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NEW AMPHIBIANS AND REPTILES FROM HONDURAS
IN THE MUSEUM OF COMPARATIVE ZOOLOGY.

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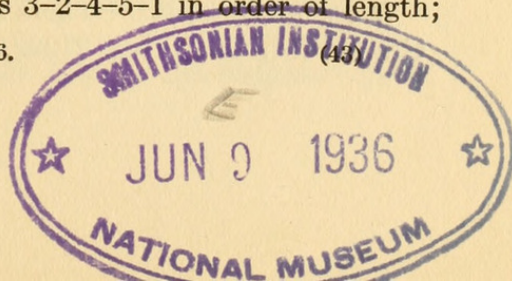
In the course of identification of a collection of amphibians and reptiles collected by Mr. Raymond E. Stadelman in Honduras for the Museum of Comparative Zoology, I find no less than ten new forms. I am much indebted to Dr. Thomas Barbour for the privilege of examining this material from a region in which I have been especially interested since 1923, and to Messrs. Arthur Loveridge and Benjamin Shreve for the packing and forwarding of the specimens. It is hoped that a more extended account of this important collection may be incorporated in further reports on the herpetology of Upper Central America; my studies in this region, in collaboration with those of Dr. E. R. Dunn on Lower Central America, have been carried on under the joint auspices of Field Museum of Natural History and the John Simon Guggenheim Memorial Foundation. The new forms include one salamander, three frogs, two lizards, and four snakes.

***Oedipus barbouri*, sp. nov.**

Type.—From Portillo Grande, Yoro, Honduras, Museum of Comparative Zoology No. 21247, adult male, collected May 9, 1934, by R. E. Stadelman.

Diagnosis.—A small *Oedipus* of normal form with the tail longer than the body; maxilla toothed; nostrils not enlarged; toes free; basal constriction of tail slight; four costal folds between appressed toes.

Description of type.—Body slender, tail longer than head and body; length of head to gular fold five times in length of head and body; width of head a little more than six times in the same measurement; limbs reduced; head rounded in outline, as viewed from above; upper jaw scarcely projecting beyond the lower; costal grooves thirteen, four folds between the appressed toes; fingers and toes free, toes 3-2-4-5-1 in order of length;



maxillary teeth present; vomerine teeth nine or ten; an obscure groove from the corner of the eye meets the vertical groove behind the angle of the jaw and continues to the gular fold, outlining an obscure paratid gland; a middorsal and dorsolateral groove; tail only slightly constricted at base; anal lips with papillae; projection of upper lip at naso-labial groove moderate.

Black above, dark gray beneath.

Measurements.—Total length, 85 mm.; tail, 49 mm.; head to gular fold, 7 mm.; width of head, 5.8 mm.; arm, 7 mm., leg, 8 mm.

Notes on paratypes.—There are five female paratypes, M. C. Z. Nos. 21248–50, and F. M. N. H. Nos. 21866–67, all from the type locality and all, like the type, from bromeliads, and from altitudes between 5000 feet (the type), and 6000 feet. In two of these the dorsal ground color is light and a herringbone pattern of posteriorly directed chevrons is present on the back. No. 21249 measures 86 mm.; tail 48 mm.

Remarks.—This species may be the Central American representative of the Mexican *Oedipus chiropterus*. It is well distinguished from that species by the relatively shorter limbs and much better developed first toe.

***Eleutherodactylus stadelmani*, sp. nov.**

Type.—From Portillo Grande, Yoro, Honduras, at 4800 feet altitude. Museum of Comparative Zoology No. 21290, adult female, collected May 28, 1934, by Raymond E. Stadelman.

Diagnosis.—A medium sized *Eleutherodactylus* with rugose dorsum and smooth belly; closely allied to *E. milesi*, from which it differs in the complete absence of tympanum, less prominent metatarsal tubercles, larger discs on fingers and toes, and a less rugose dorsum.

Description of type.—Head as wide as body; snout short, the nostril but little nearer its tip than to the eye; canthus distinct, loreal region sloping; length of eye much more than its distance from the nostril; heels overlapping when the legs are placed at right angles to the body; heel reaching tip of snout when leg is extended along the body; disks of fingers and toes subequal, about twice as wide as the phalanx immediately behind them; the toes bordered by a narrow fold; a trace of web, extending to the first subarticular tubercle of the third toe; inner metatarsal tubercle enlarged, one half the length of the inner toe, outer small; skin of back rugose, more coarsely on the sides, some of the tubercles uniting into glandular elongations; upper surfaces of thighs and tibiae as rough as the back; a glandular fold from the eye over the tympanic region; belly and lower surfaces of thighs perfectly smooth; vomerine teeth in small oblique groups, behind and within the very small choanae; tongue nearly circular, slightly notched behind.

