

Variation in the Crevice Spiny Lizard, *Sceloporus poinsettii* Baird and Girard

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Abstract

This report updates information on variation and distribution of the Crevice Spiny Lizard, *Sceloporus poinsettii* Baird and Girard. Five intergrading subspecies of *S. poinsettii* (scalation and pattern features) are recognized (two described as new). The holotype of *S. poinsettii polylepis* is regarded as a morphological variant or intergrade; the name *polylepis* is reassigned to a distinctive population that lacks any other name. This large, rock-dwelling lizard of the *S. torquatus* species-group occurs generally in the southwestern United States and northern Mexico.

The initial discovery of some smallish *Sceloporus poinsettii*-like lizards in northeastern Zacatecas in 1975 and from other nearby localities in later years (and their uncertain identification over the past several years) prompted study of *S. poinsettii* to determine the extent of variation throughout its geographic range. Familiarity with *S. poinsettii*, both in the field at various locales and from examination of museum specimens, has provided some insight into character trends and geographically recognizable populations. Smith ("1936"[1938], 1939) provided a working definition of the then monotypic species. Smith and Chrapliwy (1958) described two subspecies, *S. p. macrolepis* and *S. p. polylepis*, both recognized in this report. Tanner (1987) described *S. p. robisoni*, which is not here recognized (see Remarks, *S. p. macrolepis*). Auth et al. (2000), following the lead of Olson (1998), used name-combinations reflecting conspecificity of *S. poinsettii* and *S. mucronatus*; Olson's material and specimens subsequently studied from the states of Hidalgo and Mexico were assigned to *S. mucronatus* (Webb et al., 2002; Bell et al., 2003:146).

Specimens with small dorsal scales in the eastern desert parts of Durango, Chihuahua (including holotype of *S. p. polylepis* as well as other near topotypic specimens), and adjacent Coahuila have been referred to *polylepis* for many years, but their collective variant array of patterns (with some not unlike those of the adjacent Texas subspecies) has contributed to a festering, unsatisfactory concept of the taxon *polylepis*. The holotype of *S. p. polylepis* has small dorsal scales (41-42, *polylepis*) but a rear-of-head pattern with a black cruciform blotch (characteristic of Texas subspecies) and is regarded as an intermediate morphological variant. Specimens previously assigned to *S. p. polylepis* are now regarded as variants or intergrades. This revelation of regarding the holotype of *S. poinsettii polylepis* as part of a large intergrading population (Fig. 11) requires inquiry into the status of the name *polylepis*.

The Code (ICZN, 1999) declares that [Art. 23.8] "A species-group name established for an animal later found to be a hybrid must not be used as the valid name for either of the parental species." Unfortunately, Art. 23.8 (and the Code otherwise) seems

not to deal with intergrades between subspecies (although using “species-group name”). Rather than clutter the literature with a new name, stability and continued use of *polylepis* (since 1958) as a valid name is maintained.

The small *S. poinsettii*-like lizards (discovered in Zacatecas in 1975, mentioned above), with geographical integrity and consistent morphological features, also have small dorsal scales and are considered the genetic donor of small dorsal scales that currently characterize specimens assigned to *S. p. polylepis*; also, the consistent, black rear-of-head with whitish markings occurs in some specimens currently passing as *polylepis*. These small-sized and small-scaled *S. poinsettii*-like lizards are described as *S. poinsettii polylepis*.

This non-phylogenetic study focuses only on intraspecific (spatial, phenetic) variation of *S. poinsettii*. The author, at the risk of being scorned and scoffed as an old-fashioned fuddy-duddy, admits to the general acceptance of subspecies and the need to at least expose and describe the discrete kinds of geographic variation of the wide-ranging *S. poinsettii* (see discussion in Smith et al., 1997). Of course, there are different kinds of subspecies (degrees of distinctness) with recognition dependent on the whims of the investigator. The two most distinctive populations, *S. p. macrolepis* and *S. p. polylepis* (not mere “pattern classes”), would seem to reflect corresponding genetic differences (perhaps two species) if not for the interposed continuum of morphological variants. The five subspecies of *S. poinsettii* (two described herein as new) are peripherally oriented with each having geographical integrity and exhibiting intergradation in mutual contact zones (Fig. 11).

Methods

Data recorded for each specimen included sex, snout-vent length (SVL), and numbers of dorsal scales, scales around midbody, femoral pores, scales between pore series, canthals, loreals, preoculars, and frontoparietals. Other features included notation of the anterior part of the frontal (entire or longitudinally divided), the arrangement of scales (symmetrical or irregular) in the posterior part of the frontal-frontoparietal area, the frequency of contact of the two prefrontals and of the anteriormost sublabial (outer row) and mental, and aspects of dorsal head and body pattern. The approximate color pattern in life of several individuals has been preserved for reference on 2 x 2 color slides. Lee (1990) heralded the potential error fraught with meristic counts. Counts of dorsal scales have been repeated more than once for some specimens and performed only by the author; although the numbers of dorsal scales are employed in making taxonomic decisions, the possible error of one or two scales is negligible when considering the overall disparate ranges of variation in conjunction with other taxonomic features.

A description of the species that encompasses range-wide variation is followed by the accounts of subspecies, a discussion of intergradation, and a final comparison of taxonomic characters (with key). Photographs of dorsal head and body patterns accompany the descriptive comments of each subspecies. The original spelling of *poinsettii* is retained (rather than the incorrect subsequent spelling, *poinsetti*, ICZN, 1999, Art. 33.4). Locality data for specimens examined are listed, and many reference citations (Literature

Cited) that document examined specimens appear only, in the Appendix. Eponyms used there and elsewhere in the text denote specimens in the following institutions: **AMNH**, American Museum of Natural History, New York, New York; **ASNHC**, Angelo State Natural History Collection, San Angelo, Texas; **ASU**, Arizona State University, Tempe, Arizona; **BYU**, Monte L. Bean Museum, Brigham Young University, Provo, Utah; **CAS**, California Academy of Sciences, San Francisco, California; **CM**, Carnegie Museum, Pittsburgh, Pennsylvania; **EAL**, Ernest A. Liner, private collection (now AMNH); **FMNH**, Field Museum of Natural History, Chicago, Illinois; **GNHC** (formerly WNMU), Gila Natural History Collection, Western New Mexico University, Silver City, New Mexico; **KU**, Museum of Natural History, University of Kansas, Lawrence, Kansas; **LACM**, Los Angeles County Museum of Natural History, Los Angeles, California; **MCZ**, Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts; **MSB**, Museum of Southwestern Biology, University of New Mexico, Albuquerque, New Mexico; **MSUM**, The Museum, Michigan State University, East Lansing, Michigan; **MVZ**, Museum of Vertebrate Zoology, University of California, Berkeley, California; **NMSU**, New Mexico State University, Las Cruces, New Mexico; **RWA**, Ralph W. Axtell, private collection (number of uncataloged specimens in brackets); **SDSNH**, San Diego Society of Natural History, Balboa Park, San Diego, California; **SMBU**, Strecker Museum, Baylor University, Waco, Texas; **TCWC**, Texas Cooperative Wildlife Collection, Texas A&M University, College Station, Texas; **TNHC**, Texas Natural History Collections, Texas Memorial Museum, University of Texas, Austin, Texas; **UAZ**, University of Arizona, Tucson, Arizona; **UBIPRO**, Laboratorio de Herpetología, Unidad de Biotecnología y Prototipos, Escuela Nacional de Estudios Profesionales Iztacala, UNAM, Los Reyes Iztacala, Tlalnepantla, Edo. de Mexico, México (cited numbers same as "JLE" [J. Lemos-Espinal] field numbers indicated in publications; some specimens may be at UCM); **UCM**, University of Colorado Museum, Boulder, Colorado; **UIMNH**, University of Illinois Museum of Natural History, Urbana, Illinois; **UMMZ**, University of Michigan, Museum of Zoology, Ann Arbor, Michigan; **USNM**, National Museum of Natural History, Washington, D.C.; **UTA**, University of Texas at Arlington, Arlington, Texas; **UTEP**, University of Texas at El Paso, El Paso, Texas.

Species Description

Sceloporus poinsettii Baird and Girard

Crevice Spiny Lizard

Etymology. The species name honors Joel R. Poinsett, first Minister of the United States to Mexico (appointed 1825), Secretary of War (1837-1841), and influential in targeting the Smithsonian endowment for the establishment of the ultimate National Museum of Natural History (USNM).

