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NOTES ON ECUADORIAN AND PERUVIAN
REPTILES AND AMPHIBIANS WITH
DESCRIPTION OF NEW FORMS¹

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RECENTLY much material has accumulated in the Museum of Comparative Zoölogy from the herpetologically little known high central part of Peru, enabling me to present conclusions on the status of certain forms as well as to describe new ones. Some material from other regions also is discussed.

Much of the material on which this paper is based has been collected and presented to the Museum by Mr. W. F. Walker and his son, W. F. Walker, Jr., the latter now engaged in preparing a treatise on Peruvian snakes. I take this opportunity of expressing our gratitude for these valuable collections.

Anolis buckleyi O'Shaughnessy

Of the three examples which I refer to this species, two are gravid females from the region between the Santiago

¹ Published with the aid of a grant from the Museum of Comparative Zoölogy at Harvard College.

and Pastaza Rivers, south of Macas and north of Gualaquiza, Ecuador, collected by C. E. Altenburg, March to October, 1935, one being M.C.Z., 45,777, the other in Altenburg's private collection. The third (M.C.Z. 38,529) is juvenile, apparently a female, from Sarayacu, Ecuador, collected by O. C. Felton in 1933. These three apparently represent the female of *buckleyi*, a species whose description was based on two males; the female has not been recorded, as far as I know. These specimens closely fit the description of *buckleyi*, but differ from it chiefly in having a much smaller dewlap, smaller size, and shorter hind limbs, and greatly in coloration. Such differences may be attributed to sexual dimorphism and dichromatism which frequently occur in the genus *Anolis*. The coloration (in alcohol) is so strikingly different from that of the male that is worth describing; it is:

Above, light brown, with the undermentioned markings dark brown: upper side of the head extensively marked and spotted; an ill-defined band on the upper side of the neck; four rather broad cross-bands on the back, each (except the last which stops at the insertion of the hind limb) encircling the body, but for an interruption on the median ventral line; speckling is present between the cross-bands, but in the juvenile it is restricted to the back, not extending to the sides; limbs more or less spotted and cross-banded; tail cross-banded. Below, whitish; chin with a semi-divided dark brown spot, followed by two pairs of prominent, transverse blotches, separated on the median line, or the much larger posterior pair sometimes slightly in contact and projecting upward to the eye; dewlap, particularly along the ventral line, whitish with fine horizontal blackish lines forming two dark brown or blackish band-like projections onto each side of the neck, the anterior reaching the ear, (the dewlap in the juvenile is undeveloped and whitish, but on the neck the 'projections' appear as two paired transverse spots); belly and limbs extensively (slightly in juvenile) speckled and spotted with dark brown between cross-bands of which the first cross-band is rather broken.

The head and body length of the larger adult (M.C.Z., 45,777) is 77 mm., that of the other adult 72 mm.

Anolis species

Another Anole from the region between the Santiago and Pastaza Rivers, south of Macas and north of Gualaquiza, Ecuador, collected by C. E. Altenburg, March to October, 1935, and retained by him, has been very carefully compared with *A. carolinensis* and many of its near relatives, without any appreciable difference between it and *carolinensis* being discovered. Though there was nothing else in the collection that might lead one to question the locality, one naturally thought that perhaps this Anole had come from elsewhere. However, Mr. Altenburg feels sure that nothing was added to his collection from any other locality than the one given above.

Liolaemus multiformis multiformis (Cope)

Inasmuch as C. E. Burt in his checklist of South American Lizards (Trans. Acad. Sci. St. Louis, 28, no. 1, 1933, p. 35) gives the range of this form as "Andes of southern Peru and adjacent Bolivia," it seems advisable to record the data of Peruvian examples of this form in the Museum of Comparative Zoölogy; numbers in parentheses represent the number of specimens: Department of Junin: Huayhuay (6); Department of Huancavelica: Santa Inez (9). Department of Lima: Lima (1); Yauricocha (1).

Stenocercus tacnae sp. nov.

Type: M.C.Z., no 45,806, a male, from Toquepala Mine, sixty kilometers east of Moquegua, Department of Tacna, Peru, collected by W. F. Walker, April 1, 1936.

Paratypes: M.C.Z., nos. 45,807-8 with the same data as the type.

Diagnosis: Allied to *Stenocercus moestus* Boulenger, from which this new form differs in having smooth scales on side of the neck, which are slightly smaller than the temporals, in the dorsal scales being subequal or slightly smaller than the ventrals, in usually lacking a distinct denticulation on humeral fold, and in the different coloration.

