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A SYNOPSIS OF THE *VARIABILIS* GROUP OF  
THE LIZARD GENUS *SCELOPORUS*, WITH  
DESCRIPTIONS OF NEW SUBSPECIES\*

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THE *variabilis* group is one of the most distinct of the genus *Sceloporus*. Its most characteristic feature is the presence of a postfemoral dermal pocket. So far as I am aware only two other species of *Sceloporus* (*gadoviae* and *maculosus*), not belonging to this group, possess such a structure. The group is further characterized by (1) the small size of the lateral body scales; (2) moderately sized or small dorsal scales (minimum, 36; maximum, 83); (3) smooth preanal and ventral abdominal scales in both males and females; (4) enlarged postanals in males; (5) moderate or small size of all members; (6) a general tendency of the anterior section of the frontal to be divided; and (7) a general tendency of the head scales to be rugose.

At present nine forms are recognized: *couchii* Baird, *cozumelae* Jones, *parvus parvus* Smith, *parvus scutulatus* new subspecies, *teapensis* Günther, *variabilis olloporus* new subspecies, *variabilis marmoratus* (Hallowell), *variabilis smithi* Hartweg and Oliver, and *variabilis variabilis* Wiegmann. *Sceloporus*

\* Studies on *Sceloporus* are being conducted under the auspices of the National Research Council.

*delicatissimus* Hallowell is a synonym of *v. marmoratus*, and *Lysoptychus lateralis* Cope is a synonym of *S. couchii*.

The study of these species has involved the examination of approximately 1553 specimens, representing most of the material available in museums in the United States. The collections have been examined at the United States National Museum, the Academy of Natural Sciences of Philadelphia, the American Museum of Natural History, the Museum of Comparative Zoology, the University of Michigan Museum of Zoology, Field Museum of Natural History, and Dyche Museum at Kansas University.<sup>1</sup>

*Sceloporus couchii* Baird

*Sceloporus couchii* Baird, *Proc. Acad. Nat. Sci. Phila.*, 1859: 254.

TYPE LOCALITY.—Santa Caterina, Nuevo León, Mexico.

DIAGNOSIS.—A medium-sized species of the *variabilis* group (maximum snout-vent measurement about 60 mm.); head scales smooth; frontoparietals usually divided into 2 on each side, usually in contact medially; anterior section of frontal usually divided longitudinally; prefrontals usually separated by an azygous scale; frontonasals, 3, typical in size and relationships with other scales; subnasal usually absent; preocular never divided; a group of granular scales extending ventrad between the lateroventral scales in front of insertion of foreleg; dorsal scales, 69 to 83 from occiput to base of tail; lateral abdominal scales very small, no greater than one-fifth the size of the scales on the anterior surface of the femur; femoral pores, 14 to 20, usually 15 to 17; a postfemoral dermal pocket present; ventral interfemoral scales separated from ventral thigh scales by a group of small scales one-third or one-fourth

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the size of adjacent scales. Females olive gray above, with a series of 7 or 8 rounded dark spots on each side of median dorsal line; these spots small on neck, increasing in size posteriorly; males with an irregular black band on the sides; sides of belly blue in males; gular area with oblique blue bars (males).

RANGE.—Southern Texas, eastern Coahuila, northern and central Nuevo León.

*Sceloporus cozumelae* Jones

*Sceloporus cozumelae* Jones, *Occ. Papers Mus. Zool. Univ. Mich.*, 186 (1927): 1-4.

TYPE LOCALITY.—Cozumel Island, Yucatán, Mexico.

DIAGNOSIS.—A medium-sized species of the *variabilis* group (maximum snout-vent measurement 54 mm.); 46 to 55 dorsal scales from occiput to base of tail; lateral scales in oblique rows directed upward, no less than three-fifths size of dorsal scales, not or poorly differentiated from dorsals; femoral pores, 6 to 9, rarely 10 or 11; anterior section of the frontal divided longitudinally; frontoparietals usually separated medially by an azygous scale; subnasal rarely present; preocular usually not divided; postfemoral dermal pocket present. Sides of abdomen in males not distinctively colored; gular region not barred distinctly.

RANGE.—Distal half of Yucatán Peninsula, and adjacent islands.

*Sceloporus parvus parvus* Smith

*Sceloporus parvus* Smith, *Trans. Kans. Acad. Sci.*, 37 (1934): 263-67, Figs. 1, 3, 10 (part).