Types. The original type-material consisted of five specimens from two different localities. Webb (1988) described the five syntypes, restricted the two localities, and designated the two specimens of USNM 2952 (both since recataloged as USNM 292580) from Grant County, New Mexico, as lectotype (adult male) and paralectotype (adult fe-

male). The other three Texas syntypes (= paralectotypes) from the Río San Pedro represent a different subspecies. Smith and Taylor (1950a:125, 1950b:363) had previously restricted the type locality to the Río San Pedro (= Devils River, Val Verde County), Texas, without comment (see Bell et al., 2003:149).

Description

Color and Pattern. The top of the head may be mostly patternless pale brown or black, or have a contrasting white-speckled pattern. The rear of the head may be blackish with postocular white bars and a few scattered white spots or the pattern consists of narrow, postocular dark stripes (below) and enlarged pale postocular blotches (above) that indent the sides of a dark, medial, cruciform (X-shaped) blotch. A pale band across the rear of the head between the ear openings (hereafter as the intertympanic band) is usually either complete across the neck, narrowly interrupted medially, or broken into a series of closely aligned pale spots, but may be almost absent. A dark transversely oriented nape blotch separates the pale intertympanic band and pale anterior border of the black collar. Pale longitudinal segments may flank the dark nape blotch interconnecting the pale intertympanic band and the anterior border of the black collar. A pale supralabial stripe, extending posteriorly through the ear opening, may be confluent with the lateralmost parts of the pale anterior border of the black collar. The uninterrupted, black, white-bordered collar is of varying width (two to six scales middorsally) with the widest collars having the posterior margin curved or gently angled. A small pale (blue in life) scale (or scales, spot) usually occurs just above the shoulder on the side of the neck within the black collar. White markings occasionally occur within the black collar. The whitish borders (both usually about two scales wide) of the black collar may be narrowly interrupted medially (often by short black streaks, see Fig. 2 in Webb, 1988); the anterior border may be disrupted into a series of spots.

Dark crossbands on the back (two to five, usually three or four, excluding sacral band) are of varying width and may be either complete across the back, bifurcated laterally to varying degrees, confined to vertebral blotches, disrupted into a non-banded, irregular pattern of small dark marks, or dorsal surfaces are mostly patternless. Sides of the body (in life) may be yellow, pale orange, or reddish; some body scales otherwise may be reddish, or pale orange, or blue-green. Dorsal body scales may have black edges aligned to form narrow longitudinal lines. Tails are usually marked with contrasting black (widest) and white alternating bands with black bands forming rings (less distinct ventrally) toward the tip of the tail.

The underside of the head (throat pattern) in young and subadults of both sexes has a dark blue irregular barred/spotted, or mottled pattern of varying distinctness, often with a pale longitudinal medial streak; this juvenile pattern may persist in both sexes exceeding 100 mm SVL, but may be mostly absent in some juveniles depending on geographic occurrence. Usually belly patches in females are indicated by either a pale blue wash or are relatively distinct with dark medial borders and with some dark pigment across the throat, on the chest, midventrally, and in the groin; these color patterns are

brightest and most extensive in the largest males. The blue-black belly patches may be confluent midventrally in places. The distinctness of blue belly patches is variable in some Chihuahuan females; patches may be almost absent (UBIPRO 4024, SVL 92 mm; UBIPRO 4306, SVL 100 mm SVL), restricted posteriorly (UBIPRO 4303, SVL 99 mm), but may be well-developed (UBIPRO 4310, SVL 105 mm). A male (UBIPRO 3707, SVL 84 mm, Chihuahua, enlarged postanal scales) lacks blue belly patches. Lemos-Espinal et al. (2001) also commented on ventral blue coloration in some other Chihuahuan females (absent to strong), and a male (111 mm SVL) having the entire median area black. Adults of both sexes often have (in life) a pale orangish wash concentrated in the preanal-base of tail area (extending onto femora). The peritoneum is black.

Scutellation. The supraocular scales are divided, but the size of the scales of the medial row is variable. The scales of the lateral and medial rows are either subequal in size (Fig. 1A) or those of the medial row are often noticeably larger than those of the lateral row tending toward undivided supraoculars (Fig. 1B, C; also in Smith, "1936"[1938]:608, Fig. 15, same in Smith, 1939:223, Fig. 30); one specimen at least (UTEP 14630, east Escalón, Chihuahua) does have undivided supraoculars (Fig. 1D). Adjacent scales of the two rows may be fused forming one undivided supraocular. Two adjacent scales of the enlarged medial row of supraoculars may be fused (UTEP 14657). Occasionally a gap in the row of circumorbitals permits contact of a supraocular and a medial head scale. Dorsal snout scales consist of usually four postrostrals, followed by irregular arrangement of supranasals and internasals (usually four scales between nasals), three frontonasals, and two prefrontals (separated, often by azygous scale, or in medial contact). The frontal is usually transversely divided (entire in UBIPRO 1924, 1933, 1944, 1954). The anterior frontal is either entire or longitudinally divided. The posterior frontal is either entire, divided (longitudinally or transversely), or scutellation is irregular (often subdivided into three scales). Frontoparietals usually number one (or two) and may touch medially (often separated by azygous scale). The posterior dorsal head scales (posterior frontal-frontoparietal area) are frequently and variably irregularly fragmented (Fig. 1B, D); some medial head scales may be irregularly fused (Fig. 1C). The maximal extent of head-scale irregularity noted for the species occurs in a male (UTEP 14655, SVL 115 mm, Sierra Jardin, Coahuila) in which many named scales (canthal-loreal region, frontonasals, prefrontals, anterior half of frontal, parietals) are unrecognizable and fragmented into small irregularly arranged scales.

Lateral head scales consist of a subnasal, one or two canthals (counted as two if both touch loreal), one (usually) or two loreals, one or two (rarely fragmented into three) preoculars, and usually two rows of lorilabial scales. Occasional fusion of lateral head scales may involve the anterior canthal and subnasal (MSB 6327, 20504, 20510), the posterior canthal and loreal (RWA 5223), one canthal and loreal (NMSU 6301-02), the lower preocular and loreal (UTEP 8878, 9461), and the lower preocular and subocular (ASNHC 3818, 3823, 3825); the anterior canthal may contact a supralabial thus separating the subnasal and loreal scales (UTEP 13693). The anteriormost sublabial (outer row) infrequently contacts the mental (postmental usually touches first infralabial). Snout scales are usually pitted (variable in extent), except in young.

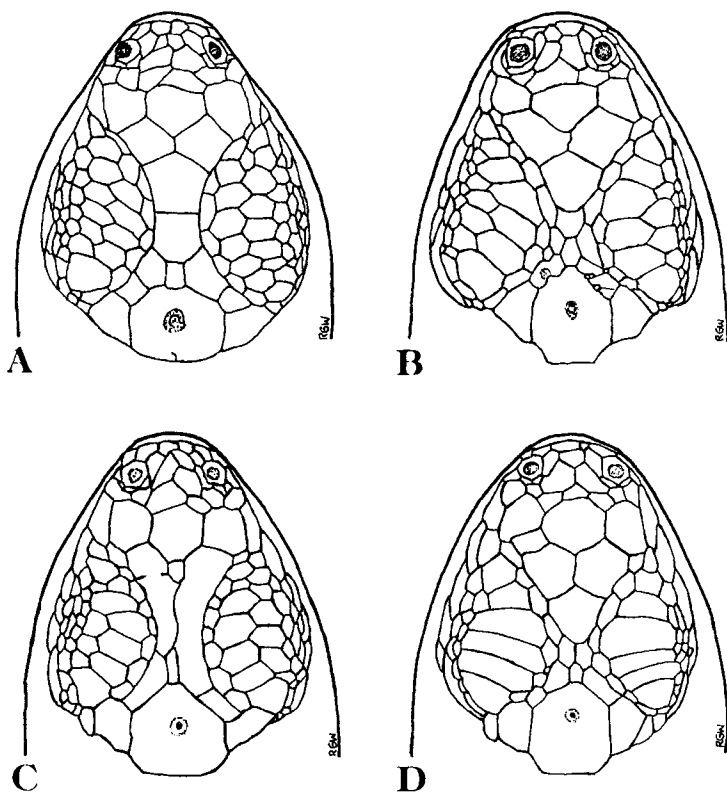


Fig. 1. Dorsal head scutellation of *Sceloporus poinsettii* showing variation in size of divided supraoculars and configuration of scales in posterior frontal-frontoparietal region. Divided supraoculars either usually equal-sized (A) or medial row enlarged (B, C), and posterior medial head scales either symmetrical (A) or usually subdivided and irregularly arranged (B, D); extensive fusion of medial head scales (C) and undivided supraoculars (D) are rare variants. A, UTEP 4831, *S. p. macrolepis*; B, UTEP 13735, *S. p. axtelli*; C, UTEP 9230 and D, UTEP 14630, intergrades.

