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A SYNOPSIS OF THE *SCALARIS* GROUP OF THE
LIZARD GENUS *SCELOPORUS**

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SEVEN species and subspecies are included in the *scalaris* group of the genus *Sceloporus*: *jalapae* Günther, *scalaris scalaris* Wiegmann, *scalaris slevini* n. subsp., *scalaris unicanthalis* n. subsp., *goldmani* n. sp., *aeneus aeneus* Wiegmann, and *aeneus bicanthalis* n. subsp. These forms have been placed together in one group because of the common possession of the following characters: (1) a general tendency of lateral scale rows to be parallel (oblique in *jalapae*, presumably a primitive species, and in *goldmani*); (2) the femoral pore series nearly meet or are in contact medially; (3) granular scales on posterior surface of thigh; (4) the absence of postfemoral dermal pocket; (5) two postrostrals, or none; (6) the head scales tend to be rugose or keeled (least rugose in *jalapae*); (7) the frontal with a single, transverse division; (8) the preanal and ventral scales smooth in both sexes; (9) enlarged postanals present in males; (10) the males with distinctive ventral coloration; (11) small or moderate size (maximum snout-vent measurement 78 mm.); and (12) moderate size of dorsal scales, with a relatively small range of variation (35 to 62 from occiput to base of tail).

Approximately 538 specimens have been examined during

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

the study of this group. This material embraces most of that available in American museums.¹

Sceloporus jalapae Günther

Sceloporus jalapae Günther, "Reptilia and Batrachia," *Biologia Centrali-Americana*, 1890: 74.

TYPE LOCALITY.—Jalapa, Vera Cruz, Mexico.

DIAGNOSIS.—A small *Sceloporus*, maximum snout-vent measurement 51 mm.; head shields weakly striated or keeled, or nearly smooth; usually two canthals; no postrostrals; dorsals, 50 to 62, average, 55.6; dorsals much larger than ventrals, in longitudinal rows slightly divergent posteriorly; scales around body, 50 to 66, average, 56.8; ventrals, 53 to 66, average, 57.4; ventrals smooth; length of fourth toe approximately equal to distance from snout to lateral nuchal pocket; median auricular lobule usually greatly enlarged, extending across ear; femoral pores, 17 to 21, average, 19.2; none to 3 scales separating femoral pore series; no postfemoral dermal pocket; scales on posterior surface of thigh very small or granular.

RANGE.—Central Vera Cruz south through eastern Puebla to central Oaxaca.

Sceloporus scalaris scalaris Wiegmann

Sceloporus scalaris Wiegmann, *Isis*, Hft. 3 (1828): 370.

TYPE LOCALITY.—Mexico.

DIAGNOSIS.—A *Sceloporus* of moderate size, maximum snout-vent measurement 78 mm.; head scales rugose or keeled; two canthals; usually two complete rows of lorilabial scales below subocular; dorsal scales usually 39 to 49, average, 42.5; ventral scales usually 36 to 45, average, 41; scales around body, 34 to 45, average, 40.8; femoral pores, 12 to 19 on each side, average,

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16.1, the two series usually separated medially by one or more scales; on posterior surface of thigh granular scales; no post-femoral dermal pocket; lateral scales in rows parallel to the dorsal rows; tibia-head proportion usually more than 85. Brownish above, with a series of crescent-shaped darker spots on either side of middle of back, between a pair of dorsolateral light lines; sides with similar marks, extending on the ventral surface; a black spot on shoulder, enclosing a small blue spot; gular region barred in both sexes; sides of abdomen in males with a narrow, pale blue area, barred with dark blue or black; dorsal surface of tail with chevron-shaped dark brown spots, rarely with continuous median brown line.

RANGE.—Central Durango, south over the central and southern part of the Mexican plateau to central Oaxaca, except (apparently) Guerrero.

Sceloporus scalaris slevini, n. subsp.

HOLOTYPE.—CAS.² No. 48103, from Miller Peak, Huachuca Mountains, Cochise County, Arizona, collected by Joseph R. Slevin, July 7, 1920.

