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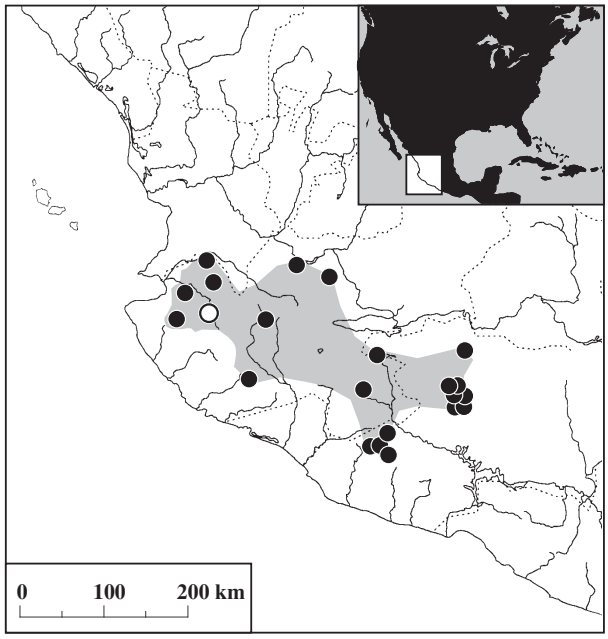
Smith, H.M., P. Ponce-Campos, E.A. Liner, and D. Chiszar. 2004. *Sceloporus heterolepis*.

Sceloporus heterolepis Boulenger

Sceloporus heterolepis Boulenger 1894:731. Type locality, "various localities in the State of Jalisco (La Cumbre de Los Arrastrados, Real Alto, Riocho [= Rancho] La Berbería [in the] Sierra de Bolaños) at altitudes varying between 7800 and 8500 feet." Syntypes, Museum of Comparative Zoology, Harvard University (MCZ) 32346, California Academy of Sciences (CAS) 3712–3 (lost), British Museum (Natural History (BMNH) 92.2.8.30, 1946.8.10.20, 1946.8.25–30, 1946.8.10.37–43, collected by Dr. A.C. Buller. Inasmuch as the syntype from Rancho La Berbería represents a different species (*S. shannonorum* Langebartel*)* from the one to which the name has previously been applied, we here designate BMNH 92.2.8.30 from La Cumbre de los Arrastrados as lectotype. It most closely conforms with Boulenger's (1894) illustration *fide* Colin McCarthy, BMNH. MCZ 32346 is a topotypic syntype.

Sceloporus heterolepsis: Larsen and Tanner 1974: 6. *Lapsus*.

Sceloporus heterolepis heterolepis: Webb 1969:305.



MAP. Distribution of *Sceloporus heterolepis*: the circle indicates the type locality; dots indicate other sites of collection.

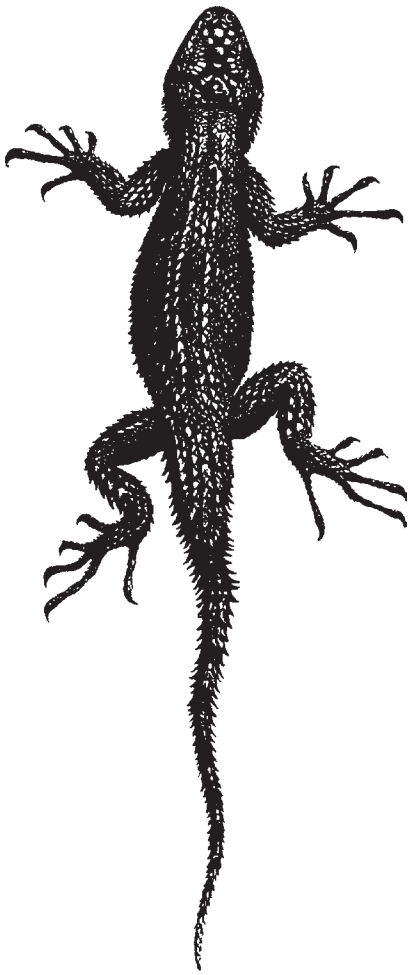


FIGURE 1. The presumed lectotype of *S. heterolepis* (from Boulenger 1894), showing dorsal scalation.

FIGURE 2. Venter of an adult female *S. heterolepis* from Volcán de Tequila, Jalisco, 2876 m (20°47'42.0"N, 102°50'37.0"W), 8 September 2001 (photograph by PPC). Note the complete absence of both gular and abdominal semeions, sharply different from sympatric *S. grammicus*, which has at least abdominal semeions.

FIGURE 3. A juvenile female *S. heterolepis*, 31.8 mm SVL, same locality as in Figure 1, 21 July 2001 (photograph by PPC).

• **CONTENT.** No subspecies are recognized.

• **DEFINITION.** *Sceloporus heterolepis* is a medium-sized species, maximum SVL 70 mm in males, 63 mm in females. Dorsal and lateral scales are irregular in size, small ones scattered among larger scales, or enlarged scales among smaller ones. A paravertebral row of 31–38 enlarged scales form a continuous row on each side from the neck to the rear margins of the thighs; these are narrowly separated from each other by an irregular series of 56–80 small vertebral scales. Large dorsolateral nuchal scales are sharply differentiated from small lateral nuchal scales, forming a prominent lateral nuchal fringe and tuft. A group of tiny scales separates the two rows of paravertebral scales on the neck, and another group separates the paravertebral scales from the nuchal fringe on each side. Femoral pores number 13–21 ($\bar{x}$ = 16, N = 36).