Dorsal body scales along the middle of the back (about 6-7 longitudinal rows) in large adults (exceeding about 110 mm SVL, but occurring at smaller sizes) are mostly smooth (keeled in smaller individuals); Baird and Girard (1852) noted smooth scales in the original description of *S. poinsettii*. Dorsal scales range from 25 to 43, scales around midbody 31 to 47, femoral pores 7 to 16 (one leg) with extremes of 7-7 and 14-16, and fewest number of scales between pore series 6 to 17. Males (with pair of enlarged postanal scales, and larger femoral pores in adults than in adult females) attain a larger size than females (Fitch, 1978, 1981). The largest male examined is 133 mm SVL (UTEP 4457), female 123 mm SVL (UTEP 14599); Ballinger (1973:273) recorded 128 mm for a Texas female. The maximal size of adults of *S. poinsettii polylepis* is not known to exceed 100 mm SVL.

Distribution. *Sceloporus poinsettii* is widespread in suitable rocky habitat from southern New Mexico and central and western Texas south into northern México through Chihuahua and Durango (and the eastern highland parts of Sonora and Sinaloa) and Coahuila into northern Zacatecas and San Luis Potosí, and eastern Nuevo León. The species may occur farther south in Jalisco (see Distribution, *S. poinsettii macrolepis*). A distribution map (Fig. 11) accompanies the list of localities in the Appendix.

Preferred habitat is rock outcrops or large boulders (igneous or sedimentary) with suitable cracks and crevices of either low, dry, isolated, desert hills or more mesic, pine-oak forested, mountainous terrain. On occasion individuals may climb trees. Known elevations range from 231 m or 700 ft (Comal County, Texas, Axtell, 1987) to near 2743 m or 9200 ft (near Las Adjuntas, Durango).

Accounts of Subspecies

The following accounts of the five subspecies of *Sceloporus poinsettii* provide proposed common names (two for Mexican taxa follow Liner, 1994), recognition features (those in combination most diagnostic), descriptions (color and pattern, and scutellation), and a statement of distribution. Taxonomic characters and recognition features that differentiate subspecies (with key) are discussed beyond in the section Comparisons.

Sceloporus poinsettii poinsettii Baird and Girard

New Mexico Crevice Spiny Lizard

Sceloporus poinsettii Baird and Girard, 1852:126. Lectotype, USNM 292580, adult male in fluid, from either the southern part of the Big Burro Mountains or the vicinity of Santa Rita, Grant County, New Mexico; obtained in late August 1851 by John H. Clark in company with James D. Graham during tenure with the U.S.- Mexican Boundary Commission. The lectotype, a male of about 115 mm SVL, was redescribed by Webb (1988), and dorsal pattern features were illustrated by Baird (1859) and Webb (1988). The lectotype and female paralectotype, originally USNM 2952 (n = 2), were both recatalogued as USNM 292580 on 13 December 1989.

S[celoporus]. p[oinsettii]. poinsettii, Smith and Chrapliwy, 1958:268.

Recognition. A subspecies of *Sceloporus poinsettii* recognized by combination of: (1) distinct crossbands on body (usually four), but most scales pale and dark-edged, (2) dark top of head with distinct, small white spots and markings, (3) dorsal body scales not less than 29 or more than 35, and (4) anterior frontal longitudinally divided (98%).

Description. Color and pattern. *Sceloporus p. poinsettii* is most readily identified by the distinct, pale-speckled, dark (may be near black) top of the head and pale-streaked dark crossbands on the body. Indication of a black cruciform blotch may occur on the rear of the head (Fig. 2, see Comparisons). The pale intertympanic band (one or two scales wide) is complete or interrupted (at least medially) and may be faded or dis-

tinct. The anterior and posterior white borders (usually two scales wide) of the black collar may be entire, but both are often narrowly interrupted, at least medially. The posterior margin of the collar is either mostly straight (collar relatively narrow) or curved (collar slightly widened vertebrally); the width of the collar generally encompasses three or four (rarely five) black scales. The black collar may enclose whitish marks (UTEP 9602, Fig. 2). Distinct, dark (usually black) crossbands on the body (usually four, or three) are relatively straight (or slightly undulating), and may be interconnected with narrow dark (near vertebral) segments (Fig. 2). These body crossbands are usually pale-streaked (pale scales with black edges or encircled by black). Pale interspaces between crossbands usually lack dark-edged scales, but such scales may be aligned with those of the crossbands to form continuous longitudinal black lines (AMNH 109129, Fig. 2). Large males have the medial black borders of the blue ventrolateral belly patches attenuated anteriorly from large black groin patches; dusky to blackish pigment may be extensive across the chest and confluent midventrally in places. Adults of both sexes may have the sides of the body washed with pale orange or yellow-orange. New-born young (31-33 mm SVL, UTEP 9605, $n = 8$, young born to UTEP 9603, both in Fig. 2) have dark dots in the posterior parts of the pale brown crossbands and an indistinct dark-streaked pattern; the juvenile streaked and marbled pattern on the throat is mostly faded and diffuse, but with a few distinct bars. Illustrations of dorsal patterns are in Smith ("1936"[1938]:685, Pl. 51, Fig. 1), Behler and King (1979:Pl. 354, color), Stebbins (1954:237, Pl. 358; 1966:Pl. 23, color [same 1985:Pl. 27, and 2003:Pl. 31, both color] based on specimen from north-west Antelope Wells fide Philip A. Medica, see Appendix, Additional records), Williamson et al. (1994:91, color), and Degenhardt et al. (1996:Pl. 51, color).

Scutellation. The scales of the medial and lateral rows of the divided supraoculars generally are subequal in size; occasionally the scales of the inner (medial) row are somewhat larger than the scales of the outer (lateral) row (e.g., UTEP 10048, 11155, 12429), especially so in UTEP 12418 suggesting undivided supraoculars. The posterior dorsal head scales (posterior frontal-frontoparietal area) are usually irregular in varying degrees; this kind of variation is highlighted by UTEP 12428 in which the two parietal scales are subdivided and UTEP 12429 having the frontoparietals longitudinally divided.

The mean number of dorsal scales is 31.9 (29-35, 98% 34 or less, $n = 202$), midbody scales 37.3 (34-42, $n = 172$), femoral pores 22.0 (18-26, $n = 187$, both legs) or 11.0 (8-13, $n = 382$, one leg), and scales between femoral pore series 9.6 (7-12, $n = 194$). Canthal scales (each side of head, $n = 405$) are more frequently two (61%) than one (39%), occurring in combinations (both sides of head, $n = 202$) of 1-1 (28%), 1-2 (23%), and 2-2 (49%). Preocular scales (each side of head, $n = 408$) most often number one (95%), with combinations (both sides of head, $n = 204$) of 1-1 (92%), 1-2 (5%), and 2-2 (3%). The anterior frontal is longitudinally divided (98%, $n = 205$). The prefrontals ($n = 195$) are either separated (53%, most often by an azygous scale) or are in broad medial contact (47%, rarely partly separated by a small azygous scale). The separation of the anteriormost sublabial scale (outer row) and the mental (each side of head, $n = 200$) is slightly more frequent (56.5%) than contact of those two scales (43.5%). The largest male is 128 mm SVL (MSB 4212) and female 115 mm SVL (ASNHC 10643).