Dark brown above, light beneath, with brown mottling; feet and lips with traces of light crossbars; a light area on each side of the anus on the posterior face of the thighs which are otherwise uniform dark brown.

Measurements.—Length from tip of snout to anus, 40 mm.; width of head, 18 mm.; arm, 27 mm.; leg, 69 mm.; tibia, 24.5 mm.

Notes on Paratypes.—There are nine additional specimens from Portillo Grande (M. C. Z. Nos. 21292, F. M. N. H. 21862–4) and one from Sta.

Marta, which are in excellent agreement with the type, especially in the complete absence of the tympanum. A male, No. 21292, measures 31 mm. from snout to anus; the snout is brown with a few light specks; there is a subgular median vocal sac with short slit-like openings.

***Hyla stadelmani*, sp. nov.**

Type.—From Subirana Valley, 2800 feet altitude, Yoro, Honduras. Museum of Comparative Zoology No. 21310, adult male, collected January 19, 1933, by R. E. Stadelman.

Diagnosis.—A *Hyla* of medium size, allied to *Hyla gabbii*, from which it is distinguished by the absence of dorsal pattern and of a nuptial pad on the pollex of the adult male; vomerine tooth patches close together between the choanae; fingers half webbed, toes fully webbed except for the distal phalanx of the fourth toe; tympanum ill-defined, less than half the diameter of the eye; no distinctive color pattern or markings; male with a very large median external vocal sac.

Description of type.—Head short, its width greater than the distance from snout to posterior border of tympanum; snout obtuse, interorbital space broader than the upper eyelid; the heels overlap when the legs are placed at right angles to the body; heel reaches nearly to tip of snout; nostril nearer to tip of snout than the eye; canthus rounded; tympanum $2/5$ the diameter of the eye, wider than its distance from the eye; a strong curved glandular fold over the tympanum, continuous with the lateral skin fold; vomerine teeth in two small closely approximated patches, in line with the choanae, and well separated from them; tongue small, round, slightly notched behind; skin perfectly smooth above, granular beneath and on the lower posterior border of the thighs; fingers webbed to base of distal phalanges; toes webbed to discs except on fourth, which has one phalanx free; a dermal fold on the outer side of the first toe; a well defined tarsal fold; discs of fingers large, equal to the diameter of the tympanum, slightly larger than those of the toes; when the arms are drawn forward the ventral skin is seen to be attached nearly to the elbow; a large median vocal sac, the external skin very much folded and wrinkled, apparently involving the strong pectoral fold; vocal sac openings a long slit on each side of the tongue.

Brown above, light beneath, without color pattern; no markings on the concealed surfaces; a white line on a slightly wrinkled transverse fold above the anus.

Measurements.—Length, 41 mm.; width of head, 16 mm.; hind leg, 66 mm.; tibia, 22 mm.

Notes on paratypes.—Two male paratypes, M. C. Z. Nos. 21311 and F. M. N. H. 21842, from the type-locality, agree closely with the type. These have an obscure dark bar on mid-tibia.

***Hyla spinipollex*, sp. nov.**

Type.—From mountains behind Ceiba, Atlantida, Honduras, Museum of Comparative Zoology No. 21300, adult male, collected by R. E. Stadelman, April 18, 1931.

Diagnosis.—A medium sized *Hyla* with slightly tuberculate dorsal

surface and coarsely granulate venter; vomerine teeth prominent, in line with the choanae; fingers moderately, toes fully, webbed; tympanum small but distinct; male with a triangular patch of about fifty very strong nuptial asperities on the middle of the upper surface of the thumb.

Description of type.—Head broader than the body, its width equal to the distance from the snout to posterior border of the tympanum; snout short, vertical; heels overlapping; heel reaching to tip of snout; nostril nearer to tip of snout than to eye; canthus well-defined, loreal region nearly vertical; tympanum small, sharply outlined, two-fifths the diameter of the eye; vomerine teeth in two prominent well-separated patches in line with the choanae; a slight fold over the tympanum; tongue rounded, very little free behind; skin sparsely tuberculate above; venter strongly granular; posterior and lower sides of thighs still more coarsely granular; fingers webbed to middle of penultimate phalanx, toes nearly fully webbed, with one phalanx of fourth toe free; disks of fingers moderate, as large as the tympanum, larger than those of the toes; an obscure tarsal fold; a median vocal sac, opening by a pair of slits at the sides of the tongue, the external skin only a little wrinkled; forearm much enlarged; first finger with about fifty strong black equal nuptial asperities in a triangular patch equidistant from the base and tip; a faint suggestion of a row of tubercles on the outer posterior side of the forearm.