PARATYPES.—CAS. Nos. 48101–02, 48104, from type locality; MZUM. Nos. 69853, 71140–41, Ramsey Canyon, Huachuca Mountains; AMNH. Nos. 14950–56, 14958–65, 15045, 18348–50, Montezuma Canyon, Huachuca Mountains; MCZ. Nos. 29837–38, Ramsey Canyon; FMNH. No. 911, Tombstone, Arizona; USNM. Nos. 47064–65, Guadalupe y Calvo, Chihuahua; USNM. No. 58444, Chihuahua.

DIAGNOSIS.—A small *Sceloporus*, maximum snout-vent measurement about 61 mm.; head scales rugose or keeled; dorsal scales, 37 to 46, average, 41.5; scales around body, 38 to 45, average, 41.1; ventral scales, 35 to 45, average, 41; lateral scales in parallel rows; femoral pores, 12 to 18, average, 14.1, the two series in contact medially or separated by not over two scales;

² Abbreviations referring to collections are: AMNH., American Museum of Natural History; CAS., California Academy of Science; EHT., Dr. E. H. Taylor, private collection; FMNH., Field Museum of Natural History; MCZ., Museum of Comparative Zoology; MZUM., Museum of Zoology, University of Michigan; USNM., United States National Museum.

on posterior surface of thighs granular scales; no postfemoral dermal pocket; length of tibia averages 82.1 per cent that of head (snout to occiput); one canthal. Coloration similar to that of *scalaris*, but lateral light lines on head and body distinct; transverse bars below lateral light lines very short or absent, not entering lateral abdominal area, which is uniform navy blue in males; ventral surfaces immaculate save the lateral abdominal areas in males; a black spot on shoulder, enclosing a small blue spot; tail with a continuous median dorsal dark brown or black line covering two half scale rows.

COMPARISONS.—As *s. slevini* is, in most respects, similar to *s. scalaris*, no detailed description is here appended. The diagnosis gives all characters which differentiate the subspecies from *s. scalaris*, and a comparison of these follows: maximum snout-vent measurement, 61 mm. in *s. slevini* (78 mm. in *s. scalaris*); tibia-head proportion usually less than 90 in *s. slevini* (usually more than 90 in *s. scalaris*); one canthal in *s. slevini* (two in *s. scalaris*); in *s. slevini*, belly immaculate save lateral abdominal, uniform blue areas in males (gular region and sides of abdomen barred with black or dark blue in *s. scalaris*); tail with a continuous, median dorsal dark stripe in *s. slevini* (tail with dark, V-shaped bars dorsally in *s. scalaris*).

RANGE.—Southern Arizona south to northern Durango, west a short distance into Sonora, and east to southern central Nuevo León.

Sceloporus scalaris unicanthalis, n. subsp.

HOLOTYPE.—EHT. No. 7699, collected at Magdalena, Jalisco, by Hobart M. Smith.

PARATYPES.—EHT. No. 7700, topotype; AMNH. No. 15521, 5 miles northwest of Magdalena; AMNH. No. 17979, Hacienda de Capulines, Jalisco; AMNH. No. 17964, Oblatos, Jalisco; USNM. No. 47884, Atemajac, Jalisco.

DIAGNOSIS.—A *Sceloporus* of moderate size, maximum snout-vent measurement 65 mm. Similar to *s. scalaris* in all characters except that scales of the second pair of postmentals are usually in contact medially; one canthal; gular region usually not barred; sides of belly without dark markings passing

through the belly patches; dorsal scales 35 to 41. This form differs from *scalaris slevini* in the character of the postmentals, average dorsal scale count, maximum size (61 mm. in *s. slevini*), and ratio of tibia to snout-vent measurement (91.4 to 108.8 in *s. unicanthalis*, 72.7 to 93.7, usually less than 90, in *s. slevini*).

RANGE.—Known only from the southern edge of the Mexican plateau in central Jalisco, from the eastern border of Lake Chapala westward to Nayarit.

Sceloporus goldmani, n. sp.

HOLOTYPE.—MZUM. No. 80896, collected near Charcas, San Luis Potosí, July 31, 1934, by C. L. Lundell.