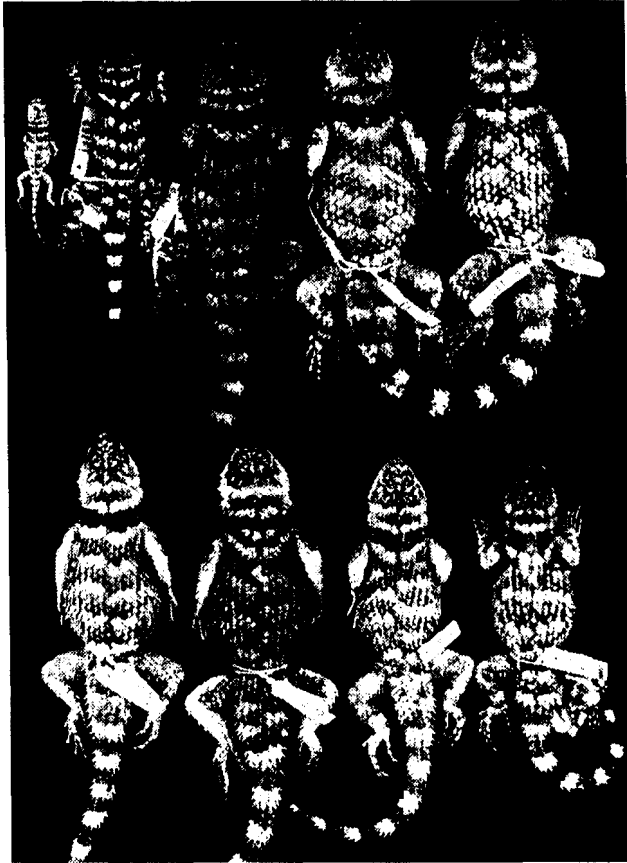


Fig. 2. Dorsal patterns of *Sceloporus p. poinsettii* (southwestern New Mexico, all Hidalgo County except as indicated). **Upper**, left to right (all females): UTEP 9605 (n = 8), hatchling, 32 mm SVL; UTEP 13752, 69 mm SVL; AMNH 109129, 94 mm SVL; UTEP 11507, 104 mm SVL (Grant Co.); UTEP 11155, 102 mm SVL. **Lower**, left to right: UTEP 9603, female, 97 mm SVL; UTEP 9602, male, 104 mm SVL; UTEP 8714, male 88 mm SVL (Socorro Co.); UTEP 495, female, 82 mm SVL (Grant Co.)

Some minor differences in scutellation occur when the geographic isolate in Hidalgo County (see Distribution) is compared with the large segment of *S. p. poinsettii* to the north. This Hidalgo sample is centered in the southern Animas Mountains area (includes all specimens from Hidalgo County except those from just west of Animas and Cotton City). The size of the dorsal scales is about the same in the Hidalgo sample (averaging 31.7, 29-34, n = 51) and in the more northern population (32.1, 29-35, n = 145). In the Hidalgo sample the anteriormost sublabial is separated from the mental (each side of head, n = 54) more frequently (72%) than the two scales are in contact (28%), whereas the respective values, reversed for the northern sample of *S. p. poinsettii* (n = 134), are

47% and 53%. The frequency of one or two preoculars (usually one), increases slightly between the Hidalgo sample (each side of head, $n = 102$) and the northern sample ($n = 294$) with respective values of one preocular 82% and 99%. The prefrontals in the Hidalgo sample ($n = 43$) are in medial contact (58%) or separated, usually by an azygous scale (42%), but in the northern population ($n = 146$) the respective values are 44% and 56%. These respective values for the two New Mexico samples (except prefrontals) fit into an overall pattern of north-south geographic variation in the Sierra Madre Occidental (see discussion of Morphological Intermediate Variants).

Cole et al. (1967) cited UAZ specimen numbers 15972 (male) and 15976 (female) as vouchers for illustrations of karyotypes; these specimens represent *S. p. poinsettii* and are from near Pinos Altos, Grant County, New Mexico (see Appendix).

Distribution. *Sceloporus p. poinsettii* occurs west of the Rio Grande in southwestern New Mexico. Individuals occur in hilly landscapes with scattered juniper or piñon pine and juniper, and in pine-oak forests in the Black Range, Mimbres, San Mateo, Magdalena, and to the west, the Burro, Mogollon, and Tularosa mountains. They seem to be absent north of the San Augustine Plains (Datil-Gallinas mountains) and to the west in the San Francisco and Gallo mountains. One of the easternmost specimens from Socorro County (SW Socorro, MSB 4220) is recorded from a habitat of creosote, mesquite and grass. In some areas *S. p. poinsettii* seems to be replaced at lower elevations by *Sceloporus clarkii* (on rock outcrops, trees). *Sceloporus poinsettii* (UTEP 16078, on rock outcrops) and *S. clarkii* (UTEP 16080-81, on trees) occur together at least in Sierra County, New Mexico (Mimbres Mts, Pierce Canyon, ca. 13 air km NW Lake Valley).

Two populations to the south in Hidalgo County may be isolated from those to the north and from each other. These isolates are from low, foothill areas of the southern Animas Mountains, and the black-bouldered lava fields (malpais) that cover flatlands in the north-south trending Animas Valley between the Animas and Peloncillo mountains (west of Animas and Cotton City, ca. 1304 m or 4280 ft). The species is not known from the northern drier part of the Animas Mountains (*S. clarkii*, UTEP 11264, occurs here on rock outcrops) or in the Pyramid Mountains immediately adjacent to the north.

The entire range of *S. p. poinsettii* seems to be largely disjunct; this isolation was alluded to by Lowe (1955) and indicated on an inset map in Axtell (1987). The species is not known to occur in the Peloncillo Mountains immediately adjacent to the west of the Animas Mountains (*S. clarkii* here on rock outcrops, low elevations) or in Arizona (but see Additional records in Appendix). To the south *S. poinsettii* seems to be absent in the east-west trending Sierra de San Luís in México that straddles the Sonora-Chihuahua border just south of the Animas Mountains (David Barker and Charles Painter, pers. convers.; none observed by author at two different sites in summer of 1983); the occurrence of *Sceloporus grammicus* in the Sierra de San Luís (Degenhardt et al., 1996:360) and absence in the Animas Mountains further highlights this geographic break. Also *S. poinsettii* does not seem to occur in the sizeable, mountainous uplift of suitable rocky habitat (Sierra del Fresnal) about 24 road miles northeast of Ascención, Chihuahua (site

east microondas entrance, Hwy 2; several visits by author and Ralph W. Axtell). The record of occurrence nearest to those of *S. poinsettii* in Hidalgo County, New Mexico is west of Janos, Chihuahua (Tanner, 1987).

Eastward *S. p. poinsettii* is limited by the Río Grande drainage, and is seemingly absent in suitable habitat of isolated, dry mountainous uplifts across southwestern New Mexico (see Appendix, Additional records). The species is not known to occur in the north-south trending Big and Little Hatchet and Alamo Hueco mountains, but individuals are abundant in the Cedar Mountains adjacent eastward. The species is absent farther east in the Tres Hermanas, Florida, West and East Potrillo mountains, and (east of Río Grande) the San Andres-Organ-Franklin mountain chain. Thus, in New Mexico, *S. p. poinsettii* is rather widely separated from the different subspecies to the east in the Sacramento Mountains (eastern New Mexico) and the Hueco Mountains (El Paso and Hudspeth counties, Texas) and eastward (Fig. 11). This east-west hiatus in range of *S. poinsettii* probably relates to the history of the ancestral Río Grande and extensive interposed early Pleistocene Lake Cabeza de Vaca (see Axtell, 1977). Of corroborative interest are the different helminth species noted for Texas and western New Mexico populations of *S. poinsettii* (Goldberg et al., 1993).

Sceloporus poinsettii macrolepis Smith and Chrapliwy

Largescale Crevice Spiny Lizard

Sceloporus poinsettii macrolepis Smith and Chrapliwy, 1958:268. Holotype, UIMNH 35455, adult male in fluid, from El Salto, Durango, ca. 2469 m (8100 ft), obtained 1952-1953, by [given names unknown] Barden and I. Lester Firschein. Three paratypes (UIMNH 35453-54, 35456) are listed as topotypes. The holotype (examined by author) is a male of about 98-100 mm SVL, having large (26-27) dorsal scales, an entire anterior frontal, and characteristic dorsal patterns.

Sceloporus p[oinsettii]. robisoni Tanner, 1987:398. Holotype, BYU 14287, adult male in fluid, from Cuiteco, Chihuahua; obtained 19 July 1958 by Wilmer W. Tanner and W. Gerald Robison, Jr.

