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NOTES ON A COLLECTION OF AMPHIBIANS AND
REPTILES FROM EASTERN NICARAGUA

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INTRODUCTION

THE present paper is based upon material which was collected by Mr. Morrow Allen along the Río Escondido and its tributaries in Nicaragua during July, August, and September of 1935, and which was purchased from Mr. Allen by the Museum of Zoology, University of Michigan.

Knowledge of the herpetology of Nicaragua is meager, despite the fact that much material is preserved in various museums. The numerous records of Nicaraguan species are nearly all buried in general works, e.g., *Biologia Centrali-Americana*, and the majority of the specimens are referred merely to "Nicaragua." The material with more exact data is largely from the mountainous regions in Chantalez and in the vicinity of Metagalpa. Aside from the more general works and the descriptions of species by Hallowell, Cope, and others, there has been but one paper dealing with the herpetology of a portion of Nicaragua as a unit.¹ It seems to us, therefore, to be advisable to present an account of the Allen collection as a

¹ G. K. Noble, "The Amphibians Collected by the American Museum Expedition to Nicaragua in 1916," *Bull. Am. Mus. Nat. Hist.*, 38, No. 10 (1918): 311-347, Pls. 14-19.

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sample of the herpetological fauna of the low, humid, east coast of Nicaragua, especially in the vicinity of Bluefields.

For aid in the preparation of this report we wish to thank Mr. Morrow Allen for many notes on the specimens collected. Mr. K. P. Schmidt, Field Museum of Natural History, identified the coral snakes. The map is an adaptation from a portion of a copy of a larger map secured by Mr. Allen from a United States Marine Corps survey of the Escondido drainage system.

SOURCE OF MATERIAL

The material at hand was collected about ninety river miles west of Bluefields, along the Río Escondido and two tributary streams, the Mico and the Siquia. Collections were made at five separate stations :

Rama (Río Escondido)	Recero (Río Mico)
Junction of Río Mico and Río Siquia	Río Mico, 10 miles above Recero
Río Siquia, 7 miles above Rama	

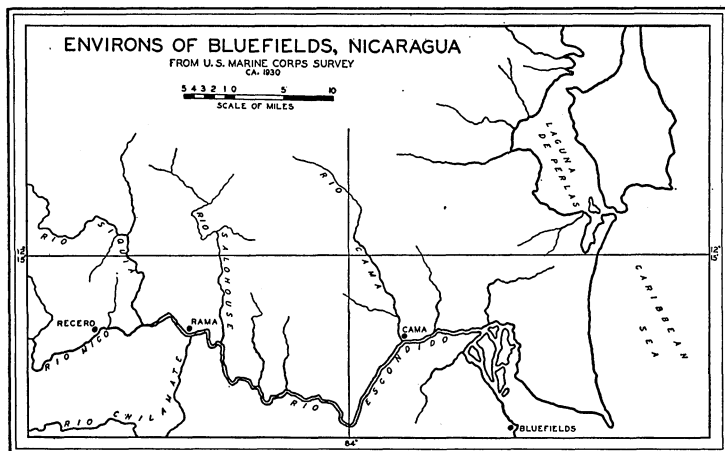
All the above localities lie on the coastal plain or low foothills of the wet east coast of Nicaragua. Allen sends us the following description of the area in which he collected :

The Río Escondido enters Bluefields lagoon a few miles north of the town. Here the land is low (except for a relatively small area occupied by Bluefields) and is a maze of lagoons, islands, and interlacing sloughs. In this region there is a heavy growth of vegetation and the area as a whole is flooded to a depth of several feet during the rainy season. Upstream the banks of the Escondido increase in height to ten or twenty feet at Rama. The river itself decreases in width from about a quarter of a mile at its mouth to from two to three hundred yards at Rama where it is formed by the junction of the Siquia flowing from the west and the Chilamate from the south. The vegetation also becomes less dense, and cleared areas along the banks support small native-owned banana plantations, but inland a few hundred yards from the river banks is found an untouched jungle of heavy growths of bamboo, large trees and interlacing vines, and dense ground bush.