PARATYPES.—MZUM. Nos. 77265(4), 77266, topotypes; USNM. No. 46839, Carneros, Coahuila, collected by Nelson and Goldman, August 12, 1896.

DIAGNOSIS.—Similar in most respects to *S. scalaris scalaris*; lateral scales in definitely oblique rows, not parallel as in *scalaris*, *aeneus*, and their subspecies; dorsal scales, 50 to 55; scales around body, 42 to 49; ventral scales, 42 to 48; two canthals, the first rarely above canthal ridge; head scales rugose; scales on posterior surface of thigh granular; no post-femoral dermal pocket; femoral pores, 14 to 19, the two series separated from each other by one scale, or none; ratio, tibia to snout-occiput measurement, 81.6 to 84.1; two postrostrals. Dorsolateral light lines present, enclosing two series of large, crescent-shaped, dark brown spots; a series of similar spots on sides of abdomen; gular region irregularly barred in both sexes; in males, sides of abdomen pale blue, with short, dark brown or black, transverse bars.

COMPARISONS.—This species differs from all others of the *scalaris* group, except *jalapae*, in the number of dorsal scales (49 maximum in *scalaris*, *aeneus*, and their subspecies), and in having the lateral scale rows oblique instead of parallel. From *jalapae*, *goldmani* differs in having the nasals and internasals separated from the rostral by two postrostrals.

RANGE.—Southern Coahuila southward in the central part of the plateau of Mexico to central San Luis Potosí.

Sceloporus aeneus aeneus Wiegmann

Sceloporus aeneus Wiegmann, *Isis*, Hft. 3 (1828): 370.

TYPE LOCALITY.—Mexico.

DIAGNOSIS.—A *Sceloporus* of small size, maximum snout-vent measurement 58 mm.; head scales rugose; one canthal; frequently two parietals on each side; prefrontals usually separated by an azygous scale; dorsal scales, 39 to 47, average, 42.6; ventrals, 35 to 46, average, 41.4; scales around body, 37 to 51, average, 43.3; lateral scales in parallel rows; femoral pores, 14 to 21, average, 17.2; femoral pore series usually in contact medially; scales on posterior surface of thigh granular; no postfemoral dermal pocket; tibia-head proportion averages 85.4. Brown or gray-brown above; an indistinct dorsolateral light line on each side; between these, two series of narrow, dark bars; a series of similar bars on sides of body; a black spot on shoulder, with a small blue spot on its anterior edge; sides of head without white lines; females dusky below, the gular region sometimes nearly black; males heavily suffused with black below, sometimes with small, scattered blue spots in gular region; younger males with irregular light spots near middle of abdomen and in gular region; gular region and belly never barred; entire ventral surface of body and limbs black in large males, and tail also heavily suffused with black; a continuous median dorsal dark line down tail. Otherwise as *aeneus bicanthalis*.

DISTRIBUTION.—On the south, western Puebla west to central western Michoacán and central Jalisco; north in the interior of the plateau to central or northern Guanajuato.

Sceloporus aeneus bicanthalis, n. subsp.

HOLOTYPE.—EHT. No. 7939, from Cofre Perote, near Cruz Blanca, Vera Cruz, Mexico, collected by Edward H. Taylor, September 2, 1936.

PARATYPES.—EHT. Nos. 7918–19, 7933, 7935, 7938, topotypes; EHT. Nos. 7940A, 7456, Cruz Blanca, Vera Cruz; EHT. No. 7454, 15 miles east of San Marcos, 55 miles west of Perote, Vera Cruz; EHT. No. 7942, near Las Vigas, Vera Cruz;

MZUM. No. 66822, San Miguel, Hidalgo; MZUM. No. 71452(2), Velasco, Hidalgo; FMNH. No. 1524(12), Mount Orizaba, Vera Cruz; USNM. No. 47280, Popocatepetl, Puebla; USNM. No. 47395, Reyes, Oaxaca; MCZ. No. 14156, Mount Orizaba, Vera Cruz.

