Domingo.

**HYLA PULCHRILINEATA** Cope

Thirty-one specimens (U.S.N.M., Nos. 65658-65688) from Laguna taken May 11 to May 15, 1922; twenty-two (Nos. 65730-65751) from Laguna and Samana taken in March, 1923.

**HEMIDACTYLUS MABOUIA** (Moreau de Jonnés)

One specimen (U.S.N.M., No. 65782) from Samana and Laguna, Samana Peninsula, collected in March, 1923; one specimen (No. 65783) from Jovero, collected February 6, 1923.

**ARTISTELLIGER LAR** Cope

One specimen (U.S.N.M., No. 62362) from Sanchez, taken on August 23, 1919.

**SPHAERODACTYLUS DIFFICILIS** Barbour

One specimen (U.S.N.M., No. 65781) from Samana and Laguna collected in March, 1923. Doctor Barbour has compared this specimen with the type in the Museum of Comparative Zoology. He writes that this specimen (33 mm. from snout to vent) is larger than any of his specimens, but with no differences from the type not due to size and age.

**SPHAERODACTYLUS TORREI** Barbour

One specimen (U.S.N.M., No. 60617) from Haiti, taken in the winter of 1917-18. This lizard has also been examined by Doctor Barbour. He says that it is just like a specimen in the Museum of Comparative Zoology (No. 13481) from Thomazeau, Haiti.

**ANOLIS RICORDII** Duméril and Bibron

Four specimens (U.S.N.M., Nos. 55048-55051) from Santo Domingo collected in 1916; one specimen (No. 55302) from El Rio taken October 8, 1916; two more (Nos. 62104-62105) from the same place taken May 13 and 19, 1919; one specimen (No. 61928) from Cayo Hondo, Samana Bay, collected in February, 1919; one specimen (No. 61929) taken in 1919 at Laguna near Samana.

**ANOLIS DISTICHUS** Cope

Ten specimens (U.S.N.M., Nos. 55058-55067) from Rojo Cabo near Cape Samana, collected August 28-31, 1916; one specimen (No. 60625) from Jeremie taken December 10, 1917; one specimen (No. 65769) from Jovero collected on February 16, 1923.

**ANOLIS CYBOTES** Cope

Three specimens (U.S.N.M., Nos. 65763-5) from Jovero collected on February 19, 1923; two specimens (Nos. 65766-65767) from Liali taken February 10 and 15, 1923; three specimens (Nos. 55303-55305) from Jarabacoa collected October 16, 1916; seventeen specimens (Nos. 55068-55084) from Rojo Cabo taken August 28-31, 1916; one specimen (No. 60624) from Moron taken December 20, 1917; one specimen (No. 65768) from Santo Domingo taken in 1923. None of these specimens have any indications of keels on the ventral scales.

**ANOLIS CHLOROCYANUS** Duméril and Bibron

Two specimens (U.S.N.M., Nos. 65761-65762) from Jovero collected on February 19, 1923; one specimen (No. 65762) from Liali taken February 10, 1923.

**ANOLIS OLSSONI** Schmidt

One specimen (U.S.N.M., No. 62103) from the hills 5 miles south of Constanza, collected on April 29, 1919, is referred to this species. Its total length is 160 mm.; the tail 121; the tip of snout to the ear 10.5; the body 28.5. A paratype (Amer. Mus. Nat. Hist., No. 15300), which is now before me, differs from the figure of the type specimen<sup>2</sup> in the following points: The paratype has a row of scales separating the supraorbital semicircles from each other, while in the type these semicircles are in contact. In the paratype, the enlarged supraoculars are quite smooth, and the scales between the supraoculars and the anterior supraciliaries are relatively large; in the figure of the type, the supraoculars are shown to be keeled, and the scales between them and the anterior supraciliaries are relatively small, almost granular. The scales between the occipital and the posterior por-