Recognition. A subspecies of *Sceloporus poinsettii* identified by combination of: (1) broad dark (mostly solid color) crossbands (usually two or three) on body, (2) top of head mostly patternless, uniformly dark, often black, (3) black collar often enlarged and curved posteriorly, (4) large dorsal body scales not more than 31, and (5) anterior frontal entire (93%), not longitudinally divided.

Description. Color and pattern. *Sceloporus p. macrolepis* has a mostly patternless top of the head, often wide black collar, and broad, unicolor, dark crossbands on the body. The top of the head is pale to dark brown, often black; some scales may have indistinct pale flecks. Pale postocular blotches are rather indistinct in young, and absent or nearly so in large adults. Pale intertympanic bands are usually interrupted into white spots, but may be faded and indistinct (or almost absent). Anterior and posterior white borders of the black collar (both about two scales wide) are usually entire, not interrupted

medially. The black collar is usually lengthened vertebrally (five to six black scales), the posterior border gently curved to somewhat angular. Dark crossbands on the body, usually two or three, are broad and distinct and of solid color, and separated by narrow pale interspaces (one or two scales wide). Rarely crossbands are narrower and four in number, or some adjacent crossbands are interconnected (MSUM 9334). The posteriormost crossband may be partly fused with the sacral blotch. Pale body scales of interspaces may have dark edges that align with those of crossbands to form longitudinal dark lines. In life the eye is rimmed in pale red and body scales may have a pale orange tinge. Young have a bold, dark blue marbled pattern (mostly irregular barring) on the underside of the head. Variation in dorsal patterns is shown in Fig. 3.

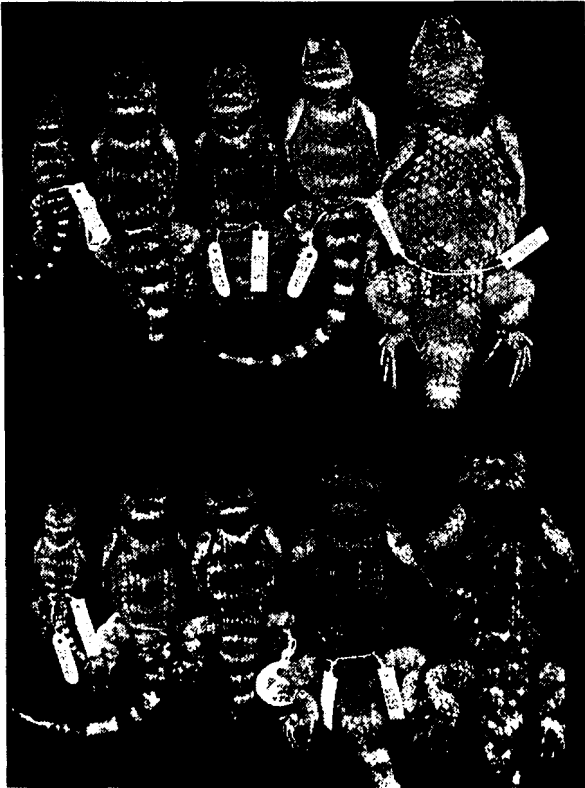


Fig. 3. Dorsal patterns of *Sceloporus p. macrolepis* (all Durango, Mexico). **Upper**, left to right: UTEP 6203, male, 43 mm SVL (SE Llano Grande); UTEP 1317, female, 72 mm SVL (SW El Salto); UTEP 6206, female, 75 mm SVL (SE Llano Grande); UTEP 6205, female, 75 mm SVL (SE Llano Grande); UTEP 6165, female, 117 mm SVL (Rio Chico). **Lower**, left to right: UTEP 6211, male, 48 mm SVL (E Llano Grande); UTEP 6175, female, 75 mm SVL (E Las Adjuntas); MSUM 9340, female, 75 mm SVL (S Tepehuanes); UTEP 6159, male, 104 mm SVL (W Metates); MSUM 3140, female, 112 mm SVL (ESE Cajones). See Morphological Intermediate Variants regarding UTEP 6159 and 6165.

Scutellation. Scales of the divided supraoculars are generally subequal in size, and the posterior frontal and frontoparietals often are not irregularly subdivided (Fig. 1A). The mean number of dorsal scales is 28.6 (25-31, $n = 97$), midbody scales 35.4 (31-38, $n = 87$), femoral pores 21.3 (14-27, $n = 76$, both legs) or 10.6 (7-14, $n = 152$, one leg), and scales between femoral pore series 9.4 (7-12, $n = 66$). Canthals (each side of head, $n = 148$) are usually two (91%), occurring in combinations (both sides of head, $n = 74$) of 1-1 (8%), 1-2 (1%), and 2-2 (91%). Preocular scales (each side of head, $n = 148$) are most often one (70%) rather than two (30%), with combinations (both sides of head, $n = 74$) of 1-1 (65%), 1-2 (11%), and 2-2 (24%); in three counts of two preoculars, the area is divided into three scales. The anterior frontal is entire, not divided longitudinally (93%, $n = 98$). The prefrontals ($n = 74$) are usually in broad contact medially (89%) or are separated (11%, by an azygous scale only in two). The anteriormost sublabial scale (outer row) and the mental are separated (each side of head, 94%, $n = 112$). Boulenger (1897:480) reported 11-12, 11-12, and 12-12 femoral pores, 29, 27, and 27 dorsal scales, and 36, 37, and 34 midbody scales for three specimens from La Ciudad, Durango. The largest male is 110 mm (UCM 20947, maximal size doubtless much larger) and female 120 mm SVL (RWA 5232); McDiarmid et al. (1976:9) recorded 125 mm SVL (in error) for JFC 69-135 (= CAS 155909), a male of about 100-103 mm SVL (verified by Jens Vindum, pers. comm.).

Distribution. *Sceloporus p. macrolepis* is confined to the pine-oak forested highlands and the higher eastern slopes of the Sierra Madre Occidental. Records of occurrence in Durango and southern Chihuahua are at approximate elevations between 1981 m (6500 ft) and 2804 m (9200 ft); the lowest elevation recorded is 1800 m (5904 ft) in Sinaloa (see below). The northernmost limits seem to be just north of the Barranca del Cobre in the vicinity of Mojárachic and Maguarichic; farther north with gradual decrease in elevation the change in the suite of recognition characters of *S. p. macrolepis* suggests intergradation in northern Chihuahua and adjacent Sonora with *S. p. poinsettii* (see discussion of Morphological Intermediate Variants). The species is limited to the west by tropical landscapes (Mixed Boreal-Tropical habitat in Durango; here replaced by *S. bulleri*, Webb, 1984). However, *S. p. macrolepis* occurs near 1800 m in an isolated forested outlier, the Sierra Surutato in northern Sinaloa (McDiarmid et al., 1976), and is to be expected elsewhere in the easternmost, non-tropical, highland parts of the Sierra Madre in Sinaloa. *Sceloporus poinsettii* is presumably absent in suitable pine-oak woodland of some outlier ranges to the east of the southern part of the Sierra Madre Occidental, at least the Sierra de Valparaiso, Zacatecas (visited by author), and the Sierra Fria, Aguascalientes and the Sierra Morones, Zacatecas (Wilson and McCranie, 1979); *S. poinsettii* is not mentioned in the herpetofaunal account of Aguascalientes by McCranie and Wilson (2001).

However, one specimen of *S. poinsettii* (CAS 169632) is currently geographically isolated in southern Jalisco in the Sierra de Manantlán, 2.9 mi S Asseradero Manantlán [= Rincon de Manantlán, ca. 19°36'N, 104°12'30"W] or 14.2 [road] mi S El Chante on road from El Chante [19°43'N, 104°12'W] to El Guisar [not located], 17 August 1980, J.F. Copp, D.E. Breedlove, and F. Ameda. The collection site is some 395 air km (245 mi)

south of the nearest locality to the north in the Sierra Madre Occidental (Rancho Las Margaritas, Durango, 23°18'N, 104°17'W, south of the Río Mezquital near the Zacatecas border). The composite descriptive aspects of the one male (enlarged pair of postanal scales, 89 mm SVL, Fig. 4) with large dorsal scales (ca. 30-31), 38 around midbody, 12-13 femoral pores (series separated by 8 scales) are encompassed by the range of variation of *S. p. macrolepis*. Unusual is the divided anterior frontal (usually entire in *S. p. macrolepis*, 93%, n = 98), the 1-1 canthals (usually two in *S. p. macrolepis*, 91%, n = 148), and the near loss of blue-black ventral pigmentation (only indistinct dark throat markings and slightly darkened sides and midventral area of the belly). This Jalisco specimen is not further discussed or plotted on the distribution map (Fig. 11).