Seven or eight miles above Rama the Río Siquia is joined by the Mico. North along the Siquia the land is low and swampy and devoid of trails. Moreover tributary streams, so common along the other river courses, are absent in this region. Westward along the Mico the first rapids are met at Recero, some five to eight river miles above the junction with the

Siquia. Beyond Recero the low coastal plain rises into the foothills. Rapids in the river are numerous and large rock outcrops are conspicuous. The vegetation of this region is notably different from that of the lower Escondido, bamboo being absent and the trees being of smaller size. Here the river banks slope abruptly and beyond them the land rises gradually to an elevation of several hundred feet, and farther inland attains the height of low mountains.

Within this area the rainfall is excessively heavy, being almost continuous and accompanied by a heavy fog in the early hours of the morning.



MAP

The days are hot and humid, while the nights are comparatively cool. During September the rains slacken and collecting in plantations along the river banks proves very successful, especially with reference to snakes.

Despite the fact that collecting was carried on at the height of the rainy season and that Allen suffered considerably from fever, the collection is remarkably well preserved. It may be summarized as follows:

<i>Group</i>	<i>Genera</i>	<i>Species</i>	<i>Specimens</i>
Salientia	5	16	152
Sauria	10	17	191
Serpentes	17	20	46
Loricata	2	2	2
Total	34	55	391

ANNOTATED LIST OF SPECIES

Bufo marinus (Linnaeus)

Río Mico, 10 miles above Recero, Nos. 79740, 79750; Río Mico, Recero, No. 79741(2); junction of Río Mico and Río Siquia, No. 79742; Río Siquia, 7 miles above Rama, Nos. 79743-44.

Bufo valliceps Wiegmann

Río Mico, 10 miles above Recero, No. 79745; Río Mico, Recero, No. 79746; junction of Río Mico and Río Siquia, No. 79747; Río Siquia, 7 miles above Rama, Nos. 79748, 79749(6).

Hyla baudinii Duméril and Bibron

Junction of Río Mico and Río Siquia, No. 79707(10); Río Siquia, 7 miles above Rama, Nos. 79708, 79709(5), 79710(2).

Gravid females were taken on August 2 and in September. The stomach contents examined consisted of lepidopteran and beetle fragments.

Hyla Boulengeri (Cope)

Río Mico, Recero, No. 79719.

This species, described from a Nicaraguan specimen, is apparently a widely ranging form. We have had for some time specimens from Panama (Chiriqui Province) and Venezuela (Bejuma, Aroa, and San Esteban). Among recent accessions from British Guiana, collected by A. S. Pinkus, are series of *Boulengeri*, including juveniles and adults. Our specimens from the Demerara River, earlier reported upon as *accuminata*,² prove also to be juvenile *Boulengeri*, an identification which has been confirmed by a recent examination of the types of *accuminata* and *Boulengeri*, through the courtesy of Dr. Doris Cochran.

Hyla phaeota Cope

Río Mico, 10 miles above Recero, Nos. 79711(6), 79712(4); junction of Río Mico and Río Siquia, No. 79713(10); Río Siquia, 7 miles above Rama, Nos. 79714(14), 79715(11), 79716(21), 79717, 79718(3).

² A. G. Ruthven, "The Amphibians of the University of Michigan-Walker Expedition to British Guiana," *Occ. Papers Mus. Zool. Univ. Mich.*, 69 (1919): 13.

A gravid female was collected in September.

Hyla rubra Daudin

Río Mico, Recero, No. 79721(9).

All of the series are males and correspond well with Panamanian and British Guianan specimens of this variable species.

Hyla underwoodi Boulenger

Río Mico, Recero, No. 79720(6).

Leptodactylus melanonotus (Hallowell)

Río Mico, 10 miles above Recero, No. 79734; Río Mico, Recero, No. 79735(4).