Dark grayish brown above, lighter beneath, without markings.

Measurements.—Length, 35 mm.; width of head, 12.5 mm.; leg, 59 mm.; tibia, 19 mm.

Remarks.—The numerous discrepancies between the present form and *Hyla euthysanota* Kellog, from El Salvador, to which the present specimen was referred by Dunn and Emlen (Proc. Acad. Nat. Sci. Phila., 84, p. 25, 1932), seem to be ample to warrant distinguishing a new species. The geographic and ecological distribution of the Central American hylas is, however, much in need of clarification.

***Sphaerodactylus dunni*, sp. nov.**

Type.—From Naco River, near Cofradia, Honduras. No. 32199 Museum of Comparative Zoology. Collected August 10, 1931, by R. E. Stadelman.

Diagnosis.—A small species of *Sphaerodactylus* with imbricate keeled dorsal scales, unmodified on the mid-dorsal line, a supraciliary spine, and a pattern of narrow transverse light lines. Apparently most nearly allied to *Sphaerodactylus difficilis* of Hispaniola, from which it is at once distinguished by its unique pattern.

Description of type.—Head moderate, limbs short, snout acute; dorsal scales keeled, imbricate, 10 in length from snout to middle of eye; ventrals smooth, 8 in same distance; scales on snout flat, keeled, larger than posterior head scales; upper and lower labials 5 on each side; mental truncate, with two slightly enlarged chin shields bordering it between the first lower labials; ear minute, scarcely distinguishable; a superciliary spine on one side, wanting on the other.

A narrow yellowish band across the dark brown back in front of the shoulders extends downward to a latero-ventral line; a second distinct cross-band behind the shoulders, followed by more obscure and more oblique

transverse markings; a median light line extends forward from the first cross-band, forking on the occiput and joining a somewhat broader post-ocular light band; lower surfaces light yellowish brown, the scales dark margined; throat and chin heavily maculate with brown; upper labials light, with brown spots.

Measurements.—Body 25 mm., tail reproduced; snout to ear opening 6 mm., width of head 4.5 mm., leg about 8 mm.

Remarks.—The type of *dunni* does not agree in any point with Werner's description of *Sphaerodactylus argus* var. *continentalis*, from Honduras. His description is inadequate and contradictory, since he writes of a dorsal pattern of rows of black dots while comparing the specimen to *argus*, which exhibits characteristic rows of light ocellae. The larger scales of *S. dunni* distinguish it at once from *lineolatus*, and its keeled dorsals separate it from *glaucus*. My friend and colleague in Central American studies, Dr. Emmett Reid Dunn, of Haverford College, first called my attention to the species.

***Anolis loveridgei*, sp. nov.**

Type.—From Portillo Grande, 4100 feet altitude, Yoro, Honduras. Museum of Comparative Zoology No. 38700, adult male, collected 1934 by R. E. Stadelman.

Diagnosis.—An anole with a short, high head, small obtusely keeled ventrals, no enlarged dorsals, four scales between semi-circles, six or more scales between semicircles and occipital, and with frontal scales keeled.

Description of type.—Body stout, head large, snout concave in lateral view, short; ear opening small, vertical; hind limb reaching anterior border of eye; tail somewhat compressed, ridged above, without a fin; a sharp canthus, with loreal region slightly concave; twelve loreal scales in a vertical line; infra-orbital semicircle not extending to the canthal scales, almost completely separated from the labials by a row of scales; eight scales between the nasals; frontal ridges indistinguishable; four frontal scales between the supraorbital semicircles; a group of about twelve enlarged keeled supraoculars; three scales between the semicircles and the supraciliaries at the anterior border of the supraocular region, occipital very small, separated from the semicircles by seven scales; twelve upper labials to a point below the center of the eye.

Dorsal scales small, sharply keeled on mid-dorsal region, granular on the sides; the ventrals small but larger than the lateral granules, obtusely keeled on the chest, keels indistinguishable on many scales posteriorly; limbs with keeled scales above and anteriorly, smaller and smooth beneath and posteriorly; forty-three lamellae beneath the fourth toe to the end of the pad, and thirteen beneath the terminal clawed phalanx; dewlap large; no enlarged postanal scales.