TYPE LOCALITY.—Five miles west of Sabinas Hidalgo, Nuevo León, Mexico.

DIAGNOSIS.—A very small *Sceloporus* of the *variabilis* group (maximum snout-vent measurement about 50 mm.); head scales smooth or very slightly rugose; subnasal rarely absent; frontal variable; frontoparietals usually in contact medially, usually 2 on each side; 4 postrostrals; dorsal scales, 58 to 69

from occiput to base of tail; scales around body, 61 to 69; dorsal scale rows at nape, 15 to 18; femoral pores, 12 to 16 on each side, the 2 series separated medially by not over 6 scales; a postfemoral dermal pocket present. Males with a blue area on the sides of the belly, but not dark-bordered; throat coarsely mottled in males; an irregular, dark, lateral band usually visible; a series of about 9 narrow spots on each side of the back between the shoulders and the base of the tail; these spots united together anteriorly, forming 2 parallel dark lines which, in some specimens, extend the full length of the body.

RANGE.—Northern Nuevo León south through western San Luis Potosí.

*Sceloporus parvus scutulatus*, n. subsp.

HOLOTYPE.—EHT. No. 7129, from a locality 30 miles north of Matehuala, San Luis Potosí. Paratypes.—EHT. 7127–28, topotypes; ANSP. Nos. 12560–61, 16025, 16027–28, Zacualtipan, Hidalgo.

DIAGNOSIS.—A very small *Sceloporus* (maximum snout-vent measurement about 50 mm.); head scales smooth or slightly rugose; subnasal rarely absent; anterior section of frontal not longitudinally divided; frontoparietals, 2, usually in contact medially; prefrontals occasionally in contact medially; preocular occasionally entire; dorsal scales, 68 to 76, average, 72; scales around body, 70 to 81; dorsal scale rows at nape, 18 to 21; femoral pores, 13 to 16 on each side, the two series separated medially by not over 6 scales; a postfemoral dermal pocket present. Otherwise as *parvus parvus*.

VARIATION.—Eight specimens are available of this subspecies. Parietals, 2 or 3, 2 occur 12 times, 3 occur 4 times; frontoparietals, 2 or 3, 2 occur 11 times, 3 occur 5 times; frontoparietals in contact in all; frontal transversely divided in all, without secondary divisions of either section; supraoculars, 4 to 7, 4 occur 4 times, 5 occur 8 times, 6 occur 3 times, 7 occur once; in 1 specimen, 2 supraoculars on each side in contact with median head scales; prefrontals in contact medially in 1; frontal in contact with median frontonasal in 1; an

azygous scale separating prefrontals in 5; median fronto-nasal normal in all; nasal contacts rostral in none; subnasal present in all; first canthal in contact with lorilabials on one side in 1; preocular entire in 1; 4 postrostrals in all.

The dorsal scale count varies between 69 and 76: 69 (1), 70 (1), 73 (1), 74 (2), 76 (1).<sup>2</sup> Ventral scales vary between 58 and 64: 58 (1), 61 (2), 62 (1), 64 (1); scales around the body vary between 70 and 81: 70 (1), 74 (1), 75 (1), 79 (1), 81 (1). Dorsal scale rows at nape vary between 18 and 21: 18 (3), 20 (3), 21 (2). Femoral pores vary between 14 and 16: 14 (5), 15 (3), 16 (6).

COMPARISONS AND DISCUSSION.—This subspecies has been segregated from *parvus* largely on the basis of the larger number of dorsal scales, larger number of scales about the body, and the larger number of rows of dorsals at the nape. The variation in dorsal scale count of the species, if considered indivisible, would be almost unparalleled in *Sceloporus* (restricted to species having an approximately equal average). It would show a range of variation even greater than *couchii*, which has smaller scales than *parvus*. The overlap between the two subspecies proposed is small, and specimens well within the geographical range of the two subspecies, so far as known at present, do not overlap in variation of dorsal scale count. Further, there are two general trends in variation of other characters which show a recognizably different chromosome structure. These are as follows: prefrontals occasionally in contact in *scutulatus*, never in typical *parvus*; anterior section of frontal never divided in *scutulatus*, divided in 50 per cent of typical *parvus*.