Remarks. Tanner (1987) described *Sceloporus poinsettii robisoni* based on 14 specimens from three localities (Cuiteco, Cerocahui, and near Maguarachic), which generally are in pine-oak forested highlands of the Sierra Madre Occidental in southwestern Chihuahua. I examined these specimens prior to Tanner's description of *robisoni* at which time I identified them as *S. p. macrolepis* based on the characteristic dorsal patterns and especially all specimens having an entire (not longitudinally divided) anterior frontal (but divided northward). Tanner mentioned four traits in his diagnosis: (1) adults large, 110-115 mm SVL. The maximal size of all populations of *S. poinsettii* is large, except for the distantly removed *S. p. polylepis* (southeasternmost subspecies, Fig. 11) with maximal sizes less than 100 mm SVL. (2) dorsal scales, 29-32. In my examination of these specimens the highest count was 31. Tanner's data (30.4, 29-32) are encompassed by, but at the upper limits of, the range of variation of *S. p. macrolepis* as here defined (28.6, 25-31, n = 97); however the mean number of dorsal scales increases northward in the Sierra Madre Occidental to 31.7 and 32.1 in the two New Mexico populations of *S. p. poinsettii* (see descriptive account of *S. p. poinsettii* and discussion of Morphological Intermediate Variants). (3) postmentals not in contact with infralabials. This character is expressed here relative to the contact or separation of the anteriormost sublabial and mental; contact of these two scales is equivalent to separation (prevents contact) of the postmental and first infralabial (on either side). This feature of scutellation was not recorded by me for the 14 specimens of *robisoni*; however, Tanner recorded labiomental [= sublabial]-mental contact in 50% of the 14 specimens of *robisoni* (including the holotype). My data for *S. p. macrolepis* indicate these scales in contact in only 6% (n = 112); however this value increases northward and is maximized in the two New Mexico *S. p. poinsettii* populations (28% and 53%, see discussion of Morphological Intermediate Variants). (4) fewer femoral pores, 85% with 20 or less. Tanner recorded a femoral pore count (both legs) of 14 (7-7) in the holotype with a mean of 18.6 (14-21) for the 14 specimens of *robisoni*. Seven is the lowest number of femoral pores (one leg) recorded for *S. poinsettii* and is of rare occurrence; in my data that number is recorded elsewhere for only four specimens (7-7, UAZ 39421, [NW] Yécora, Sonora; 7-8, UAZ 35182, La Mesa Tres Rios, Sonora; 7-9, UTEP 1837, Hueco Mts, El Paso County, Texas; and 7-9, UBIPRO 2331, Rancho El Setenta, NE Chihuahua). My data for femoral pores of *S. p. macrolepis* are means of 21.3, both legs (16-27, n = 76) and 10.6, one leg (8-14, n = 152) with 25 of 76 (33%) having 20 femoral pores or less, and are about the same in *S. p. poinsettii*, respectively, 22.0 (18-26,

n=187) and 11.0 (8-13, n = 382).

Tanner's sample of 14 specimens was fortuitous in having a combination of a somewhat high frequency of low femoral pore counts and contact of labiomental (= sublabial) and mental. Based on overall trends of geographic variation of *S. poinsettii* range-wide, I choose not to recognize *S. p. robisoni*, and regard *robisoni* as a synonym of *macrolepis*. Lemos-Espinal et al. (2001:206) and Bell et al. (2003:111) also regarded *S. p. robisoni* as invalid.

Sceloporus poinsettii amydrus subsp. nov.

Clouded Crevice Spiny Lizard

Sceloporus poinsettii amydrus. Holotype, UTEP 6190, female in fluid, 3.7 road miles (unpaved) south of González Ortega [site is ca. 23°54'30"N, 103°27'25"W], Zacatecas, ca. 2210 m (7249 ft); obtained 15 July 1977 by Robert G. Webb (original field number 6522) in company with Rollin H. Baker and Mary W. Baker. One other topotype (UTEP 6189, male, 40 mm SVL) has same collection data as the holotype.

Description of holotype. Female, 86 mm SVL; dorsal body scales 28 and scales around midbody 36; both anterior and posterior frontal entire; frontoparietals 2-2 and in medial contact; prefrontals in medial contact; canthals 2-2, loreals 1-1, preoculars 1-2, and anteriormost sublabial not touching mental; femoral pores 14-14 with eight scales

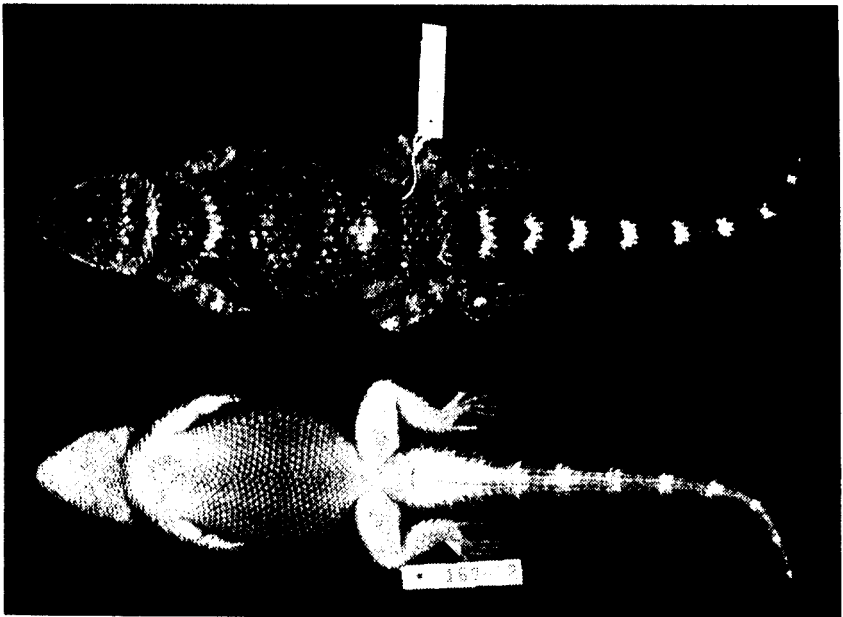


Fig. 4. Dorsal and ventral views of *Sceloporus poinsettii* (CAS 169632, male, ca. 89 mm SVL) from the Sierra de Manantlán, Jalisco, Mexico.

between pore series. The dorsal pattern of the holotype (overall pale brownish body with slightly darker patternless head, and only dim crossbands on the back) is illustrated in Fig. 5.

Etymology. The subspecies (and common) name is from the Greek *amydros* (*amydr-*, indistinct, dim, obscure) in allusion to the indistinct or disrupted (or absent) crossbanded pattern on the body.

Recognition. A subspecies of *Sceloporus poinsettii* having combination of: (1) top of head pale to dark brownish (or near black) and usually patternless, (2) black collar 2 to 3 scales wide; (3) dorsum in adults mostly uniformly brownish, or an indistinct pattern of faded crossbands (usually four), or with an irregular pattern of dark marks, (4) large dorsal body scales not more than 33, (5) anterior frontal entire (88%), not longitudinally divided, and (6) high average number of femoral pores (12.2, one leg; 24.4 both legs).

Description. Color and pattern. The top of the head is pale to dark brown or near black and is relatively patternless (occasional indistinct white speckling, TNHC 30477-78); the rear of the head may be noticeably darkened. Prominent pale postocular blotches are absent, at most indistinct, in adults, but may be evident in young (UTEP 6184, RWA 6450, MCZ 136442 [Fig. 5]). The pale intertympanic band is either poorly developed or absent in adults (series of white dots in young); this band may be interrupted by two paravertebral dark streaks (UTEP 6045 [Fig. 5], KU 38098). Pale anterior and posterior borders of the black collar are usually entire, but either may be narrowly interrupted medially (MSB 39949). The collar is relatively narrow (about uniform in width) or with a slightly curved posterior border; the black collar usually is two or three, no more than four, scales wide. Pale brownish bodies may be mostly uniform or have either indistinct crossbands (usually four; distinct in MCZ 136437-38, see Fig. 5), often staggered and broken, or a disrupted, irregular pattern of dark marks and spots (scales may be pale with black edges, TNHC 30477). Body crossbands in young are of variable distinctness (see Fig. 5). Dark scale edges aligned to form longitudinal dark lines on the body are usually lacking (present in MSUM 363, 368, 372 of La Pila series). Specimens of the La Pila series overall are dark dorsally owing to occurrence on black boulders (malpais) of the Guadiana Lava Field (Baker, 1960). The underside of the head in young has a dark blue-barred pattern and midventral pale streak (may be slightly faded). Large males (MCZ 136436, about 122 mm SVL, Fig. 5) acquire uniformly blue throats and dark pigment midventrally between blue, black-bordered belly patches. The eye rim of at least some large individuals is reddish in life.