Description: No pterygoid teeth; a series of somewhat broadened supraoculars; occipital small; temporal scales smooth or feebly keeled, slightly larger than those on side of neck which are mostly smooth; ear with anterior border denticulated and a longitudinal fold behind extending almost to the fore limb; antehumeral fold short, the large scales on its lower edge scarcely distinct from the ventrals (the large scales on the lower edge of fold fairly distinct in the small paratype); body rather depressed; no dorsal denticulation; dorsal scales fairly large, rhomboidal, or more or less rounded, imbricate, strongly keeled, pointed, but not mucronate, the keels forming continuous lines which are slightly oblique on the posterior part of the back; lateral scales subequal or smaller than the dorsals, the uppermost keeled, the lower smooth; ventrals rhomboidal or rounded, imbricate, smooth, subequal to or slightly larger than the dorsals; about 47 (48-49 in paratypes) scales around the middle of the body, about 52 (49-52 in paratypes) scales from occiput to base of tail; the adpressed hind limb reaches about half way between the insertion of the fore limb and the ear; fifth toe not extending as far as second; tail rounded, without sharp upper edge; caudal scales subequal to or a little larger than the dorsals, forming rings, those above strongly keeled and usually slightly mucronate, those below weakly keeled or smooth.

Coloration in alcohol: Above, brownish gray; an indistinctly black-edged, narrow, white stripe, scarcely distinguishable on head, beginning at the upper posterior corner of the eye, extends along neck to about the level of the insertion of the fore limb where, losing the black edging, it becomes wider and indistinct, and so continues to the base of the tail; dorsum, limbs, and tail speckled and marked with black and white; the black dorsal specks showing a tendency to form longitudinal stripes or transverse bars, especially posteriorly; white speckling most noticeable posteriorly. Below, chin, throat, and fore part of chest intense black, speckled and vermiculated with white; breast and belly whitish, extensively marked with black or gray, most strongly so on the belly, hind limbs, and anal region.

The larger paratype agrees with the type except that the markings are less numerous and prominent. The juvenile paratype is brown above with distinct transverse bars on back and tail, while the white speckling is almost obsolete; below, grayish white, immaculate

except for faint gray vermiculations on side of head and a few faint marks on belly.

MEASUREMENTS (in millimeters)

	Length of head and body	Tail	Total length	Hind limb	Hind foot
Type, no 45,806	49	78	127	28	12
Paratype, no. 45,807	49	59 ¹	108	27	13
Paratype, no. 45,808	31	31	— ²	18	9

Stenocercus juninensis sp. nov.

Type: M. C. Z., no. 45,820, a male, from Huasqui, near Tarma, Department of Junin, Peru, collected by W. F. Walker, April 25, 1937.

Paratypes: M. C. Z., nos. 45,821-2, with the same data as the type.

Diagnosis: Allied to *Stenocercus roseiventris* Duméril and Bibron, from which this new form differs in having a denticulation on the anterior border of the ear, an occipital scale not enlarged, a larger number of scales around the body, caudal scales which are not very spinose, and in the different coloration.

Description: Pterygoid teeth (only the two paratypes examined for this character); median supraocular scales slightly broader than long; occipital small; temporal scales feebly keeled; anterior border of ear rather feebly denticulated; side of neck with two oblique folds, the antehumeral stronger and with a serrated edge on its lower half; body round; a vertebral denticulation; dorsal scales fairly large, imbricate, sharply keeled, and sometimes slightly mucronate, the keels forming continuous lines which are slightly oblique on the posterior part of the back; lateral scales much smaller, smooth or feebly keeled; scales under the neck slightly larger or about the same size as gulars and ventrals; ventrals rhomboidal, imbricate, smooth, subequal to, or slightly smaller than the dorsals; about 88 (75-80 in paratypes) scales around the middle of the body; about 62 (59-66 in paratypes) scales from occiput to rear of hind limb; the adpressed hind limb reaches the ear (the ear or slightly beyond in paratypes); fifth toe not extending as far as second;

¹ Tail regenerated.

² Most of tail broken off and missing.

tail tapering, slightly compressed, with sharp upper edge; caudal scales subequal to or a little larger than dorsals, strongly keeled, slightly mucronate, and forming rings of unequal size.

Coloration in alcohol: Above, brown (gray where outer epidermis has peeled off), rather obscurely flecked with lighter brown; more strongly marked with this color on the head; tail lighter brown than dorsal ground color, its distal two thirds obscurely banded with dark brown. Below, chin and throat blackish, obscurely flecked with white; breast and sides dark gray; abdomen with a dirty yellow area posteriorly; a similar but smaller light patch on the inner aspect of each wrist; tail gray at base, yellow distally.