It may be noted that specimens of *parvus*, from Charcas, San Luis Potosí, show a tendency toward *scutulatus*, having somewhat smaller scales than northern *parvus*, anterior section of frontal never longitudinally divided, preocular frequently

<sup>2</sup> In the original description of *parvus*, H. M. Smith, "Descriptions of New Lizards of the Genus *Sceloporus* from Mexico and Southern United States," *Trans. Kans. Acad. Sci.*, 37 (1934): 266, I mentioned a specimen (EHT. and HMS. field No. 4054 [=7127]) with 67 dorsals. This specimen has a break in the skin completely across the back; thus the count cannot be considered reliable.

entire, and prefrontals frequently in contact medially. I presume that these specimens are located within the borders of the area of intergradation between *parvus* and *scutulatus*.

The only color difference between the 2 subspecies is the more distinct dorsolateral light lines in *parvus*, less distinct in *scutulatus*. The Charcas specimens are intermediate in this character also.

*Sceloporus teapensis* Günther

*Sceloporus teapensis* Günther, "Reptilia and Batrachia," *Biologia Centrali-Americana*, 1890: 75-6.

TYPE LOCALITY.—Teapa, Tabasco, Mexico.

DIAGNOSIS.—Head scales strongly rugose; anterior section of frontal rarely not longitudinally divided; subnasal usually absent (or fused with first canthal); preocular usually divided; median frontonasal rarely entire; prefrontals rarely in contact with each other; frontal rarely in contact with interparietal; dorsal scales, 36 to 47, average, 43.2; scales on posterior surface of femur granular; a postfemoral dermal pocket present; scale rows across nape, 9 to 12, usually 10 or 11; scales across rump, 8 or 9. A dorsolateral light line on each side,  $1\frac{1}{2}$  scale rows wide, originating at the posterior corner of the eye and terminating on the tail; 2 series of about 10 dark spots on the body between the dorsolateral light lines, the series separated medially by a dim median light line; limbs with distinct dark bands; a black spot in the axilla, extending on the shoulder, bordered anteriorly by a light line originating on the arm; the side of the belly, in males, with a blue-bordered pink or lavender area, the two separated from each other by a median light line.

RANGE.—Southern Vera Cruz, south through the northern part of extreme eastern Oaxaca, east on the Pacific slopes through Tabasco, northern Chiapas, southern Campeche to British Honduras, and south in Guatemala to Cobán.

REMARKS.—*S. cupreus* was first allocated with the *chryso-stictus* group by Bocourt,<sup>3</sup> who stated that it was closely related

<sup>3</sup> "Études sur les reptiles et les batraciens," *Mission Sci. Mexique*, 4 (1874): 211. The species was first described by Bocourt in "Deux notes sur quelques sauriens de l'Amérique tropicale," *Ann. Sci. Nat.*, Vol. 17, No. 4, in December, 1873, or January, 1874.

to *siniferus* (*humeralis*). Cope<sup>4</sup> followed his group allocation, but placed the species in the synonymy of *chrysostictus*, which disposal was adopted by Boulenger<sup>5</sup> and Günther<sup>6</sup> although with a question. In 1897 Boulenger<sup>7</sup> rescued the name from synonymy and applied it to a member of the *variabilis* group, placing in its synonymy *Sceloporus teapensis* Günther.<sup>8</sup> Boulenger states:

The agreement between our female specimens from Oaxaca and the type female [of *cupreus*], which was likewise obtained with *S. siniferus*, is so close that I cannot entertain the least doubt as to the correctness of my identification. But it must be mentioned that Bocourt describes the male as without sexual markings, whilst our specimens have the belly coloured as in *S. variabilis*. I have, however, examined a male of the latter species (from H. del Bobo) in which the ventral markings are very indistinct.<sup>9</sup>

It is my opinion, however, that Bocourt's *cupreus* is the same as the species I have described as *cochranae*, and that *teapensis* should be revived for Boulenger's *cupreus* (non Bocourt). I have based my conclusions concerning the identity of *cupreus* on the following quotations from Bocourt: ". . . entre chacune des narines et la plaque rostrale, il y a une petite écaille dilatée en travers. . . ." <sup>10</sup> In *teapensis* and other closely related members of the *variabilis* group, 4 small scales are present behind the rostral between the two nasals; in *cochranae* and certain other related members of the *chrysostictus* group, the scales are as described by Bocourt: ". . . sur la région interorbitaire, on voit six squames frontales en trois séries. . . ." The scales referred to are the 2 sections of the frontal, both of which are split longitudinally, and the 2 frontoparietals. In *teapensis*

<sup>4</sup> "A Contribution to the Herpetology of Mexico," *Proc. Amer. Phil. Soc.*, 22 (1885): 396.