<sup>2</sup>Notes on the Herpetology of San Domingo, Schmidt, Bull. Amer. Mus. Nat. Hist., 1921, vol. 44, art. 2, p. 11.

tion of the supraorbital semicircles are small in the figure, but relatively larger in the paratype. In comparing our specimen from Constanza (No. 62103) with the paratype, I find the following discrepancies: The temporal region in the paratype is covered with very fine granules; in No. 62103 these granules are much coarser, although this is the smaller specimen (the paratype measures 42 mm., and No. 62103, 39 mm.). The supraorbital semicircles are separated rather widely in the paratype, but in contact anteriorly in No. 62103. The supraoculars in No. 62103 have low keels, and the scales lying in front of them are very small, in these respects agreeing with the figure of the type but disagreeing with the paratype. The outline of the snout when viewed from above is nearly the same in the figured type and in No. 62103. The snout of the paratype, however, seems much longer in proportion to the width of the head, and this observation holds also in comparing the profiles of No. 62103 and the paratype. In nearly all aspects No. 62103 seems to resemble the figure of the type far more closely than it resembles the paratype. If the paratype be a true *olssoni*, then the species is certainly extremely variable. I am convinced, however, that the paratype is not a true *Anolis olssoni*, a conviction which is also shared by Doctor Ruthven, who has examined the specimens now under discussion.

#### CYCLURA RICORDII (Duméril and Bibron)

In 1789 Abbé Bonnaterre described an iguana with a remarkable frontal horn, calling it *Lacerta cornuta*.<sup>3</sup> The specimen upon which the description was based was taken in 1784 "dans les mornes de l'hôpital, entre l'Artibonite et les Gonaives," Santo Domingo (now the Republic of Haiti). This same specimen was described in more detail by Duméril and Bibron<sup>4</sup> under the name of *Metopoceros cornutus*, and since their time the species has come to be fairly well known to science. Doctor Abbott has sent to the National Museum a good series of these lizards, which will be discussed in detail a little later in this paper.

Another large iguanid lizard collected in Santo Domingo by M. Alexandre Ricord and sent by him to the Museum of Natural History in Paris was described by Duméril and Bibron in the same work<sup>5</sup> as the monotype of a new genus, *Aloponotus ricordii*. This species also was based upon a single skin, which until 1919 remained unique. In that year Doctor Abbott sent home a skin of a rock iguana which agrees in most respects with Duméril and Bibron's description of *Aloponotus ricordii*. Doctor Stejneger exhibited this skin at a meeting of the Society of Ichthyologists and Herpetologists

<sup>3</sup> Tabl. Enc. Méth. Erp., p. 40, pl. 4, fig. 4.

<sup>4</sup> Erp. Gén., vol. 4, 1837, p. 211.

<sup>5</sup> Idem, p. 190.

on May 14, 1920. It is due to Doctor Abbott's rediscovery that the old name of *Aloponotus ricordii* may now be taken out of the synonymy of *Cychura cornuta*, where it was placed provisionally by Boulenger.<sup>6</sup>

As the specimen upon which the original description was based was in very poor condition, it will not be amiss to furnish a complete description of the one in our collection.