The four males from Recero, taken on July 19, have the spines on the thumb and the pigmented spicules on the back characteristic of the breeding season. The stomach of one specimen contained thirty-one intact powder-post beetles (Bostrichidae) and some unidentifiable insect fragments.

Leptodactylus pentadactylus (Laurenti)

Río Mico, 10 miles above Recero, Nos. 79751-52; junction of Río Mico and Río Siquia, No. 79733.

One half-grown specimen and two adults. The largest, a male, has a head and body length of 158 mm., and well-developed nuptial excrescences on thumb and chest.

Eleutherodactylus diastema (Cope)

Río Mico, 7 miles above Recero, No. 79726.

Eleutherodactylus noblei Barbour and Dunn

Río Mico, 10 miles above Recero, No. 79732.

Eleutherodactylus rugulosus (Cope)

Río Mico, 10 miles above Recero, Nos. 79727(2), 79728(2), 79731(2); Río Siquia, 7 miles above Rama, Nos. 79729-30.

Ranges in size from 12 to 69 mm.; the specimen of the latter size is an adult female.

These specimens appear identical with the United States National Museum series allocated to *rugulosus*. Both *rugulosus* and *ranoides* were described from juvenile specimens, and the differences between the species noted by Cope³ (i.e., the more elongate muzzle, smaller ear and smooth belly of *ranoides*) may not prove of diagnostic value for adult specimens. Certainly there is considerable variation in these characters in the series at hand from Nicaragua.

From *fleishmanni*, which they strongly resemble, our Nicaraguan specimens differ in having a much shorter leg, longer first finger, and smaller finger disks.

Eleutherodactylus talamancae Dunn

Río Mico, 10 miles above Recero, No. 80358.

Rana palmipes Spix

Río Mico, Recero, No. 79738; junction of Río Mico and Río Siquia, No. 79736; Río Siquia, 7 miles above Rama, Nos. 79737, 79739 (2).

Rana pipiens Schreber

Río Siquia, 10 miles above Rama, 79725.

Rana warschewitschii (Schmidt)

Río Mico, 10 miles above Recero, Nos. 79722, 79723 (4); Río Siquia, 7 miles above Rama, No. 79724.

A gravid female was taken on July 12.

Rana warschewitschii was described⁴ from a juvenile specimen, length 27 mm., collected on the slopes of the Volcán de Chiriqui, northern Panama, at an elevation of 6000 to 7000 feet. *Rana zeteki*, from Barro Colorado, later recognized as a subspecies of *warschewitschii*, was differentiated by Barbour⁵ from that species by the blacker venter, darker anterior aspect of the thighs, inconspicuously barred tibia, black instead of

³ E. D. Cope, "Second Addition to the Knowledge of the Batrachia and Reptilia of Costa Rica," *Proc. Amer. Phil. Soc.*, 31, No. 142 (1893): 335.

⁴ O. Schmidt, "Deliciae herpetologicae musei zoologici Cracoviensis," *Denk. Akad. Wiss., Wien*, 1858: 241-2.

⁵ T. Barbour, "A New Frog and a New Snake from Panama," *Occ. Papers Boston Soc. Nat. Hist.*, 5 (1925): 156.

pink feet and webs, less extensive white lip stripe (reaching to beneath the eye instead of to the tip of the snout), less granular dorsum, a shorter hind leg, and a more massive thigh.

A comparison of the Barro Colorado form (including the M.C.Z. paratypes of *zeteki*) with a series of topotypes of *warschewitschii* (taken on the slopes of the Volcán de Chiriqui at an elevation of 4000 to 5000 feet) reveals that the two must be considered identical. It is possible that the type series of *zeteki* was compared with Costa Rican or with Nicaraguan specimens, which differ somewhat from typical *warschewitschii*; also many of the differentiating characters given for *zeteki* appear to be sexual. In the Chiriqui series there is considerable difference between the sexes. The males are smaller (the male of a mating pair is 51 mm., the female 68 mm. in length), the anterior portion of the venter is black (ashy in females), the thighs are darker, the leg stripes are less conspicuous, the snout is more pointed, the legs are longer (when the leg is extended the tibio-tarsal articulation marks the nostril in males, the middle to the front of the eye in females), and the dorsum is smooth or almost smooth (pustular rather than rugose in breeding females). In both sexes the light lip stripe reaches only to the eye.⁶ A further comparison with Costa Rican specimens (from Río Navarro, M.Z.U.M., and San José, Suretka, and Navarro, M.C.Z.) and with the Nicaraguan series shows them to have less pigmented thighs and more distinct leg stripes, lighter venter, a white lip stripe extending to the tip of the snout (this stripe may become obscure in the breeding season), a more rugose dorsum in the adult male, and the same sexual difference in length of leg and in size (breeding male 35 mm., breeding female 53 mm. in length).