<sup>5</sup> *Catalogue of the Lizards in the British Museum* (London: Published by Order of the Trustees, 1885), 2: 235.

<sup>6</sup> "Reptilia and Batrachia," *Biologia Centrali-Americana* (London: R. H. Porter and Dulau and Co., 1890), 7: 90.

<sup>7</sup> "A Revision of the Lizards of the Genus *Sceloporus*," *Proc. Zool. Soc. London*, 1897: 518-19.

<sup>8</sup> *Op. cit.*, pp. 75-76.

<sup>9</sup> *Op. cit.*, p. 519, footnote.

<sup>10</sup> *Op. cit.*, pp. 210-211.

the posterior section of the frontal is rarely divided (5 specimens in 92); the anterior section of the frontal is, usually, divided. In *cochranae* and in several related species, the scales are as described by Bocourt: "Ecailles de la gorge, de la poitrine et du ventre lisses, imbriquées, à bord postérieur aigu n'offrant pas de dentelure. . . ." The ventral scales of *teapensis* are typically notched at the tip, as are the ventrals of other members of the *variabilis* group. In *cochranae* and related members of the *chrysostictus* group, the ventrals are rather strongly pointed, not notched at the tip: ". . . deux bandes plus claires, d'un ton de cuivre jaune, parcourent chacun des côtés du corps. . . ." The dorsolateral light lines, while present in *teapensis*, are not "*plus claires*," and are especially dim in females. *S. cochranae* has distinct, broad stripes: "Partes inférieures, chez les deux sexes, d'un jaune pâle piqué de gris, n'offrant pas chez le mâle deux taches abdominales bleues." This applies to *cochranae*, but not to *teapensis*, in which lateral abdominal markings are present in the males: "Chez la femelle, le dessous de la tête est marqué de lignes longitudinales, les unes grises, les autres d'un jaune pâle." The females of *teapensis* typically have the throat uniform white. No females of *cochranae* are available, but it is assumed that Bocourt's description would apply, for the male *cochranae* possesses such marks on the throat, and in species related to *cochranae* the females have the throat marked just as in the males.

Bocourt's color description makes no mention of the very characteristic spotted pattern of *teapensis*, which certainly would be mentioned if present in *cupreus*. In the figure of *cupreus* (Pl. 18 bis, Fig. 3), 2 canthals and 1 subnasal are shown; the subnasal is usually absent in *teapensis*, and is present in *cochranae*. Other characters given by Bocourt for *cupreus* may apply to either *teapensis* or *cochranae*. It may be noted, however, that none of the characters given would apply only to *teapensis*.

Dr. F. Angel at Paris has kindly submitted the following information concerning the cotypes of *cupreus*: enlarged supra-



oculars, 3 to 4; interparietal twice as large as parietal; prefrontals separated medially; 4 supralabials to a point below middle of eye; auricular lobules present or absent; 11 to 12 rows of dorsals on back; 9 rows of dorsals at rump; postfemoral dermal pocket absent; 11 and 8 dorsal scales equalling length of head; femoral pores, 12-14, 12-13; dorsal scales from occiput to base of tail, 42 and 43. Certain differences from the characters given for *cochranae* are discernible, but I attribute these to difference in manner of counting and to natural variation which might be expected in a species. These additional data also are definite proof that *cupreus* and *teapensis* are not synonymous.

*Sceloporus variabilis variabilis* Wiegmann

*Sceloporus variabilis* Wiegmann, *Herp. Mex.*, 1834: 51.

TYPE LOCALITY.—Mexico.