*Description.*—Adult, male, U.S.N.M., No. 62557, Duvergé, Santo Domingo; October 3, 1919; W. L. Abbott, collector. Rostral wide, as wide as mental, broadly in contact with nasals; nasal large, irregularly rectangular, slightly higher than wide, perforated by a round nostril equal in diameter to one-half the height of the rostral; post-nasal large, two-thirds size of nasal and broadly in contact with it; nasals in contact with each other in middle line of snout behind rostral for about half their width, when they are separated by a single, flat, triangular shield; no conical, horn-like scales on snout; the top of the head covered by irregularly polygonal shields, rather larger and wrinkled on snout, more tubercular on frontal region, and similar but smaller in interorbital space; interorbital scales in 5 rows; supraocular semicircles evident, though the component keeled scales hardly exceed the similar scales which form the supraorbital disk; occipital region only slightly elevated above supraorbital region; semicircles separated by about 4 rows of smaller tubercular scales; occipital scale two-thirds height of rostral, located between posterior borders of semicircles from which it is separated by 2 rows of scales; a series of moderately keeled suboculars continued backwards as a supratympanic series to above the ear; shields very small and tubercular above and below the posterior half of this series; 7 or 8 supralabials to a point beneath the center of the eye; a series of small scales separating the suboculars and supralabials; tympanum elliptical, erect, large; 7 or 8 lower labials to center of eye; a series of enlarged malar scales, the posterior ones moderately keeled and separated from the lower labials by one or two rows of flat scales as large as the anterior malars; dorsal and ventral scales rhomboidal, obliquely keeled, the keels pointing toward the median line; dorsal scales very small, about 110 scales measured posteriorly from the axillary contained in the distance from end of snout to anterior edge of tympanum; ventral scales slightly larger than dorsals and more distinctly keeled; from the occiput along the median line of the neck and back a series of enlarged, strongly keeled scales forming a high serrated crest which is much reduced on the shoulders and on the rump but is continuous with the caudal crest; scales of nuchal crest

<sup>6</sup> Cat. Liz. Brit. Mus., vol. 2, 1885, p. 1881.

narrower and appreciably longer than those of dorsal crest; height of the crest-scales on the middle of the back  $1\frac{1}{4}$  times the height of the rostral, 6 to the distance from end of snout to anterior edge of tympanum; about 35 scales in the dorsal crest between shoulder and rump; throat covered with scales similar to the ventrals but smaller; sides of neck with numerous folds; a large transverse fold underneath neck and a longitudinal one on each side of the body; upper surface of front limbs and femur of hind limbs with slightly imbricated, keeled scales, much larger than the dorsals; on the lower arm about 50 to the distance from the end of snout to anterior edge of tympanum; on the front of the tibia from the knee half way to the foot the scales greatly increasing in size, each bearing a long, sharp spine pointed backwards, partly surrounded by small, irregularly placed shields bearing a small spine; scales abruptly diminishing in size on the back of the leg; a single series of 18 femoral pores; inner side of second toe with one comb, of third toe with two combs, the proximal one being much the larger; a tendency to form 3 combs on the fourth toe; nails long and sharp; tail covered with large obliquely keeled scales in vertical rows forming prominent verticils which on the half of the tail nearest the body become spiny and very much enlarged between the fifth and tenth scales, counting transversely from the caudal crest; about 3 rows of scales between verticils at their greatest enlargement and 5 near the caudal crest and beneath the tail where the verticils are less prominent; verticils becoming less well-marked toward extremity of tail.

*Dimensions*

	<i>Mm.</i>
Total length.....	756
Tip of snout to vent.....	326
Vent to tip of tail.....	430
Tip of snout to ear.....	70
Width of head.....	50
Fore limb.....	136
Hind limb.....	186
Vertical diameter of tympanum.....	12

Coloration: Head and nuchal region light; throat black; fore-limbs black above, lighter underneath; a light patch on shoulder bordered behind with dark extending to base of nuchal crest; on the back a pattern of about 9 light bands bordered with dark arising from the dorsal crest; five of these extending obliquely downward on sides; pattern indistinct on sides becoming marked beneath in 5 or 6 dark transverse streaks alternating with broader bands of light; sides, back and anterior surface of femur spotted with black; hind legs and tail light.

Doctor Stejneger has given me permission to use his notes on the differences between our specimen and the description of the type. He says:

The principal characters relied upon for the diagnosis of *Aloponotus ricordii* were (1) the alleged lack of scales on the upper part of the body; (2) a small dewlap on the foreneck; (3) a long double row of femoral pores; (4) a verticillated tail with spines at certain intervals; (5) small, equal, polygone plates on top of the head.