Fowler's specimen from Guapilis, in the Atlantic drainage of Costa Rica, appears from the description⁷ to be typical *warschewitschii*, and a Museum of Comparative Zoology specimen from Gutierrez, Costa Rica, though young, seems nearest

⁶ Schmidt, *op. cit.*, p. 242, "Von unter dem Auge bis zum Oberarm erstreckt sich ein gelblichweisser Streifen."

⁷ H. W. Fowler, "Cold-blooded Vertebrates from Costa Rica and the Canal Zone," *Proc. Acad. Nat. Sci. Phila.*, 1916: 396-397.

typical *warschewitschii* in coloration. Thus it appears that while color variants do occur to the north, it is best to refer them to *warschewitschii* until more adult specimens and further geographical data are available. If a northern race can be differentiated, Steindachner's *caeruleopunctata*, described as having a light lip stripe bordering "den ganzen obern Kieferrand,"⁸ is available.

Gonatodes fuscus (Hallowell)

Río Siquia, Rama, Nos. 79800, 79803, 79805-08 (57); Río Siquia, 7 miles above Rama, No. 79804 (4).

This fine series of young and adults of both sexes is more or less a composite of Boulenger's conception⁹ of *albogularis* and of his variety *fuscus*. The gular region is variable both in coloration and in pattern. In some specimens this region is pure white, and in others it is orange, brown, or black. In the specimens with a white gular region the characteristic median white line is, of course, indiscernible (fourteen specimens). In the remaining forty-seven examples there is at least a median light, often bluish, line, and in thirteen of this series there are additional lines, two to twelve in number, diverging in a ray-like fashion toward the labials.

Sphaerodactylus lineolatus Lichtenstein

Río Mico, 10 miles above Recero, No. 79801; Río Siquia, 7 miles above Rama, No. 79802.

Aside from the fact that these specimens have larger dorsal scales, fourteen and sixteen contained in the distance from the tip of the snout to the center of the eye, respectively, they are apparently typical.

Anolis capito Peters

Río Mico, 10 miles above Recero, No. 79809.

A typical half-grown specimen.

⁸ F. Steindachner, "Batrachologische Mitteilungen," *Verh. Ges. Wein*, 1864: 264-6, Figs. 1, 1a-1c.

⁹ G. A. Boulenger, *Catalogue of Lizards in the British Museum (Natural History)* (London: Published by Order of the Trustees, 1885), 1: 59-60.

Anolis copei Bocourt

Río Siquia, 7 miles above Rama, No. 79810.

Anolis humilis Peters

Río Mico, 10 miles above Recero, Nos. 79811(4), 79812(3); Río Siquia, 7 miles above Rama, No. 79813(3).

Recent workers have been almost unanimous in considering *humilis* and *quaggulus* Cope synonymous. Our Nicaraguan material differs from Panamanian and Costa Rican specimens in having fewer rows of enlarged dorsals (ca. eight instead of ca. ten) and in having larger dorsal scales (ca. fifteen in length of head as opposed to ca. eighteen).

Anolis lemurinus Cope

Río Siquia, 7 miles above Rama, Nos. 79814, 79815(3).

Anolis limifrons Cope

Río Mico, 10 miles above Recero, Nos. 79816(8), 79817(7); Río Siquia, Rama, No. 79822(2); Río Siquia, 7 miles above Rama, Nos. 79819(2), 79820(6), 79821(2), 79818(3).