General color tawny gray, with black head markings, of which the most conspicuous is a postocular longitudinal black bar. Dewlap yellowish with traces of a purplish darker marking at the base.

Measurements.—Total length 330 mm.; tail 219 mm., arm 49 mm., tibia 31.7 mm.; leg 85 mm., head to posterior border of tympanum 30.3 mm., width of head 19.3 mm.

Notes on paratypes.—Four specimens in the Museum of Comparative Zoology and two in Field Museum are paratypes of this species; M. C. Z. Nos. 38831–33 and F. M. N. H. No. 21776 are from the Mataderos Mts., at 3400 feet altitude, in the Dept. of Yoro, and M. C. Z. No. 38834 and F. M. N. H. No. 21870 are from the type locality. The larger specimens agree very closely with the type. The single juvenile specimen, No. 38834, has the keels of the ventrals even more obscure, so that at first glance they appear to be smooth. This specimen is colored as follows: General color fawn, with narrow radiating lines about the eye; a dark band from the posterior corner of the eye extends to the shoulder, where it meets the first of four transverse dark bars which curve obliquely backward on the sides; six crossbars on the base of the tail, whose terminal third is black; limbs crossbarred; no color visible on throatfan.

Remarks.—This large anole is readily distinguished from *Anolis copei* by its smaller and less sharply keeled ventrals. There seems to be no possibility of identifying it with *Anolis petersii*, the type of which is figured with only one or two scales between the supraorbital semicircles and with much larger scales between the occipital and the semicircles.

***Typhlops stadelmani*, sp. nov.**

Type.—From Subirana Valley, 2800 feet altitude, Yoro, Honduras, Museum of Comparative Zoology, No. 38701, collected January 26, 1933, by R. E. Stadelman.

Diagnosis.—Allied to *Typhlops tenuis* of the Alta Verapaz highland, but much stockier, the diameter contained into the length 37 times, against 50–62 in *tenuis*, and the scales from rostral to tail spine 347 instead of 430.

Description of type.—Snout rounded, prominent; rostral about one-third the width of the head; nostril between two nasals, of which the anterior is in contact with the first and second labials; a preocular, about as large as the ocular, in contact with the second and third labials; eye barely visible; six head scales between the oculars and rostral, slightly larger than the body scales; tail as broad as long, ending in an obtuse spine; scales in eighteen rows throughout the length of the body; 347 scales from the rostral to the tip of the tail.

Uniform pale yellow.

Measurements.—Total length, 112 mm.; diameter, 3 mm.

***Sibynophis annulatus hondurensis*, subsp. nov.**

Type.—From Portillo Grande, 4100 feet altitude, Yoro, Honduras. Museum of Comparative Zoology No. 38703, adult male, collected May 5, 1934, by R. E. Stadelman.

Diagnosis.—In close argument with *Sibynophis annulatus annulatus* in scale characters, but with the pairs of dark crossbars on the anterior part of the body set close together, and without black spots on the scales of the red interspaces.

Description of type.—Rostral wider than high, well visible from above; upper head shields normal; parietals extending to the lower postocular; nostrils between two nasals; loreal about as high as long; nine upper labials, the fourth, fifth, and sixth entering the eye; ten lower labials; oculars,

1-2; temporals 1-2-2; dorsal scales in seventeen rows; ventrals, 145, anal divided, caudals, 149.

A white band across the snout, in front of the eyes, rest of head black; five pairs of narrow black cross-bars, separated by gray spaces of about the same width, the first of which is four scales behind the parietals; intervening spaces dark red, the scales clouded, but without black apical spots; the posterior part of the body brownish gray above, with three rows of spots, one on the mid-dorsal line and a pair on the fifth scale rows, underside uniform light, the ends of the ventrals with black spots.

Measurements.—Total length, 617 mm., tail, 295 mm.

Notes on paratypes.—Two specimens from the Yoro highland, F. M. N. H. No. 21877, male, from Portillo Grande, and M. C. Z. No. 38702, female, from Subirana Valley at 2800 feet, are in excellent agreement with the type, the male with ventrals 142, tail incomplete, the female with 162 ventrals and 127 caudals. In addition, five males, three females, and five specimens of which the heads only are preserved, M. C. Z. Nos. 21201, 21769, 21777, 21797-98, 27564, 32006, 33341, and 19957-61, from various United Fruit Company plantations near Tela, are also to be regarded as paratypes. The lowland specimens agree with those from the Yoro district in the characters of coloration regarded as diagnostic of *hondurensis*, but have somewhat lower ventral and caudal counts; ventrals 128-142, caudals 132-137, in males, 153-156 and 128-132 in females. The largest male and female specimens in this series measure respectively 739 mm., tail 350 mm. and 782 mm., tail 336 mm.