The alleged absence of scales on the back is emphasized by the authors' saying, "The saurian, for which we establish this genus, is the only one we know of which has almost the entire upper surfaces of the body devoid of scales \* \* \*. The skin of these regions resembles that of some sharks \* \* \*. Examined under the lens the surface seems covered with very small granules extremely 'serrés les uns contre les autres.'" Unfortunately the figure given by the authors on Plate 38 flatly contradicts this description showing, as it does, the entire back and sides covered with rather large, nearly uniform, rhomboidal scales. In addition this same figure shows a verticillate tail with a homogeneous scutellation and without the spiny rings as described in the text. This discrepancy between the description and the illustration has contributed largely to the discredit and oblivion into which this species has fallen.

With regard to the alleged unique lack of scales on the back, Cope has shown<sup>7</sup> that in certain specimens of *Metopoceros* in the island of Navassa, the dorsal scales or granules vary in size from being minutely granular in some places to forming distinct scales everywhere. Duméril and Bibron's own description, moreover, shows that by the expression "skin entirely devoid of scales" they did not mean that the skin was naked, only that the "scales" were reduced to very small granules. Our specimen has a single row of femoral pores, while the lepidosis on the back is that of very small scales without keels, rather than granules. The latter character, as we have seen in another form of the same genus, seems to be a variable one, and as for the femoral pores, we know that the additional series is of no systematic importance, one or two rows being found in several species.

Dr. G. K. Noble, of the American Museum of Natural History, succeeded in capturing alive a number of these lizards, which he brought back to New York in 1922. Some observations on the habits and coloration of the living animals would be very interesting.

#### CYCLURA CORNUTA (Bonnaterre)

One adult male (U.S.N.M., No. 65139 from Trujin taken February 19, 1922, measured 1,410 mm. in length, the head and body being 640 mm. Another male (No. 60599) from Cayemite Island, captured January 13, 1918, measured 1,035 mm., the tail being 530 mm. long. From the same island, taken the same day, another male (No. 60600) was 1,030 mm. in length, the tail being 490 mm., according to notes made by Doctor Abbott. A female (No. 60601) was taken at the same place on January 11, 1918. Three specimens (Nos. 62558-

<sup>7</sup> Proc. Amer. Philos. Soc., vol. 23, 1886, p. 263.



62560) were taken at Duvergé on October 2, 1919, the first two females, the last a male measuring 1,055 mm. in length. A specimen (No. 63112) was secured off Petit Gonaive Island on July 10, 1920. A very young specimen from Tortuga captured February 1, 1917, measures only 112 mm. from snout to vent.

I have noticed very great variation in the arrangement of the scales on the snout, and I do not think that specific characters can be found there. The conditions in each specimen are given briefly as follows:

No. 59455.—Nasals and rostral narrowly in contact on the right side, separated by small scales on the left side; frontal and prefrontals separated by two rows of small scales.

No. 60599.—Nasals and rostral separated by medium-sized scales; frontal and prefrontals separated on the right side by numerous small granules, on the left side by two rows of small scales.

No. 60600.—Nasals and rostral separated by a row of medium-sized scales; frontal and prefrontals in close contact.

No. 60601.—Nasals and rostral separated by one row of medium-sized scales; frontal and prefrontals in contact on the right side, separated by a narrow strap-like scale on the left side.

No. 62588.—Nasals and rostral in contact rather broadly on both sides; frontal and prefrontals separated by one row of very narrow scales.

No. 62559.—Nasals and rostral separated by a row of rectangular medium-sized scales; frontal and prefrontal separated by a row of moderate-sized polygonal scales and an additional row of very narrow strap-like scales which encircle the base of the frontal horn.

No. 62560.—Nasals and rostral in contact, rather broadly so on the left side, narrowly on the right side; frontal and prefrontals in close contact.

No. 63112.—Nasals and rostral separated on the right side by medium-sized scales, on the left side by a very narrow scale; frontal and prefrontals widely separated by two rows of polygonal scales.

No. 65139.—Nasals and rostral narrowly in contact on the right side, separated by a row of very small scales on the left side; frontal and prefrontals separated by a row of very narrow scales.