Barbour¹⁰ suggests *limifrons* in Nicaragua may differ from Panamanian specimens, in which case *bransfordii* Cope is applicable to the above series. Although there is much variation in our material, it differs from Barro Colorado *limifrons* in its smaller adult size and larger scales in the frontal region (these differences have also been noted by Dunn).¹¹

Anolis lionotus Cope

Río Mico, 10 miles above Recero, No. 79824.

An adult specimen which matches perfectly a specimen in our collections from Metagalpa (No. 56501). Both of our Nicaraguan specimens differ from Barro Colorado specimens (Nos. 63636-37) in that their dorsal scales are more imbricate and the lateral light stripe extends farther posteriorly (to hind

¹⁰ T. Barbour, "The Anoles. II. The Mainland Species from Mexico Southward," *Bull. Mus. Comp. Zool.*, 77, No. 4 (1934): 139-140.

¹¹ E. R. Dunn, "Notes on Central American Anolis," *Proc. New Eng. Zool. Club*, 12 (1930): 19-20.

legs in the Río Mico specimen). Should more material substantiate these differences, the name *rixii* Boulenger should be applied to the Nicaraguan specimens.

Anolis pentaprion Cope

Río Siquia, No. 79826; Río Siquia, 7 miles above Rama, No. 79825.

Corythophanes cristatus (Merrem)

Río Mico, 10 miles above Recero, No. 79837.

Basiliscus plumifrons Cope

Río Siquia, 7 miles above Rama, Nos. 79827, 79829 (2); Río Escondido, near Rama, No. 79828.

The three representatives of this species are a male, female, and juvenile, with the following lengths, tip of snout to anus, respectively: 165, 139, and 85 mm. With the exception of the color pattern the specimens exhibit the characteristics enumerated in the type description. Cope¹² states: "No longitudinal or transverse bands on the head, body, or throat." In the juvenile (No. 79829) there are two series of very distinct alternating black bands between the nape and the tail, which extend from the vertebral line down on the sides. The bands are present in the other two specimens also but are much less distinct. The two characteristic series of yellow spots, one on the back and the other from the axilla to the groin, are distinct in the two adults but are entirely wanting in the juvenile.

Basiliscus vittatus Wiegmann

Río Escondido, near Rama, No. 79830; Río Siquia, 7 miles above Rama, Nos. 79831-33 (17).

This series of eighteen specimens appears to exhibit the normal variation of the species. From the evidence deduced from a study of the external secondary sexual characters it would seem that the animals become sexually mature when a length (snout to anus) of 90 to 100 mm. is attained. The smallest adult male, 101 mm., has a very well-developed head crest; a

¹² E. D. Cope, "On the Batrachia and Reptilia of Costa Rica," *Journ. Acad. Nat. Sci. Phila.*, Ser. 2, No. 8 (1875): 125-127.

young female, 97 mm., has four fully-formed eggs in her oviducts.

Iguana iguana rhinolopha (Wiegmann)

Río Siquia, 7 miles above Rama, Nos. 79834-36.

Lepidophyma flavomaculatum Duméril

Río Mico, 10 miles above Recero, No. 79846.

Ameiva festiva (Lichtenstein)

Río Mico, 10 miles above Recero, No. 79838(14); junction of Río Mico and Río Siquia, No. 79839(4); Río Siquia, 7 miles above Rama, Nos. 79840, 79841(7).

On cursory examination, the larger specimens seem to lack the median dorsal light band, but when they are immersed in water at least parts of the band become visible in every example. It is obvious when a series of young and adults is examined that this band becomes progressively less distinct as age and size advance. The tail and the head, except for the tip of the snout, lose the band first. The process of progressive fading of the band caudad ceases when the nape is reached; the cephalad fading seems to be more gradual than does the caudad. Attendant on the increase of the length of the band is a general obscuring of its brightness to such an extent that the last remnant in the nape region is very dull and can hardly be distinguished from the ground color. In the largest specimens the band is visible only in the nape region and on the tip of the snout.