The paratypes are essentially similar, except that their chins and throats are gray, flecked with lighter, they lack a dirty yellow spot on the wrist, while a dirty yellow spot is present on base of tail.

MEASUREMENTS (in millimeters)

	Length of head and body	Tail	Total length	Hind limb	Hind foot
Type, no. 45,820	80	146	226	59	28
Paratype, no. 45,821	88	68 ¹	156	66	32
Paratype, no. 45,822	78	141	219	57	27

Bufo spinulosus trifolium Tschudi

This subspecies is represented in the Museum of Comparative Zoölogy by examples from the following Peruvian localities; the numbers in parentheses represent the number of specimens: Department of Junin: Huachon (2); Jachahuanca, near Ulcumayo (21); Hacienda Pucara, eight kilometers east of Morococha (8); Huasqui, near Tarma (1); Huayhuay (30); Llocllapampa (24); Maraynioc, about seventy-two kilometers northeast of Tarma, 12,000 feet altitude (105). Department of Huanuco: Huanuco (20); Taruca (4). Department of Huancavelica: Santa Inez (7). Department of Ancash: Huaraz region (1).

¹ Tail broken off and partially regenerated.

The name *Bufo trifolium* Tschudi (Fauna Peruana, Herp., p. 72, pl 11, fig. 3) was put in the synonymy of *Bufo spinulosus* by Boulenger (Cat. Batr. Sal., 1882, p. 302), but Tschudi's description and plate reveal that the name is applicable to the specimens listed above. These differ from other *B. spinulosus* in the Museum of Comparative Zoölogy in possessing a distinct, light, usually black-edged, vertebral streak, starting on the head and usually extending the length of the body. Tschudi's plate indicates this very well, but it is unfortunate that his type locality, like that of typical *spinulosus*, is no more definite than Peru. This vertebral line seems to be constant for all *trifolium* from central Peru, but is very faint in a few examples and is absent in some very young toads.

Elsewhere the vertebral streak appears to be absent, excepting for a few *spinulosus* from southern Peru in which it is slightly indicated. In view of this situation it seems that we are dealing with a recognizable geographical race.

On comparing specimens of *spinulosus* from southern Peru with those of the northern part of this country, the only difference I could find is that the northern ones seem to grow larger. It appears rather surprising that there are not better points of differentiation, as *trifolium* appears to separate completely the two populations of typical *spinulosus*. The average Chilean examples were found to be more spotted below than those from elsewhere (excluding *trifolium*). Considering the smallness of the differences, and the material at hand, it was deemed that further subdivision of this species was undesirable at this time.

Telmatobius jelskii (Peters)

The Museum of Comparative Zoölogy possesses examples of this species from the following localities in the Department of Junin, Peru, all of which are in the same

general region as the type locality, Acancocha; numbers in parentheses represent the number of specimens: Maraynioc, about seventy-two kilometers northeast of Tarma, 12,000 feet altitude (91); Cascas, about twenty kilometers northeast of Huasahuasi (43); Jachahuanca, near Ulcumayo (7). The feet of these frogs are almost fully webbed, so they agree with W. Peters' original description and plate in this as well as in other characters. It was found, on comparing these examples with the type and paratypes of *Telmatobius niger* Barbour and Noble from "Palmira Desert, 10,500 feet altitude, Ecuador," that the latter seemed barely separable. *T. niger* has slightly less webbing, slightly differently shaped tarsal tubercles, somewhat smaller vomerine teeth, and brown rather than gray coloration, the markings in both forms being about the same. All the characters appear to be average except the coloration, and even that may be influenced by preservation. *T. jelskii* differs from what Barbour and Noble called *jelskii* (Bull. Mus. Comp. Zoöl. 63, no. 8, 1920, p. 420) in having almost fully webbed feet, a stronger tarsal fold, and usually in having a less spotted coloration. This form, which Barbour and Noble regarded as *jelskii*, has the feet but half webbed, and from the description appears very closely related to *T. cinereus* Noble, from Bestion, Ecuador. In view of this, and of the fact that I have seen no material of *cinereus*, and because of the close relationship of *niger* and *jelskii*, a seemingly parallel situation, it seems best not to supply a new name for this form, at least until more material is available.