#### LEIOCEPHALUS MELANOCHLORUS Cope

One specimen (U.S.N.M., No. 60621) from Jeremie, Haiti, collected November 22, 1917.

#### LEIOCEPHALUS SCHREIBERSII (Gravenhorst)

Thirteen specimens (U.S.N.M., Nos. 59442–59454) from Tortuga Island collected on January 30, 1917. These specimens agree well with Haitian examples in our collection.

**LEIOCEPHALUS PERSONATUS** Cope

Nine specimens (U.S.N.M., Nos. 65770-65773, 65775-65779) collected during February, 1923 at Jovero.

**CELESTUS SEPSOIDES** (Gray)

Three specimens (U.S.N.M., Nos. 65784-65786) from Samana and Laguna collected in March, 1923. These very rare skinks are a welcome addition to the collection in the National Museum.

**CELESTUS COSTATUS** (Cope)

One specimen (U.S.N.M., No. 60622), from 8 miles southwest of Jeremie, collected on December 9, 1917; one (No. 60623) from Moron taken December 20, 1917; two (Nos. 61931-61932) from Laguna, near Samana, taken March 10 and March 7, 1917; three (Nos. 62361, 62363-62364) from Sanchez captured August 11 and 12, 1919; one (No. 65780) from Las Cañitas taken February 23, 1923; two (Nos. 55056-55057) from Santo Domingo taken in 1916; one (No. 59435) from Rivier Bar, north Haiti, collected February 21, 1917. This last specimen is badly mutilated about the head, so that the relation in the size of the interparietal and parietals can scarcely be distinguished. It seems, however, that the interparietal is smaller than the parietals, and this would exclude it from Cope's *C. rugosus*, the type of which is here in the National Museum. The Rivier Bar specimen has very heavily keeled scales, but as the lizard is a very large one, the largest in our collection, the keels are probably due to its size and age.

**AMEIVA TAENIURA** Cope

Four specimens (U.S.N.M., Nos. 55052-5) from Santo Domingo collected in 1916; one (No. 65018) from Laguna, Samana Peninsula, taken in May, 1922.

**AMEIVA CHRYSOLAEMA** Cope

One specimen (U.S.N.M., No. 59925) from Moustique Bay collected May 3, 1917; one (No. 60618) from Lake Assuei taken March 10, 1918; one (No. 60619) from Trou Caiman taken March 11, 1918; one (No. 59434) from Tortuga Island captured January 31, 1917. The specimen from Tortuga is slightly different from the Haitian examples, as it has only three supraoculars instead of four. Between the frontoparietals and the third supraocular of the Tortuga specimen there are small scales distinctly larger than the granules which are found in the other specimens. Without additional material to prove that these differences are constant, I do not think it advisable to describe a new species from Tortuga Island.

## AMPHISBAENA INNOCENS Weinland

One specimen (U.S.N.M., No. 60620) from Moron taken on December 25, 1917, has 2 scales behind the postmental, 211 rings around the body, and 15 rings around the tail.

## TYPHLOPS PUSILLUS Barbour

A single specimen (U.S.N.M., No. 64271) taken from the stomach of a snake (*Leimadophis parvifrons*, U.S.N.M., No. 64270) collected in the Mao-Yaqui Valley in 1921. In spite of having been swallowed by the larger snake, the worm-snake is in good condition, and it is easy to see that the cephalic squamation agrees with Barbour's figure of the type of the species.<sup>8</sup> There are 20 scales around the body, about 380 scales on the midventral line from the chin to the vent, and about 16 under the tail, which terminates in a spine.

## TYPHLOPS LUMBRICALIS (Linnaeus)

One specimen (U.S.N.M., No. 55298) was taken at Sanchez, Santo Domingo, in October, 1916.