DIAGNOSIS.—A small *Sceloporus*, maximum snout-vent measurement about 56 mm.; dorsal head scales rugose; two canthals on each side; usually one frontoparietal on each side; prefrontals more frequently in contact medially than separated; dorsal scales, 37 to 48, average, 43; ventrals, 33 to 47, average, 40.5; scales around body, 37 to 48, average, 42.7; lateral scales in parallel rows; femoral pores, 13 to 20, average, 16.1; femoral pore series usually in contact medially; scales on posterior surface of thigh granular; no postfemoral dermal pocket; tibia-head proportion averages 78.7. An indistinct dorsolateral light line on each side; between these, two series of transverse bars; a similar series on sides of body; a black spot on shoulder, with a small blue spot on its anterior border; ventral surfaces, especially gular region, strongly barred in males, indistinctly barred in females; sides of belly, gular region, sides of chest, and ventral surfaces of hind limbs blue (barred with black); a white longitudinal line on infralabial region; two, usually distinct, white lines on each side of head; a continuous dark line down middle of tail.

COMPARISONS.—As *aeneus bicanthalis* is in most respects similar to *aeneus aeneus*, a complete description is not included. The differences between the two follow: two canthals in *bicanthalis*, one in *aeneus*; two frontoparietals occurring in 12.8 per cent of the counts in *bicanthalis*, in 34.6 per cent of the counts in *aeneus*; prefrontals separated medially by an azygous scale in 40.8 per cent of *bicanthalis*, 55.9 per cent of *aeneus*; belly and especially gular region barred in *bicanthalis*, becoming more distinctly barred in larger males. This pattern is never lost (belly in males becomes generally suffused with black with increasing age in *aeneus*); gular region of females and young of *bicanthalis*, if marked at all, with dim darker bars (gular region of females generally suffused to a varying degree with

black in *aeneus*); sides of head with distinct white lines in *bicanthalis* (see diagnosis), while these are rarely present in *aeneus*, and only in the areas adjacent to the range of *bicanthalis*.

RANGE.—Central Oaxaca, north along the eastern elevations of the plateau to northern Hidalgo.

KEY TO THE SPECIES AND SUBSPECIES OF THE
SCALARIS GROUP

1. Nasals and internasals in contact with rostral; no postrostrals.
 - Nasals and internasals separated from rostral by two postrostrals.....*jalapae* 2
2. Dorsal scales 50 or more; lateral scales in slightly, although distinctly, oblique rows*goldmani*
 - Dorsal scales less than 50; lateral scales in parallel rows.....3
3. One canthal4
 - Two canthals, the first occasionally forced above canthal ridge by contact of second canthal and subnasal.....6
4. Males with much black in ventral coloration; females suffused with black below; gular region never barred; black shoulder spot with a light blue spot, if present, on its anterior edge; tail with a continuous, dark, median dorsal stripe; tibia-head proportion usually less than 95; maximum snout-vent measurement, 58 mm.
 - aeneus aeneus*
 - Black, if present on ventral surface, confined to bars in gular region, and a few dark transverse bars on sides of abdomen; black shoulder spot with a light blue spot in its middle.....5
5. Tibia-head proportion usually less than 90; scales of second pair of postmentals separated medially; dorsal scales usually more than 40; maximum snout-vent measurement, 61 mm.*scalaris slevini*
 - Tibia-head proportion usually more than 90; scales of second pair of postmentals usually in contact medially; dorsal scales usually less than 40; maximum snout-vent measurement, 65 mm.
 - scalaris unicanthalis*
6. Males with much black in ventral coloration; black shoulder spot with a light blue spot, if present, on its anterior edge; tail with a continuous, dark, median dorsal stripe; tibia-head proportion usually less than 90; maximum snout-vent measurement, 56 mm.
 - aeneus bicanthalis*
 - Black, if present on ventral surface, confined to bars in gular region, and a few dark transverse bars on sides of abdomen; black shoulder spot with a light blue spot in its middle; tail with broken, chevron-shaped bands; tibia-head proportion usually more than 90; maximum snout-vent measurement, 78 mm.....*scalaris scalaris*