Mabuya mabouya mabouya (Lacépède)

Río Siquia, 7 miles above Rama, Nos. 78942-44(23).

These specimens need little comment; they are remarkably constant in the characteristics exhibited and show no detectable differences when compared with material from such outlying areas as Colima, Yucatán, and Panama.

Leiolepisma assatum (Cope)

Río Siquia, 7 miles above Rama, No. 79845.

A single immature specimen.

Crocodylus acutus Cuvier

Río Siquia, 7 miles above Rama, No. 79847.

Caiman fuscus (Cope)

Río Mico, 2 miles above junction with Río Siquia, No. 79848.

Boa annulata (Cope)

Río Siquia, 7 miles above Rama, No. 79787.

This is apparently the first record of this species from Nicaragua. Stull¹³ gives Costa Rica as the northern limit of this form. There can be no question as to its identification as the only other *Boa* in the region is *Boa enydris cookii* (Gray) from which it differs by its greater number of dorsals and fewer subcaudals. The above specimen is a male in a poor state of preservation. Its scutellation is: dorsals 55, abdominals about 260, subcaudals 83.

Constrictor constrictor imperator (Daudin)

Río Siquia, 7 miles above Rama, Nos. 79785-86, 79798.

<i>Number</i>	<i>Sex</i>	<i>Dorsals</i>	<i>Abdominals</i>	<i>Subcaudals</i>
79785	♂	67	241	66
79786	♀	67	232	53
79798	♂	73	239	64

Dendrophidion dendrophis (Schlegel)

Río Mico, 10 miles above Recero, Nos. 79764-65; Río Mico, Recero, No. 79766; Río Siquia, 7 miles above Rama, No. 79767.

<i>Number</i>	<i>Sex</i>	<i>Dorsals</i>	<i>Abdominals</i>	<i>Subcaudals</i>
79764	♂	17	156	152
79765	♂	17	153	...
79766	♂	17	168	118
79767	♀	17	160	...

¹³ O. G. Stull, "A Check List of the Family Boidae," *Proc. Boston Soc. Nat. Hist.*, 40, No. 8 (1935): 398.

Drymobius margaritiferus (Schlegel)

Río Siquia, 7 miles above Rama, Nos. 79758-61.

One female, No. 79759, collected in August, contained fully-developed eggs.

Number	Sex	Dorsals	Abdominals	Subcaudals
79758	♂	17	140	...
79759	♀	17	146	97
79760	♂	17	142	...
79761	♂	17	142	104

Drymobius melanotropis (Cope)

Río Siquia, 7 miles above Rama, No. 79762.

A single female of this rare species. The specimen has 17 dorsals, 159 abdominals, and 91 subcaudals.

Eudryas boddaerti alternatus (Bocourt)

Río Mico, 10 miles above Recero, No. 79763.

A male with 17 dorsals, 179 abdominals, and 96 subcaudals.

Drymarchon corais melanurus (Duméril and Bibron)

Río Siquia, 7 miles above Rama, No. 79776.

A male with 17 dorsals, 211 abdominals, and 80 subcaudals.

Chironius fuscus grandisquamis (Peters)

Río Mico, 10 miles above Recero, No. 79784.

We concur in part with Wettstein¹⁴ in recognizing races of *Chironius fuscus*, and have referred our specimen to *grandisquamis*. It is to be suggested, however, that *melas* Cope may be distinct from *grandisquamis*, since our specimen and the literature records indicate that in Nicaraguan specimens the subcaudals are more numerous than in Costa Rican material.

¹⁴ O. Wettstein, "Ergebnisse der österreichischen biologischen Costa Rica Expedition 1930. Die Amphibien und Reptilien," *Sitzungsber. Akad. Wissen.*, 1, No. 143, 1-2 (1934): 32-33.

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Our specimen is a half-grown female, and retains the juvenile pattern posteriorly. The scutellation is as follows: dorsals 10 (smooth), abdominals 156, subcaudals 138 + tip.