DIAGNOSIS.—A *Sceloporus* of moderate size (maximum snout-vent measurement, 74 mm.); a post femoral dermal pocket present; dorsal scales usually between 49 and 59 from occiput to base of tail, average, 54.5; lateral scales one-half to two-thirds size of dorsal scales, somewhat smaller than ventral scales; scales around body, 58 to 70; ventral scales, 57 to 79, average, 67.6; femoral pores usually 12 to 14 (average, 12.8), the 2 series widely separated medially; subnasal rarely absent; frontoparietals usually in contact medially; anterior section of frontal rarely not longitudinally divided; prefrontals usually separated medially by an azygous scale; median frontonasal usually separated from lateral frontonasals, or irregularly divided; preocular rarely entire. Two dorsolateral light lines present; a series of indistinct dark spots on back, 1 row on each side of middorsal line (spots sometimes very dim or absent); limbs not strongly banded (except posterior surface of lower foreleg); males with pink, blue-bordered areas on sides of belly.

RANGE.—From southern Tamaulipas (near Llera) southwest to eastern Querétaro and eastern Puebla, and south to south central Vera Cruz (Río Blanco), thence inland through eastern

Oaxaca to extreme western Guatemala, reaching the Pacific coast only in Chiapas and possibly extreme western Guatemala.

*Sceloporus variabilis marmoratus* (Hallowell)

*Sceloporus marmoratus* Hallowell, *Proc. Acad. Nat. Sci. Phila.*, 1852: 178.

TYPE LOCALITY.—San Antonio, Texas.

DIAGNOSIS.—A *Sceloporus* with rugose or keeled cephalic plates (maximum snout-vent measurement, 52.5 mm.); frontoparietals usually in contact medially; anterior section of frontal longitudinally divided; prefrontals separated by an azygous scale; subnasal rarely absent; preocular rarely entire; postrostrals usually 4; femoral pores, 10 to 14; postfemoral dermal pocket present; lateral scales smaller than either dorsals or ventrals, in oblique rows; 58 to 68 scales from occiput to base of tail, average, 63.2; ventral scales, 65 to 70, average, 67.9; scales around body, 64 to 73, average, 67.5. Dorsolateral light stripes present; a series of dark spots on each side of back; character of dorsal markings not usually dimorphic; adult males with a pink, blue-bordered area on each side of belly, not confluent medially; belly otherwise immaculate.

RANGE.—From Dallas, Texas, south to southern Tamaulipas (near Llera); in the central part of the range, as far west as San Antonio.

*Sceloporus variabilis smithi* Hartweg and Oliver

*Sceloporus variabilis smithi* Hartweg and Oliver, *Occ. Papers Mus. Zool. Univ. Mich.*, 356 (1937): 1-5.

TYPE LOCALITY.—Quiengola Mountain, northwest of Tehuán-tepec City, Oaxaca, Mexico.

DIAGNOSIS.—A *Sceloporus* of moderate size (maximum snout-vent measurement 71 mm.); scales from occiput to base of tail, 58 to 69, average, 63; ventral scales, 71 to 92, average, 79; scales around body, 71 to 91, average, 78; scutellation otherwise as in *v. variabilis*. Dorsal ground color chocolate to dark brown; a very broad, very well-defined dorsolateral light line on each side, originating at posterior margin of orbit, terminating on tail; sides of belly pink, blue-bordered, in

males; belly usually similarly colored, but less distinctly, in females.

RANGE.—Southern slopes of Isthmus of Tehuantepec, west to southern central Oaxaca.

*Sceloporus variabilis olloporus*,<sup>11</sup> n. subsp.

HOLOTYPE.—UMMZ. No. 71207, male, San Juanillo, Costa Rica, collected by Austin Smith, October 7, 1931. Paratypes.—UMMZ. No. 71199, Sierra de San Juan, Guanacasti, Costa Rica; UMMZ. No. 71207(3), topotypes; UMMZ. No. 77856(2), Subirana Valley, 2800 feet, Honduras Republic; USNM. No. 25251, Nicaragua; USNM. Nos. 37099-100, Ballena Bay, Nicoya Pen., Costa Rica; USNM. Nos. 37101-02, Circuelas, 900 feet, Costa Rica; MCZ. No. 15387, Alajuela, Costa Rica; MCZ. Nos. 20001, 20004, Esparta, Costa Rica; MCZ. No. 32277, Portillo Grande, Yoro, Honduras Republic; FMNH. Nos. 20573-74, El Rancho, Guatemala; FMNH. No. 21868, Mata-deros Mountains, Yoro, Honduras Republic.