Of the form previously regarded as *T. jelskii*, I refer with doubt to *T. cinereus* the following examples from the Department of Junin: Maraynioc (55); Cascas (3); Tarma (4); and Palca (5); the last two lots are those used by Barbour and Noble.

I am indebted to Mr. K. P. Schmidt for comparing specimens of the two forms under discussion with the cotypes of *T. laevis* and *T. montanus* of Phillippi in the Field Museum

of Natural History. *T. laevis* appears to be closely related to the examples here doubtfully referred to *T. cinereus*. An apparently similar relationship likewise exists between *T. montanus* and *T. jelskii*.

Telmatobius walkeri sp. nov.

Type: M. C. Z., no. 24,370, an adult male, from Rapi, one hundred and eight kilometers east of Ayacucho, Department of Ayacucho, Peru, collected by Warren F. Walker, in May, 1939.

Paratypes: M. C. Z., nos. 24,371-9, and three uncatalogued specimens with the same data as the type: also M. C. Z., nos. 24,380-1, from Pajonal, half way between Ayacucho and Andahuaylas, the rest of the data the same as that of the type. Apparently all the paratypes are subadult.

Diagnosis: Allied to *Telmatobius ignavus* Barbour and Noble, from which the new form differs in having a larger tympanum, slightly more webbing on the feet, a much less distinct tarsal fold, and apparently a different coloration.

Description: (Paratype variations in parenthesis): Size moderate; head broader than long, narrower than the body; the length of head contained in the length of the head and body about three and a third (or two and two thirds to three) times; snout very short, rather high, without distinct canthus rostralis; nostril nearer the orbit than the labial border; vomerine teeth in two large, somewhat oblique groups between the rather small choanae; tongue about as long as (or longer than) broad; interorbital space as broad as (or broader than) an upper eyelid; length of the snout about equal to the longest diameter of the eye; tympanum rather indistinct, rather more than half (or about one half to two thirds) the diameter of the eye; a prominent supratympanic fold; fingers free, rather stout, slightly swollen (or not swollen at all) at the tips; first finger about as long as (or slightly longer than) the second; second shorter than the fourth; the elbow extended forward reaches (or just fails to reach) the posterior corner of the eye; toes rather more than half (or about half) webbed, the webbing extending up the sides of the digits to their tips as a very distinct dermal margin, about two phalanges of the third, three of the fourth and one (or two) of the fifth so margined; a poorly defined tarsal fold; subarticular tubercles distinct; metatarsal tubercles well developed, inner decidedly (or but slightly) larger than outer; heels just in contact when the hind limbs are

folded at right angles to the body axis; tibiotarsal articulation of the adpressed hind limb reaches the tympanum (or as far as posterior corner of the eye or only as far as the shoulder); skin of dorsum slightly glandular, of sides loose, with irregular folds; ventral disk marked off with a rather (or very!) ill defined transverse fold between the fore limbs and a similar longitudinal one at each side of the belly; skin of posterior surface of thigh somewhat loose; the male type (but no paratypes) with light brown asperities on the thumb, none on the chest.

Color in alcohol: Above, uniform gray. Below, brownish gray changing to gray on the limbs; fore limbs with some yellowish white slightly extending onto fore arm, thighs yellowish white spotted with gray; tips of digits yellowish white.

The paratypes are essentially similar except that the yellowish white below may be much more extensive on belly and limbs, even extending onto the hands and feet; on both fore and hind limbs the yellow may be immaculate or spotted with gray.

MEASUREMENTS (in millimeters)

	Length of head and body	Head	Hind limb	Fourth toe
Type, no. 24,370	58	17	75	16
Paratypes, nos. 24371-81, and 3 uncata- logued specimens	43-27	14-8	61-39	13-7

This species is named for the collector, Mr. W. F. Walker.

Edalorhina pustulata sp. nov.

Type: M. C. Z., no. 7666, from Guayaquil, Ecuador, collected by C. T. Brues, May, 1913.

Diagnosis: Allied to *Edalorbina plicifrons* (Cope), from which the new form differs in the size of the tympanum, folding, pustulations, tubercles, glands, and dermal processes, or their absence, on the head and body, and in coloration.