Leptophis occidentalis occidentalis (Günther)

Río Siquia, 7 miles above Rama, No. 79768.

A female with 15 dorsals, 173 abdominals, and 161 + tip subcaudals.

Leptophis depressirostris (Cope)

Río Mico, 10 miles above Recero, No. 79781; Río Siquia, Rama, No. 79782; Río Siquia, 7 miles above Rama, No. 79783.

Pending revision, Amaral¹⁵ has lumped under *Leptophis mexicanus* all forms with fifteen dorsal scale rows in which the loreal is present. Specimens in the Museum of Zoology collections and literature records indicate that this species may be split into several well-marked forms which additional material may cause to be divided into smaller units.

Specimens from the Mexican west coast agree with those from Nicaragua to Panama in that four or less rows of dorsals are keeled. The Mexican specimens, on the other hand, have several more ventrals than the southern specimens (more than 165 as compared with less than 160 and generally less than 150).

The two differ, moreover, in coloration. Mexican specimens have a very light vertebral stripe bordered by dark, but the southern Central American specimens are unicolor (green) or with a black keel on the lateral scales.

Differing from these two groups are specimens from northern Central America and from both coasts of Mexico, in which ten to twelve dorsal scale rows are keeled. These specimens have a high ventral count; over their entire range, except in northern Vera Cruz where another race may occur, they have a broad, bronze, middorsal stripe bordered laterally with black and with a pale stripe on the lowest dorsals.

¹⁵ A. Amaral, "Estudos sobre ophidios neotropicos. XVIII. Lista remissiva dos ophidios da regio neotropica," *Mem. Inst. Butantan*, 4, 1930 (1929): 161.

From available material and literature we have been able to block out the following forms, the number of which may be increased by the accumulation of more material:

- A. Not more than four dorsal scale rows keeled.....B
- B. Ventrals less than 160.....*L. depressirostris* (Cope)
 [*?aeruginosus* Cope, *?bilineatus* Günther, *saturatus* Cope];
 Nicaragua to Panama.
- BB. Ventrals more than 160.....*L. diplotropis* (Günther);
 west coast of Mexico.
- AA. Ten to twelve dorsal scale rows keeled...*L. mexicanus* (Duméril
 and Bibron); northern Central America and Mexico.

<i>Number</i>	<i>Sex</i>	<i>Dorsals</i>	<i>Abdominals</i>	<i>Subcaudals</i>
79781	♀	15	144	137
79782	♂	15	147	146
79783	♂	15	148	138 + tip

Imantodes cenchoa (Linnaeus)

Río Siquia, 7 miles above Rama, No. 79757.

A male answering the description of var. A. of Boulenger.¹⁶ Dorsals 17, abdominals 256, and subcaudals 171.

Ninia sebae (Duméril and Bibron)

Río Siquia, 7 miles above Rama, Nos. 79753-55.

Specimen No. 79755 slightly exceeds the caudal variation as listed by Dunn,¹⁷ and No. 79753 has a preocular on the left side, though it does not separate entirely the eye from the loreal.

<i>Number</i>	<i>Sex</i>	<i>Dorsals</i>	<i>Abdominals</i>	<i>Subcaudals</i>
79753	♂	19	144	50
79754	♂	19	138	68
79755	♂	19	143	74

¹⁶ G. A. Boulenger, *Catalogue of Snakes in the British Museum (Natural History)* (London: Published by Order of the Trustees, 1896), 3: 85.

¹⁷ E. R. Dunn, "The Snakes of the Genus *Ninia*," *Proc. Nat. Acad. Sci.*, 21, No. 1 (1935): 10-11.

Xenodon rabdocephalus (Wied)

Río Mico, Recero, No. 79770; Río Siquia, 7 miles above Rama, Nos. 79771-75.