DIAGNOSIS.—A moderate-sized *Sceloporus* (maximum snout-vent measurement 70 mm.); head scales rugose; dorsal scales usually 48 to 59, average, 52.7; ventral scales, 57 to 72, average, 65.1; scales around body, 53 to 68, average, 58.8; femoral pores usually 8 to 11, average, 9.8; dorsal scales strongly keeled, strongly mucronate, 4 to 6 times as large as lateral scales; latter subequal in size to ventral scales; ventrals smooth, notched apically; frontoparietals usually in contact medially, usually 2 on each side; anterior section of frontal longitudinally divided, posterior section frequently divided into 2 or more scales; supraoculars usually 5, occasionally broadly in contact with median head scales; prefrontals separated by an azygous scale (very rarely in contact); median frontonasal rarely typical; subnasal usually present; first canthal very frequently touching lorilabials; preocular usually divided; postrostrals usually 4; loreals usually 1; postfemoral dermal pocket present. Color is as in *v. variabilis*, except the dorso-lateral light stripes and dorsal spots are frequently more distinct.

<sup>11</sup> From ὄλλω, "to lose" or "to occasion a loss."

VARIATION.—The dorsal scales vary between 46 and 59: 46 (1), 47 (1), 48 (3), 49 (13), 50 (21), 51 (16), 52 (30), 53 (26), 54 (25), 55 (16), 56 (14), 57 (10), 58 (4), 59 (1). The ventrals vary between 57 and 72: 57 (2), 60 (3), 61 (2), 62 (4), 63 (6), 64 (6), 65 (7), 66 (8), 67 (5), 68 (5), 70 (5), 71 (2), 72 (1). Scales around the body vary from 53 to 68: 53 (3), 54 (2), 55 (3), 56 (6), 57 (8), 58 (5), 59 (10), 60 (2), 61 (3), 62 (6), 63 (2), 64 (1), 65 (2), 66 (1), 68 (1). Femoral pores vary between 8 and 12: 8 (23), 9 (86), 10 (99), 11 (56), 12 (8). The numbers 11 and 12 occur over the entire range of the subspecies. No specimen has 12 pores on both legs.

The variation in scutellation of the head is as follows (206 specimens). Parietals vary from 1 to 3: 1 (75), 2 (264), 3 (11), irregular in 8. Frontoparietals 1 to 4: 1 (33), 2 (299), 3 (60), 4 (1), irregular in 8. Frontal touches interparietal in 2; an azygous scale separates frontoparietals medially in 10; anterior section of frontal entire in 1; posterior section of frontal transversely divided in 1, longitudinally divided in 25, divided into 3 small scales in 6; supraoculars 4 to 7: 4 (8), 5 (361), 6 (42), 7 (1); some supraoculars in contact with median head scales in 32 specimens, as follows (numbers not in parentheses indicate the number of the supraocular in contact with median head scales; both sides indicated): 0/3 (5), 0/4, 0/5, 2/2, 3/3 (7), 3/4 (2), 4/4 (2), 0/3-4-5, 3/2-3 (2), 3/3-4, 3/1-3-4, 3/2-3-4, 2-3/3-4, 3-4/3-4 (5), 2-3-4/2-3-4 (2), 2-3-4/1-2-3-4, 2-3-4-5/2-3-4-5. Prefrontals in contact in 1, an azygous scale separating them medially in the others; frontonasals typical in size and relationships to each other in 7 specimens; nasal contacts rostral on 1 side in 2, on both sides in 3; subnasal present on both sides in 148, on 1 side in 23, absent in 33; first canthal in contact with lorilabials on 1 side in 28, on both sides in 82, separated from lorilabials in 96; preocular entire on both sides in 12, on 1 side in 4; postrostrals 2 to 4: 2 (26), 3 (27), 4 (76); loreals 1 to 4: 1 (131), 2 (49), 3 (18), 4 (2).

Some geographical correlation is possible with the above variational data. Collections from Nicaragua and Costa Rica

have a higher percentage of specimens with 2 or 3 postrostrals; in 37 specimens from these localities, 2 occur 19 times and 3 occur 10 times; in 92 specimens from all other parts of the range, 2 occur 7 times and 3 occur 17 times. Specimens from Nicaragua and Costa Rica seldom have the supraoculars in contact with the median head scales (0/5, 3-4-5/0, 3/4, in 80 specimens). Specimens from Yoro, Honduras Republic, lack the subnasal more frequently and have the first canthal in contact with the lorilabials more often than specimens from other parts of the range.