Scutellation. Scales of the divided supraoculars are subequal in size or the scales of the inner (medial) row are larger than those of the outer (lateral) row. Scales of the posterior frontal-frontoparietal area are often not irregularly subdivided. The mean number of dorsal scales is 28.9 (26-33, $n = 80$), midbody scales 35.8 (32-39, $n = 77$), femoral pores 24.4 (19-30, $n = 79$, both legs) or 12.2 (9-16, $n = 159$, one leg), and scales between femoral pore series 8.9 (6-12, $n = 74$). Canthals (each side of head, $n = 152$) are usually two (83%), occurring in combinations (both sides of head, $n = 76$) of 1-1 (12%), 1-2

(10%), and 2-2 (78%). Preocular scales (each side of head, $n = 152$) are most often one (81%) rather than two (19%), with combinations (both sides of head, $n = 76$) of 1-1 (74%), 1-2 (14%), and 2-2 (12%). The anterior frontal is entire, not longitudinally divided (88%, $n = 78$). The prefrontals ($n = 76$) are in medial contact (88%) or are separated (12%, by an azygous scale in four of nine). The anteriormost sublabial scale (outer row) and the mental are usually separated (each side of head, 87%, $n = 150$). The largest male is 123 mm (BYU 13857), largest female 115 mm SVL (UCM 12935).

Distribution. *Sceloporus p. amydrus* has a rather restricted geographic range in

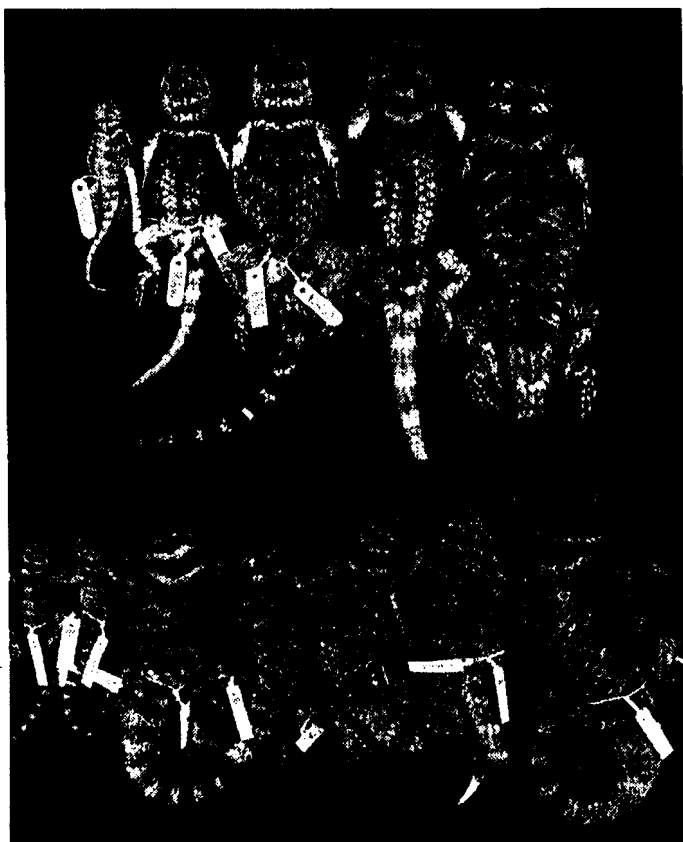


Fig. 5. Dorsal patterns of *Sceloporus p. amydrus* (all Zacatecas, México). **Upper**, left to right: UTEP 6214, male, 40 mm SVL (S Gonzales Ortega); UTEP 6045, female, 67 mm SVL (NW Fresnillo); UTEP 6190, holotype, female, 86 mm SVL (S Gonzales Ortega); RWA 5228 [$n = 7$], male, 92 mm SVL and female, 110 mm SVL (ESE El Sauz). **Lower**, left to right (all MCZ): 136442, male, 50 mm SVL (WNW Fresnillo); 136441, female, 50 mm SVL (WNW Fresnillo); 136437, male, 96 mm SVL (El Arenal); 136434, female, 90 mm SVL (W Fresnillo); 136431, female, 97 mm SVL (W Fresnillo); 136432, female, 100 mm SVL (W Fresnillo); 136436, male, 122 mm SVL (El Arenal).

western Zacatecas and adjacent southeastern Durango. The eastern terminus of range may have been influenced by the historical barrier of the large water-volumed, north-south flowing Río Aguanaval (see Morphological Intermediate Variants). Aside from the slightly hilly, black-bouldered malpais area near La Pila, Durango, individuals occur among rock outcroppings of low hills (and on rock walls, holotype and paratopotype) that may be landscaped in pinón pine, juniper, and oak. Elevations are rather high ranging from near 1906 m (6253 ft) at La Pila and 2001 m (6565 ft) at Francisco I Madero, Durango to 2438 m (8000 ft) recorded at the collecting site of El Calabazal, Zacatecas.

Sceloporus poinsettii axtelli subsp. nov.

Texas Crevice Spiny Lizard

Sceloporus poinsettii axtelli. Holotype, UTEP 10613, male in fluid, 21.5 road miles south (St. Hwy 118) Alpine, Brewster County, Texas (road cut, dark igneous outcrops), obtained 17 May 1985 by Jerry D. Johnson (original field number, CSL [Carl S. Lieb] 7177). The holotype and two topotypes (UTEP 10612, male and UTEP 10614, female, same collection data) are vouchers for tissue samples (heart, liver, muscle, CSL). The type material also includes UTEP 10615 (n = 19, born 10 July 1985), young of UTEP 10614, 111 mm SVL.

Description of holotype. Male, 110 mm SVL; dorsal body scales 35 and scales around midbody 41; anterior frontal longitudinally divided; posterior frontal fragmented into three scales with frontoparietals 1-1 separated by an azygous scale; prefrontals in medial contact; canthals 2-2, loreals 1-1, preoculars 2-2 (3, irregular on left side), and anteriormost sublabial not touching mental on either side; femoral pores 11-11 with 10 scales between pore series. The dorsal pattern (Fig. 6) has indistinct crossbands but dark vertebral blotches on the back and the characteristic head patterns (dark postocular streaks and X-shaped blotch). The belly has a midventral slit and the entire right leg (right foot missing) is internally excised (skin only).

Etymology. The subspecies name honors Ralph W. Axtell, long-time summer field companion since the early 1960s, who provided most vehicular transportation, who donated many specimens of *Sceloporus poinsettii* (UTEP) from his private collection, and whose industry has contributed to our knowledge of Texas lizards.

Recognition. A subspecies of *Sceloporus poinsettii* having a combination of: (1) enlarged pale blotch-like area behind each eye above dark postocular stripe, (2) dark cruciform (X-shaped) blotch on rear of head (sides indented by pale postocular blotches), (3) sexual pattern dimorphism on body (but variable), adult females crossbanded and males with dark vertebral blotches, and (4) dorsal body scales usually about 33-34 (not less than 30, usually less than 36).