## EPICRATES STRIATUS (Fischer)

One specimen (U.S.N.M., No. 59436) from Bombardopolis, captured on March 28, 1917, at an altitude of 1,500 feet; one (No. 59437) from Tortuga Island taken February 1, 1917; two (Nos. 59918-59919) from Port au Prince, Haiti, taken April 16 and 17, 1917, the former a female which contained 11 eggs, the latter a male; one (No. 60603) from Moline taken January 28, 1918, at an altitude of 2,000 feet; one (No. 60604) from Les Basses on January 9, 1918; two (Nos. 55044-55045) with no precise locality other than Santo Domingo, collected in 1916. The ring of scales around the eye is incomplete in all the specimens except one (No. 60604) in which there is a small subocular scale completing the circle on the right side only, the left having a supralabial reaching the eye. In none of these specimens do three labials enter the eye, as is the case in the Cuban *E. angulifer*; the majority of the Santo Domingan snakes have two labials reaching the eye, and in a slightly lesser number only one labial reaching the eye. When the loreal itself is divided (as in Nos. 59436, 59437, and 59919) there are two scales intercalated above the upper labials; when the loreal is whole, there is but a single intercalated scale (in two instances none at all on one side of the head) between the loreal and the upper labials.

The specimen from Tortuga Island does not seem to differ specifically from the Haitian form. There are 55 scales around the body, 286 ventrals, a divided anal and 63 caudals (tail defective). There

<sup>8</sup> Mem. Mus. Comp. Zool., vol. 44, No. 2, p. 323.

are 17 supralabials on each side of the mouth, but as two from Haiti (Nos. 59436 and 60603) have 16, this discrepancy with Boulenger's description seems very slight.

*EPICRATES GRACILIS* (Fischer)

One specimen (U.S.N.M., No. 55026) was captured at Rojo Cabo, Samana Peninsula, Santo Domingo, on August 29, 1916. This specimen, the only representative of this rare species in the collection of the National Museum, has 39 scale rows around the body, 274 ventrals, 60 caudals (the tail is defective), 12 upper labials on the right side and 13 on the left. The coloration (in alcohol) is as follows: The head purplish-brown, becoming lighter on the upper labials and on the neck; a few indistinct darker markings on the occiput and temporal region; the body brown, with a series of roundish black spots about five scales long on each side of the mid-dorsal line; these spots separated from each other by brown interspaces about three scales in length; saddle-like blotches across the back often formed by confluent spots of the two series; two lateral series of smaller black spots on each side; the larger series very irregular in shape, occupying the four or five outer scale rows; the inner and smaller series usually on the sixth, seventh, and eighth rows and sometimes anastomosing with the outer series; the throat pale yellow; the ventral surface light anteriorly, becoming posteriorly more and more suffused with gray mottlings until only the edge of each ventral and caudal scale remains light; a few dark spots scattered irregularly near the ends of the ventrals and on the caudals. The snake is not large in size, being 700 mm. in length from the snout to the end of the tail, which is incomplete.

*TROPIDOPHIS CONJUNCTUS* Fischer

One specimen (U.S.N.M., No. 55046) taken near Cape Samana on August 30, 1916. This snake has 27 scales around the body, 186 ventrals, an undivided anal, and 35 caudals. It differs from the figure of the type specimen<sup>9</sup> in having two pairs of praefrontals, the second pair the smaller, instead of only one pair. In the type specimen, fusion has probably taken place, and the occurrence of two pairs of praefrontals is apparently the normal condition. In No. 55046 the frontal is relatively shorter than in the figured specimen, but the difference is not great enough to warrant specific distinction.

*TROPIDOPHIS MACULATA HAETIANA* Cope

One young specimen (U.S.N.M., No. 64910) was taken at Paradis, near Barahona, in 1922. This snake has 27 scale-rows around the body. There is a very tiny scale between the parietal shields.

<sup>9</sup> Jahrb. Hamb. Wiss. Anst., vol. 5, 1888, p. 31, pl. 3, fig. 5.