Description: Vomerine teeth none; snout rather rounded, without conical tubercle; a distinct canthus rostralis; nostril much nearer the tip of the snout than the eye; interorbital space a little narrower

¹ Apparently due to preservation.

than the upper eyelid and without a dermal fold; eyelid devoid of dermal processes; tympanum nearly round, about half the diameter of the eye; first finger shorter than second; toes unwebbed; subarticular tubercles well developed; metatarsal tubercles small, though prominent, the inner a little larger than the outer; the tibio-tarsal articulation of the adpressed hind limb reaches the tympanum; skin, including eyelids, strongly pustulate above; pustulations on back in the scapular region enlarged and somewhat elongate so as to form a Λ -shaped figure; a fairly large, rather elongate parotoid gland on the scapular region and a similar gland on the loin; sides strongly but irregularly folded; no fold on the median line.

Coloration in alcohol: Above, light brownish gray, more grayish anteriorly; an obscure, brown, transverse bar connecting the eyelids; hinder side of eyelids darker gray; a dark brown Λ -shaped figure on the back; one or two obscure dark brown spots on the lymbar region; a short, white longitudinal mark on the coccyx; limbs cross-banded with brown. Below, white; principally conspicuous on throat and belly; chest suffused with brown; belly spotted with brown; limbs brownish white, the thighs anteriorly mottled with brown; (possibly these ventral markings black in life?).

Measurements. Type, no. 7666: Length of head and body, 23 mm. Head, 8 mm. Hind limb, 28 mm. Fourth toe, 5 mm.

On dissection, this animal was found to have a sternum with a bony style, and a cartilaginous omosternum. The presence of maxillary teeth and the distinct tympanum are all indicative of the genus *Edalorhina*. Whether the latter is really distinct from *Physalaemus* is open to question.

Pleurodema marmoratum (Duméril and Bibron)

With possibly one exception, the undermentioned localities of examples of this species in the Museum of Comparative Zoölogy afford a northward extension of the range recorded by H. W. Parker (Ann. Mag. Nat. Hist., (9), 20, 1927, p. 475) as: "Andes of S. Peru, Bolivia and N. Argentina (Sta. Catalina)." The localities, all in Peru, are followed by figures in parentheses representing the number of specimens: Department of Junin: Janchiscochas

folded at right angles to the body axis; tibiotarsal articulation of the adpressed hind limb reaches the tympanum (or as far as posterior corner of the eye or only as far as the shoulder); skin of dorsum slightly glandular, of sides loose, with irregular folds; ventral disk marked off with a rather (or very¹) ill defined transverse fold between the fore limbs and a similar longitudinal one at each side of the belly; skin of posterior surface of thigh somewhat loose; the male type (but no paratypes) with light brown asperities on the thumb, none on the chest.

Color in alcohol: Above, uniform gray. Below, brownish gray changing to gray on the limbs; fore limbs with some yellowish white slightly extending onto fore arm, thighs yellowish white spotted with gray; tips of digits yellowish white.

The paratypes are essentially similar except that the yellowish white below may be much more extensive on belly and limbs, even extending onto the hands and feet; on both fore and hind limbs the yellow may be immaculate or spotted with gray.

MEASUREMENTS (in millimeters)

	Length of head and body	Head	Hind limb	Fourth toe
Type, no. 24,370	58	17	75	16
Paratypes, nos. 24371-81, and 3 uncata- logued specimens	43-27	14-8	61-39	13-7

This species is named for the collector, Mr. W. F. Walker.

Edalorhina pustulata sp. nov.

Type: M. C. Z., no. 7666, from Guayaquil, Ecuador, collected by C. T. Brues, May, 1913.

Diagnosis: Allied to *Edalorhina plicifrons* (Cope), from which the new form differs in the size of the tympanum, folding, pustulations, tubercles, glands, and dermal processes, or their absence, on the head and body, and in coloration.

Description: Vomerine teeth none; snout rather rounded, without conical tubercle; a distinct canthus rostralis; nostril much nearer the tip of the snout than the eye; interorbital space a little narrower

¹ Apparently due to preservation.

than the upper eyelid and without a dermal fold; eyelid devoid of dermal processes; tympanum nearly round, about half the diameter of the eye; first finger shorter than second; toes unwebbed; subarticular tubercles well developed; metatarsal tubercles small, though prominent, the inner a little larger than the outer; the tibio-tarsal articulation of the adpressed hind limb reaches the tympanum; skin, including eyelids, strongly pustulate above; pustulations on back in the scapular region enlarged and somewhat elongate so as to form a Λ -shaped figure; a fairly large, rather elongate parotoid gland on the scapular region and a similar gland on the loin; sides strongly but irregularly folded; no fold on the median line.