Dorsal and lateral surfaces are dark gray, with 4–5 transverse dark lines that are light-bordered and usually much expanded lengthwise at middorsum. The first is anterior to the arm and in males crosses the throat. Males have bluish, medially dark-bordered abdominal semeions, each with a relatively short dark border tapering at each end; these are in contact medially or narrowly separated. The gular region is light yellowish in males, with some dark speckling. Females are unmarked ventrally.

• **DIAGNOSIS.** This species is unique in its genus in having a continuous paravertebral row of 31–38 enlarged scales on each side, narrowly separated by an irregular vertebral series of 56–80 small scales. Also unique is the presence of three rows of very small scales on the nape separating the paravertebral rows of larger scales from each other and from the lateral nuchal fringes. These features also separate this species from its closest relative, *S. shannonorum*. The latter species usually has two superimposed preoculars, whereas *S. heterolepis* usually has one. All scales are imbricate. Sympatric *S. grammicus* females differ in having rather well-developed abdominal semeions.

• **DESCRIPTIONS.** Descriptions are in Boulenger (1894), Smith (1939), Grant and Smith (1960), Duellman (1961), Webb (1969) and Köhler and Heimes (2002).

• **ILLUSTRATIONS.** A black and white drawing of the lectotype is in Boulenger (1894), reproduced herein.

• **DISTRIBUTION.** This species occurs in oak-pine-fir forests from central and eastern Jalisco to western Michoacán, at elevations of 1250–3000 m, south of the Río Santiago Valley in the western end of the Neovolcanic Axis and the northern end of the Sierra Madre del Sur. *Sceloporus shannonorum* replaces it in the Sierra Madre Occidental.

• **FOSSIL RECORD.** None.

• **PERTINENT LITERATURE.** Citations in the literature in contexts other than previously indicated include the following: **checklists** (Flores-Villela 1993; Liner 1994; Smith and Taylor 1950b, 1966), **common names** (Sokolov 1988, Liner 1994), **comparisons of *S. h. heterolepis* and *S. h. shannonorum*** (Langebartel 1959, Duellman 1961, Webb 1969), **distribution** (Cope 1896; Flores-Villela and Gérez 1988, 1994; McCranie and Wilson 1987, 1990; Nieto-Montes de Oca 1987; Wilson and McCranie 1979), **ecology** (Duellman 1965), **epidermatoglyphics** (Burstein et al. 1974), **habitat** (Duellman 1961, 1965; Flores-Villela 1993; Webb 1969), **karyology** (Gilboa 1974, Hall 1980, Sites et al. 1992), **key** (Köhler and Heimes 2002, Smith and Taylor 1950b), **literature** (Smith and Smith 1976, 1993), **localities** (Campbell and Murphy 1977; Chrapliwy 1956; Gadow 1905, 1930; Grant and Smith 1960; Langebartel 1959; Smith and Taylor 1950b; Webb 1982, 1984), **mention only** (Wills 1977), **phylogeny** (Flores-Villela et al. 2000; Hall 1980; Larsen and Tanner 1974, 1975; Sites et al. 1992; Wiens and Reeder 1997), **semeions** (Wiens 1999), **skull** (Larsen and Tanner 1974), **speciation** (Hall 1980), **types** (Barbour and Loveridge 1946, Smith et al. 1964), **type locality** (Smith and Taylor 1950a), and **viviparity** (Guillette et al. 1980, Méndez-de la Cruz et al. 1998).

• **REMARKS.** This species belongs to the *S. grammicus* group (Webb 1969, Wiens and Reeder 1997) and, like others of that group, is arboreal.

Webb (1969) described what he regarded as intergrades between *S. shannonorum* and *S. heterolepis* in a sample of three lizards from the western edge of the range of the latter (Sierra de Cuale, Jalisco; see **Comment**) and of one from Sierra de Autlán, 15 mi SE Autlán, Jalisco. They are not, however, from an area between the ranges of the two species as presently understood. No evidence suggests that the two taxa intergrade; they are dichopatric so far as is known at present.

• **ETYMOLOGY.** The name *heterolepis* (Latin, irregular scales) reflects the varied sizes of the dorsal and lateral scales in this species.

• **COMMENT.** We have examined the series from the Sierra de Cuale, and regard their morphology as within the range of variation of *S. heterolepis*. The dorsal scales are flattened, but their arrangement is more or less typical. Most importantly, the dorsal nuchal scales are of different sizes, with small scales between the paravertebral series, and also between the latter and the lateral nuchal fringes. These specimens are from an altitude (1250 m) considerably lower than others recorded for the species.

• **ACKNOWLEDGMENTS.** We are much indebted to the authorities of these institutions for information on their holdings of this species (acronyms follow Leviton et al. 1985, except for MZFC, Museo de Zoología, Facultad de Ciencias, UNAM): CAS, KU, MZFC, TCWC, UCM, UMMZ, USNM, UTA, and UTEP. We especially thank Dr. Colin McCarthy, who kindly provided critical information on the syntypes of *S. heterolepis*, which includes one (BMNH 92.2.8.30) from Rancho La Berbería, Sierra de Bolaños, representing *S. shannonorum*. Whitney C. Johnson and Dr. Sharon K. Collinge, EE Biology, University of Colorado, prepared the map.

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