**UROMACER CATESBYI (Schlegel)**

One specimen (U.S.N.M., No. 55299) taken at Sanchez, Santo Domingo, on October 26, 1916; one (No. 63115) from Gonaives Island on March 16, 1920; one (No. 63116) at Etang Saumatre on May 6, 1920; two (Nos. 63598-63599) taken at Laguna on December 20, 1920; two (Nos. 65019-65020) taken at the same place in May, 1922; three (Nos. 61925-61927) taken near Samana in March, 1919; six (Nos. 55033-55038) with no other definite locality than Santo Domingo taken in 1916. The specimen from Gonaives Island has 17 scale-rows around the body, 172 ventrals, a divided anal, and 72 caudals (part of the tail missing). As in *U. catesbyi* from Haiti, the snout is twice as long as the eye, and the rostral shield is twice as broad as deep.

**UROMACER SCANDAX Dunn**

The type, an adult female (U.S.N.M., No. 59438), was taken January 31, 1917, on Tortuga Island.

**UROMACER OXYRHYNCHUS Duméril and Bibron**

Five specimens (U.S.N.M., Nos. 55039-55043) from Santo Domingo taken in 1916; two (Nos. 59923-59924) from Tortuga Island captured on May 22 and 23, 1917; five (Nos. 59456-59460) from the same place collected in February, 1917; two (Nos. 59462-59463) from the same place on January 30 and February 3, 1917; one (No. 55300) from Jarabacoa caught October 16, 1916; one (No. 65790) from Samana on March 4, 1923; two (Nos. 63596-63597) from Laguna on December 21, 1921; one (No. 65021) from the same place in May, 1922; one (No. 59461) from Port de Paix on February 27, 1917; one young specimen (No. 65791) taken at Samana and Laguna in March, 1923.

**UROMACER FRENATUS (Günther)**

One specimen (U.S.N.M., No. 59928) from Tortuga Island taken on April 6, 1917; four (Nos. 60611-60614) from Jeremie, caught in December, 1917, and in January, 1918.

**ALSOPHIS ANOMALUS (Peters)**

One adult female (U.S.N.M., No. 59917), taken at Jean Ravel on May 8, 1917, contained 22 eggs. This snake has 21 scale-rows, 215 ventrals, and a divided anal. The tail is incomplete. The head and body together measure 1,770 mm. in length.

**RACES OF LEIMADOPHIS PARVIFRONS (COPE)**

Dr. E. R. Dunn has divided this species into three races.<sup>10</sup> He writes that the typical *parvifrons* comes from the western peninsula of Haiti and is characterized by the very low ventral count. To

<sup>10</sup> Proc. New England Zool. Club, vol. 7, January 20, 1920, pp. 37-39.

this subdivision the first three specimens on the list (Nos. 60607, 60609, and 60610) might be said to belong. The next race, *Leimadophis parvifrons protenus* (Jan) is "the best known of these forms. It was named by Jan, whose specimens came from Port au Prince. Boulenger's specimens also belong to this race, with the exception of one which is of the following form [i. e. *niger*]." The stomach of No. 64270 contained the specimen of *Typhlops pusillus* mentioned above. This young snake (No. 64280) is much less vivid in coloring than the other specimens; the dark lateral bands, while quite distinguishable, are more subdued in tone than on the larger specimens. The third race, *Leimadophis parvifrons niger* Dunn, is marked by its melanism. It is probable that the paratypes of Dunn's *L. niger*, labeled simply Santo Domingo, 1916, came from the Samana Peninsula, as Doctor Abbott did most of his collecting in that region in 1916. The two specimens from Laguna (Nos. 63600 and 63601) agree well with the paratypes of this subspecies. The specimen from Liali (No. 65788) has a very distinct light stripe on the fifth and sixth scale-rows. In No. 65787 from Jovero, the ventral scales are lighter than those of the paratypes. In this specimen the black middorsal line is very distinct, and the light stripe on the side is also apparent.