Coloration in alcohol: Above, light brownish gray, more grayish anteriorly; an obscure, brown, transverse bar connecting the eyelids; hinder side of eyelids darker gray; a dark brown Λ -shaped figure on the back; one or two obscure dark brown spots on the lymbar region; a short, white longitudinal mark on the coccyx; limbs cross-banded with brown. Below, white; principally conspicuous on throat and belly; chest suffused with brown; belly spotted with brown; limbs brownish white, the thighs anteriorly mottled with brown; (possibly these ventral markings black in life?).

Measurements. Type, no. 7666: Length of head and body, 23 mm. Head, 8 mm. Hind limb, 28 mm. Fourth toe, 5 mm.

On dissection, this animal was found to have a sternum with a bony style, and a cartilaginous omosternum. The presence of maxillary teeth and the distinct tympanum are all indicative of the genus *Edalorhina*. Whether the latter is really distinct from *Physalaemus* is open to question.

Pleurodema marmoratum (Duméril and Bibron)

With possibly one exception, the undermentioned localities of examples of this species in the Museum of Comparative Zoölogy afford a northward extension of the range recorded by H. W. Parker (Ann. Mag. Nat. Hist., (9), 20, 1927, p. 475) as: "Andes of S. Peru, Bolivia and N. Argentina (Sta. Catalina)." The localities, all in Peru, are followed by figures in parentheses representing the number of specimens: Department of Junin: Janchiscochas

Mine, forty kilometers north of Jauja (50); Maraynioc, about seventy-two kilometers northeast of Tarma, 12,000 feet altitude (45); Huayhuay (8); Cascas, about twenty kilometers northeast of Huasahuasi (5); Hacienda Pucara, eight kilometers east of Morococha (4); Huayllay (4). Department of Ayacucho: Rapi, one hundred and eight kilometers east of Ayacucho (13).

Gastrotheca boliviana griswoldi subsp. nov.

Type: M. C. Z., no. 24102, an adult female, from Maraynioc, about seventy-two kilometers northeast of Tarma, 12,000 feet altitude, Department of Junin, Peru, collected by J. A. Griswold, Jr., March 6 to May 13, 1939.

Paratypes: M. C. Z., nos. 24,103-6 and uncatalogued duplicates with same data as the type. In addition to the type locality, Mr. W. F. Walker and his son secured specimens from the following places in the Department of Junin, Peru: Cascas, about twenty kilometers northeast of Huasahuasi, August 31, 1936 (M.C.Z., 22,862-6); Janchiscochas Mine, forty kilometers north of Jauja, January 25, 1937 (M.C.Z., 22,875-6); Hasqui, near Tarma, 1937 (M.C.Z., 24,387-9); Huayhuay, March 22, 1937 (M.C.Z., 24,390-2); Hacienda Pucara, eight kilometers east of Morococha, April 17, 1937 (M.C.Z., 24,400); Jachahuanca, near Ulcumayo, June 6, 1937 (M.C.Z., 24,418-9). There are also uncatalogued duplicates from some of these localities.

Diagnosis: Differs from typical *boliviana* in coloration and in possession of a dorsal pattern as described below. Where a more or less similar pattern does occur in *boliviana* there are three rows of spots or longitudinal markings. In the new race there are only two, except sometimes posteriorly. Unmarked young of the two forms appear to be indistinguishable.

Coloration in alcohol: Above, gray, with dark gray markings; a transverse bar extending from one eyelid to the other has a posterior projection which bifurcates in the occipital region, the branches extending more or less horizontally along the back to the entrance of the brood pouch; posterior part of back with a few irregular, fairly large spots and some smaller ones on the sides, including the sides of the head; a streak extends from end of snout along canthus rostralis through eye, after which it widens to about half way along

flank; limbs cross-banded; all markings more or less edged with whitish; lips whitish; below, whitish, obscurely marked with brown.

Many of the paratypes are similar to the type, but in others there is some splitting or fusing of parts of the dorsal marking; for example, one or both of the divisions from the head marking may not be in contact with the head marking itself at all, or the two may be in more or less contact with each other or with some of the spots on the posterior part of the back; also, there is much variability in general outline and extent of the dorsal markings and the spots on the posterior part of the dorsum; in addition, there is variability in amount of spotting on the sides of the body and head; the dorsal markings in some examples are blue, bluish, or brownish, and in others the light edgings of the markings may not be visible; very young specimens may be entirely unmarked above. Below, markings may be absent or quite extensive.

Measurements. Type, no. 24,102: Length of head and body, 40 mm. Head, 12 mm. Hind limb, 29 mm. Fourth toe, 11 mm.

This form is named for J. A. Griswold, Jr., collector of the type and many paratypes.