<i>Number</i>	<i>Sex</i>	<i>Dorsals</i>	<i>Abdominals</i>	<i>Subcaudals</i>
79770	♀	19	142	...
79771	♀	19	147	45
79772	♂	19	142	44
79773	♀	19	145	45
79774	♀	19	142	...
79775	♀	19	142	43

Urotheca dimidiata (Cope)

Río Siquia, 7 miles above Rama, No. 79769.

The pattern of the above specimen consists of nineteen black annuli on the body and eight on the tail, separated by bright red annuli. The black annuli become increasingly wider posteriorly—four scales wide on the neck to fourteen scales on the tail—and are complete ventrally. The red annuli are constant—two to two and one-half scales wide—but ventrally the red fades to white. The above specimen, a male, has 17 dorsals, 129 abdominals, and 121 subcaudals. E. R. Dunn has furnished us with what he believes to be the proper specific name.

Sibon sibon (Linnaeus)

Río Siquia, 7 miles above Rama, Nos. 79778-80.

<i>Number</i>	<i>Sex</i>	<i>Dorsals</i>	<i>Abdominals</i>	<i>Subcaudals</i>
79778	♀	15	179	82
79779	♂	15	174	91
79780	♀	15	173	84

Pseudoboa petola (Linnaeus)

Río Siquia, 7 miles above Rama, No. 79777.

The above specimen is to be referred to var. D. of Boulenger.¹⁸ It has 19 dorsals, 207 abdominals, and 101 subcaudals.

¹⁸ G. A. Boulenger, *op. cit.*, p. 103.

Erythrolamprus aesculapii impar Schmidt

Río Siquia, 7 miles above Rama, No. 79756.

This specimen answers in every respect Schmidt's recent description.¹⁹ It has 15 dorsals, 176 abdominals, and 48 + tip subcaudals.

Micrurus nigrocinctus alleni Schmidt

Río Mico, 10 miles above Recero, No. 79794; Río Siquia, 7 miles above Rama, No. 79795; Río Siquia, Nos. 79796-97.

The four specimens of this recently described subspecies include the holotype No. 79794 (field number 307, cited by Schmidt²⁰) and three paratypes.

<i>Number</i>	<i>Sex</i>	<i>Dorsals</i>	<i>Abdominals</i>	<i>Subcaudals</i>
79794	♀	15	240	37
79795	♀	15	232	39
79796	♀	15	235	36
79797	♂	15	215	53

In the stomach of specimen No. 79796 was found a fish which C. L. Hubbs of the Museum of Zoology has identified as *Synbranchus marmoratus* Bloch.

Bothrops atrox (Linnaeus)

Río Siquia, 7 miles above Rama, Nos. 79789-93.

According to Allen, this species is exceedingly common in the area and constitutes a serious menace to banana cutters and bush workers.

¹⁹ K. P. Schmidt, "New Amphibians and Reptiles from Honduras in the Museum of Comparative Zoology," *Proc. Biol. Soc. Wash.*, 49 (1936): 49-50.

²⁰ K. P. Schmidt, "Notes on Central American and Mexican Coral Snakes," *Zool. Ser. Field Mus. Nat. Hist.*, 20, No. 20 (1936): 209.

<i>Number</i>	<i>Sex</i>	<i>Dorsals</i>	<i>Abdominals</i>	<i>Subcaudals</i>
79789	♂	25	193	71
79790	♂	25	198	68
79791	♀	27	197	59
79792	♀	25	197	66
79793	♀	25	199	62

Bothrops schlegelii (Berthold)

Río Siquia, 7 miles above Rama, No. 79788.

This specimen is remarkable because of its coloration. Above it is light olive gray, becoming lighter ventrally. The lowest two scale rows are yellow, powdered with gray. Anteriorly just lateral to the middorsal scale row are, on each side, a series of rufous spots which become more frequent posteriorly and finally form a narrow (one scale row wide) rufous line which breaks up on the tail. The head is mottled with rufous; the under parts are yellowish, mottled or powdered with gray; the outer ends of the ventrals are pink. The above specimen, a female, has 23 dorsals, 156 abdominals, and 51 subcaudals.