***Erythrolamprus aesculapii impar*, subsp. nov.**

Type.—From Mataderos Mts., 3300 feet altitude, Yoro, Honduras, Museum of Comparative Zoology No. 38765, adult female, collected February 22, 1933, by R. E. Stadelman.

Diagnosis.—Closely allied to *Erythrolamprus aesculapii*, but the black bars very imperfectly separated into pairs, a sharply defined immaculate reddish crossband across the parietals, and the scales of the red zones very heavily spotted with black.

Description of type.—Body stout, tail short, head little wider than body, upper head shields normal; rostral a little wider than high, just visible from above; loreal a little higher than long; upper labials 7, lower labials 9; oculars 1-2; temporals 1-3 and 1-2; dorsal scales 15-15-15; ventrals 176; anal divided; caudals 46.

Top of head black to posterior borders of supraoculars and frontal, with a light spot on the prefrontal suture; first four labials, nasal, loreal, and preoculars dark bordered; post-oculars with dark anterior edges; a sharply defined nuchal black band, just behind the parietals, six scales long; the succeeding red one is eleven scales long, each scale with a black spot, the spots largest above, reduced on the sides; fourteen black rings follow, which after the fourth tend to be offset on the mid-dorsal and mid-ventral lines; each of these black zones (except the nuchal), when attentively examined, is seen to have more or less yellow spotting in a vertical line at the middle.

Measurements.—Total length, 638 mm.; tail, 85 mm.

Notes on paratype.—A single paratype, F. M. N. H. No. 21830 from

La Libertad, Comayagua, Honduras, collected June 30, 1933, by J. B. Edwards, agrees in detail with the type.

***Trimeresurus lansbergii annectens*, subsp. nov.**

Type.—From Subirana Valley, 2800 feet altitude, Yoro, Honduras. Museum of Comparative Zoology No. 38783, adult female, collected February 18, 1933, by R. E. Stadelman.

Diagnosis.—Intermediate in scale count between *Trimeresurus lansbergii lansbergii* and *Trimeresurus lansbergii ophryomegas*, nearest the latter in having four canthal scales.

Description of type.—Habitus of *Trimeresurus lansbergii ophryomegas*, snout not at all turned up in front; dorsal scales 26–25–19; four canthal scales on each side; a long subocular separated from the labials by two rows of scales; preoculars 2, post-oculars 4–3; a group of small scales between the posterior nasal and the scale forming the anterior border of the pit; six scales between the supraoculars; upper head scales sharply keeled, three pairs of chin shields; upper labials 12; ventrals 165, anal entire, 38 sub-caudals, undivided.

A narrow white mid-dorsal line from the nuchal region, the whole length of the body; more or less alternate dark brown blotches, with light outlines, on a grayish brown ground color, on each side of the line; some of these are partly divided, the maximum count of spots being 54; ventral surfaces light, more and more heavily marked with black posteriorly; scales of first row black, tipped or outlined with white; tip of tail grayish brown above, yellow beneath; an obscure dark mark from the eye to the angle of the mouth; three sharply defined white spots on the lower labial border, the posterior a narrow white line extended to the gulars.

Measurements.—Length, 527 mm.; tail, 60 mm.

Notes on paratypes.—In two additional juvenile specimens from the type locality M. C. Z. No. 38782 and F. M. N. H. 21797, the ventrals are respectively 157 and 160, the caudals 43 and 41; the coloration is somewhat more vivid, and the white spots on the lower labials are seen to correspond with similar marks on the upper lip.

Remarks.—The arrangement of the forms allied to *T. lansbergii* proposed by Amaral (Bull. Antiv. Inst. Amer., 1, p. 22, 1927), leaves two widely isolated populations of *lansbergii*, one in upper central America, the other in the Santa Marta region in Colombia; and leaves the very distinct *T. ophryomegas* of the Pacific side of Central America and the long-snouted *T. nasutus* of the more humid Atlantic side as distinct species. The scale counts of the small series of snakes allied to these species discovered by Mr. Stadelman are intermediate between those of both populations of *T. lansbergii* and those of *T. ophryomegas* in Amaral's tables; and the description of this intermediate form seems to warrant the trinomial designation of the several forms. Much additional material is required to clarify the questions of subspecific arrangement and distribution thus reopened.



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