COMPARISONS.—I have not offered a detailed description of this subspecies, as it is in all respects like *v. variabilis*, except in certain above-mentioned characters. To emphasize the differences between *v. variabilis* and *v. olloporus*, the following comparisons are given (*variabilis* in parentheses): femoral pores average 9.8 (12.8); dorsal scales average 52.7 (54.5); scales around body average 58.8 (65.7); ventral scales average 65.1 (67.6); dorsal scales more strongly keeled and mucronate in *olloporus*; subnasal frequently absent (rarely absent); posterior section of frontal frequently variously divided (rarely divided); 1 or more supraoculars frequently in contact with median head scales (seldom); first canthal very frequently touching lorilabials (occasionally); dorsolateral light stripes and dorsal spots frequently more distinct in *olloporus*.

All of the above differences are not proposed as key characters; most of them are average differences which support my conclusion that *olloporus* is sufficiently differentiated from *v. variabilis* to be considered a subspecies. The most important character for differentiation of the 2 subspecies is the number of femoral pores. It may be noted that, of 311 femoral pore counts available on *variabilis variabilis*, 87 per cent are 12 or over, while of 272 counts on *olloporus*, only 4 per cent are 12 (none over). For the total population, there is an overlap of 8.5 per cent.

DISTRIBUTION.—Southern central Guatemala southeast to central Costa Rica, extending but a short distance on Atlantic slopes.

KEY TO SPECIES AND SUBSPECIES OF THE *VARIABILIS* GROUP

1. Series of femoral pores separated medially by no more than 6 scales 2  
Series of femoral pores separated medially by 10 or more scales . . . . 3
2. Dorsal scales 69 to 76; scales around body 70 to 81; dorsal scale rows  
at nape 18 to 21 . . . . . *parvus scutulatus*  
Dorsal scales 58 to 69; scales around body 61 to 69; dorsal scale rows  
at nape 15 to 18 . . . . . *parvus parvus*
3. Ventral interfemoral scales separated from ventral thigh scales by a  
group of small scales one-third or one-fourth the size of adjacent  
scales; a rudimentary gular fold; lateral scales much less than half  
the size of ventral scales; dorsal scales 69 to 83 . . . . . *couchii*  
Ventral interfemoral scales more or less continuous with ventral thigh  
scales; no rudimentary gular fold; lateral scales more than half the  
size of ventral scales; dorsals less than 69 usually . . . . . 4
4. Dorsal scales 36 to 47; subnasal usually absent; shank and posterior  
surface of lower foreleg distinctly banded; spots on back distinct  
in both sexes; preocular usually divided; frontoparietals usually in  
contact medially . . . . . *teapensis*  
Dorsal scales 47 or more . . . . . 5
5. Males and females immaculate below; femoral pores usually 9 or less  
on each side (occasionally more in females); dorsal scales 48 to 55;  
frontoparietals usually separated by an azygous scale; preocular  
rarely divided; subnasal rarely present . . . . . 6  
Males with red, blue-bordered areas on sides of abdomen; subnasal  
usually present; frontoparietals usually in contact medially; pre-  
ocular rarely entire . . . . . 7
6. Usually 2, never 4 postrostrals; scales around body usually 53 to  
58 . . . . . *cozumelae* (mainland)  
Usually 4, rarely 2 or 3 postrostrals; scales around body usually 59  
to 64 . . . . . *cozumelae* (typical)
7. Dorsal scales 59 or more . . . . . 8  
Dorsal scales usually less than 59; dorsolateral light lines 1 and 2  
half scale rows wide posteriorly; maximum snout-vent measure-  
ment about 74 mm. . . . . 9
8. Dorsolateral light stripes very distinct, 2 and 2 half scale rows wide  
posteriorly; dorsal spots usually absent; females with sides of belly  
marked as in males, but less distinctly; maximum snout-vent mea-  
surement 71 mm. . . . . *variabilis smithi*  
Dorsolateral light stripes less distinct, 1 and 2 half scale rows wide  
posteriorly; spots between dorsolateral light stripes very distinct;  
females with sides of belly immaculate; maximum snout-vent mea-  
surement 53 mm. . . . . *variabilis marmoratus*
9. Femoral pores 12 or more . . . . . *variabilis variabilis*  
Femoral pores 11 or less . . . . . *variabilis olloporus*