## List of specimens

Museum	No.	Sex	Locality	When collected	Ventrals	Caudals	Remarks	
U.S.N.M.	60607	-----	Moline, southwest Haiti	Jan. 31, 1918	148	-----	2,000 feet } <i>parvifrons</i> .	
	60609	-----	Moron, southwest Haiti	Dec. 22, 1917	146	118		
	60610	-----	do.	Dec. 23, 1917	146	117		
	59441	♀	Moustique, northwest Haiti	Mar. 4, 1917	159	112		2,000 feet
	55306	♀	Jarabacoa, Santo Domingo	Oct. 12, 1916	154	-----		1,800 feet
	55307	♀	do.	do.	157	121		-----
	55308	♀	El Rio, Santo Domingo	Oct. 6, 1916	156	-----		4,000 feet
	55309	♀	do.	do.	153	-----		4,000 feet
	55310	♀	do.	do.	152	-----		4,000 feet
	55311	♀	do.	Oct. 5, 1916	158	-----		4,000 feet
	55312	♂	do.	do.	161	111	4,000 feet	} <i>protenus</i> .
	55313	♀	Constanza (5 miles north)	Oct. 13, 1916	153	116	4,000 feet	
	55314	♂	do.	Oct. 2, 1916	158	-----	4,000 feet	
	55315	♀	do.	Sept. 29, 1916	159	114	4,000 feet	
	64270	-----	Mao-Yaqui Valley, Santo Domingo.	1921	163	117	-----	
	65789	-----	Las Cañitas, Santo Domingo.	Feb. 25, 1923	157	128	-----	
	55026	♂	Santo Domingo	1916	152	126	} Paratypes of <i>L. parvifrons niger</i> Dunn.	
	55027	♂	do.	do.	150	-----		
	55028	♂	do.	do.	155	-----		
	55029	♀	do.	do.	151	-----		
	55030	♀	do.	do.	147	125		
	55031	♂	do.	do.	151	132		
	55032	♀	do.	do.	155	-----		
65787	-----	Jovero, northwest Santo Domingo.	Feb. 18, 1923	150	126			
65788	-----	Liali, northwest Santo Domingo.	Feb. 12, 1923	151	125			
63600	-----	Laguna, northwest Santo Domingo.	Dec. 23, 1920	153	124	-----		
63601	-----	do.	Dec. 26, 1920	154	124	-----		

**LEIMADOPHIS ALLENI** Dunn

One specimen (U.S.N.M., No. 60608) from Govaives Island caught on February 25, 1918 has 19 scale-rows around the body, 161 ventrals, a divided anal, and 71 caudals, the tail being defective. On the anterior part of the body the color of scale-rows one and two and the outer half of scale-row three is uniformly light, with a very abrupt change to the black stripe which occupies the inner half of the third, all of the fourth, and nearly all of the fifth. It is not until the middle of the body is reached that the "shading" from the light to the dark tone becomes apparent.

**LEIMADOPHIS TORTUGANUS** Dunn

The type (U.S.N.M., No. 59440) a female from Tortuga Island taken February 4, 1917; a paratype (No. 59439) a female taken February 7, 1917; a female (No. 59921) taken June 2, 1917. The last-mentioned specimen has 19 scale-rows and 169 ventrals, as in the type; the caudals are 122 in number (the tip of the tail has been broken off). The light edges on the first two scale rows are not noticeable except upon close inspection.

**IALTRIS DORSALIS** Günther

One adult male (U.S.N.M., No. 59922) from Cape Haitien taken on April 26, 1917; two (Nos. 60605-60606) from Moron captured on December 23, 1917; one specimen (No. 55047) from Santo Domingo collected in 1916.

**PSEUDEMYS PALUSTRIS** (Gmelin)

One female specimen (U.S.N.M., No. 63096) from Fonds Parisien, Étang Saumatre, Haiti, collected May 4, 1920, and some eggs (No. 63097) from the same place collected on April 14, 1920.