Description. Color and pattern. *Sceloporus poinsettii axtelli* has a contrasting rear-of-head pattern of dark, narrow postocular stripes, enlarged pale postocular blotch-like areas, and a dark cruciform occipital blotch. The pale (whitish) postocular blotches (above the dark postocular stripes) that form the lateral indentations of the dark cruciform

or X-shaped occipital blotch, are usually open posteriorly separating (may be only indistinctly connected) the dark postocular stripes and dark X-shaped blotch. The top of the head may be mostly uniformly pale brown with pale and dark shadings, or have darkened supraocular areas. The dark, cruciform blotch may be either interrupted medially or disrupted with pale areas. The moderately distinct, pale intertympanic band, usually complete, may be interrupted by paravertebral black streaks (UTEP 8879, 13735, Fig. 6). The black collar has relatively straight borders, is about three or four scales wide, and each of the whitish borders is about two scales wide. The whitish anterior and posterior borders of the black collar are usually entire, but either may be narrowly interrupted medially by black streaks. The anterior pale border of the black collar may be interrupted by a pair of paravertebral dark streaks or by a pair of lateral dark streaks (that connect black collar and dark nape blotch). Body patterns are variable, usually with three (or four) crossbands that may be faded, or have the pigment restricted to dark vertebral blotches (with interspaces of whitish spots, single or paired); crossbands may be of mostly solid color or have some scales pale with black edges. The back may have narrow black longitudinal lines (scale edges black). Although variable, dorsal body patterns of adults (at least exceeding 100 mm SVL) tend to segregate by sex; males have the lateral parts of the crossbands faded with prominent dark (black) vertebral blotches separated by white spots or bars, whereas females have mostly crossbanded patterns but often with vertebral areas also blackened (compare these sexual differences in pattern in Fig. 6). In this regard, all three specimens illustrated in Webb (1988, Fig. 2) from the Río San Pedro (= Devils River) are males. Newborn young have brownish crossbands. The juvenile pattern on the underside of the head is reduced and indistinct (may be mostly absent), consisting of a fine blue and white marbling, and may have a semblance of a pale midventral streak. Descriptive aspects of new-born Texas young are in Ramsey and Donlon (1949) and Axtell (1950). Photographs of some Texas specimens are in Smith (1946:199, Pl. 42), Greene (1970, neonate), Garrett and Barker (1987:Pl. 41, color), and Vermersch (1992, color Pl.).

Scutellation. The supraoculars are divided, but the medial row of scales may be larger than those of the lateral row, and scales of the frontoparietal-posterior frontal region are frequently irregular (Fig. 1B). Scale irregularity is extreme for the species in a male *S. p. axtelli* (UTEP 14655) with some named head scales unrecognizable (see species account). The mean number of dorsal scales is 33.6 (30-37, 98% 36 or less, $n = 307$), midbody scales 38.0 (33-43, $n = 237$), femoral pores 20.5 (16-30, $n = 280$, both legs) or 10.3 (7-16, $n = 577$, one leg), and scales between femoral pore series 10.3 (7-13, $n = 275$). Canthal scales (each side of head, $n = 580$) are more frequently two (67%) than one (33%), occurring in combinations (both sides of head, $n = 290$) of 1-1 (28%), 1-2 (9%), and 2-2 (63%). Preocular scales (each side of head, $n = 584$) are more frequently two (62%) than one (38%), with combinations (both sides of head, $n = 292$) of 1-1 (32%), 1-2 (12%), and 2-2 (56%). The anterior frontal ($n = 292$) is entire (54%) or longitudinally divided (46%, irregular on occasion). The prefrontals ($n = 286$) are usually in medial contact (80%, rarely partly separated by small azygous scale) or are separated (20%, most often by a large azygous scale). The separation of the anteriormost sublabial scale (outer row) and the mental (each side of head, $n = 484$) is more frequent (84%) than

contact of those two scales (16%). The largest male (MSB 21272) is 132 mm, the largest female (ASNHC 1018) 120 mm SVL; Ballinger (1973:273) recorded 128 mm SVL for a Texas female.

Comparison of the three largest geographically restricted samples indicates variation in some features of scutellation. The westernmost sample consists of 66 specimens (all UTEP) from the Hueco Mountains, vicinity of Hueco Tanks State Park, El Paso County, Texas. The other Texas sample of 57 specimens (all ASNHC) is east of the Pecos River from 7 mi SW and 11-15 mi NW Mertzton, Irion County (Ballinger, 1973). The third

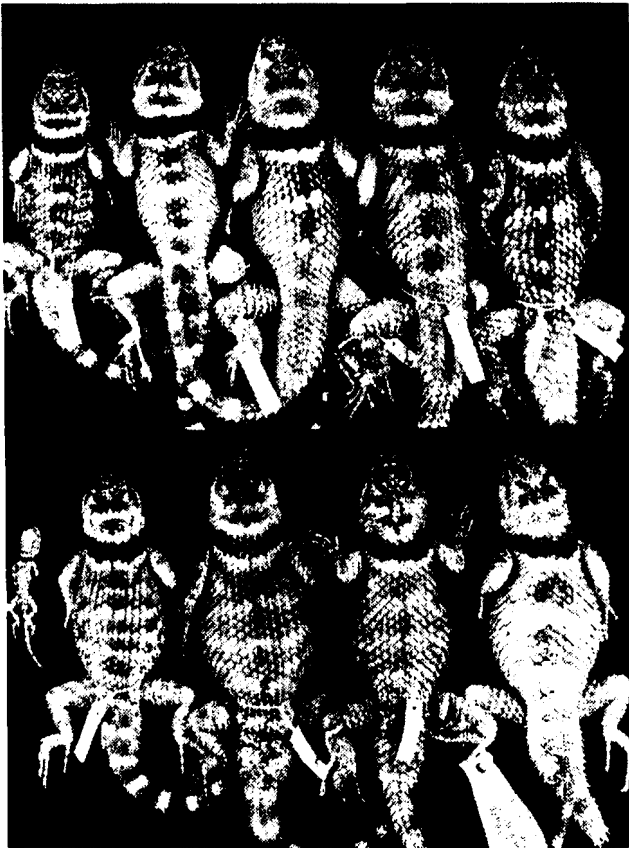


Fig. 6. Dorsal patterns of *Sceloporus p. axtelli*. **Upper**, left to right (all males): UTEP 11524, 82 mm SVL (Texas, Hudspeth Co.); UTEP 13735, 100 mm SVL (Texas, Culberson Co.); UTEP 12309, 109 mm SVL (New Mexico, Otero Co.); UTEP 10613, holotype, 110 mm SVL (Texas, Brewster Co.); UTEP 9220, 111 mm SVL (Chihuahua, S La Mula). **Lower**, left to right (all females): UTEP 6638, hatchling, 30 mm SVL (Chihuahua, NNE Samalayuca); UTEP 11510, 95 mm SVL (New Mexico, Otero Co.); UTEP 11525, 107 mm SVL (Texas, Reeves Co.); UTEP 8879, 106 mm SVL (Texas, Bexar, Co.); UTEP 2855, 107 mm SVL (Texas, El Paso Co.).

smaller sample of 27 specimens (all UTEP) is from across the Río Grande in the Sierra Jardin in northern Coahuila, México. The number of dorsal scales, midbody scales, and scales between pore series do not vary among these samples. Lizards of the Sierra Jardin population average more femoral pores (22.9, 20-30, $n = 24$, both legs; 11.4, 10-16, $n = 51$, each leg) than either the Hueco Tanks (18.9, 16-24, $n = 65$, both legs; 9.4, 7-12, $n = 131$, each leg) or the Mertzson (20.0, 17-24, $n = 56$, both legs; 10.0, 8-12, $n = 113$, each leg) populations. Respective values for the Hueco Tanks, Sierra Jardin, and Mertzson populations for the other somewhat variable characters are: anterior half of frontal entire (57%, 54%, 67%), prefrontals in medial contact (79%, 92%, 95%), canthals either one (54%, 23%, 5%) or two (46%, 77%, 95%), preoculars either one (30%, 39%, 51%) or two (70%, 61%, 49%), and sublabial and mental usually separated (100%, 85%, 53%). The high frequency of contact of the sublabial and mental scales in the Mertzson sample (47%) is matched only in *S. p. poinsettii* (especially the non-Hidalgo County sample, 53%).

Distribution. *Sceloporus p. axtelli* occurs in southeastern New Mexico, Trans-Pecos and central Texas, and adjacent parts of northeastern Chihuahua and northern Coahuila.

All records of occurrence in New Mexico are west of the Pecos River and east of the Río Grande in Lincoln, Otero, Chaves and Eddy counties from the Sacramento and northern Hueco mountains east through the Cornudas and Guadalupe mountains (Degenhardt et al., 1996:175, map). *Sceloporus poinsettii* does not occur in the Franklin-Organ-San Andreas Mountain chain immediately to the west of the Hueco and Sacramento mountains in Texas and New Mexico (see account of *S. p. poinsettii*).

The distribution in Texas is detailed by Axtell (1987) with records of occurrence generally on the Edwards Plateau and extending westward as far as the Hueco Mountains in El Paso and Hudspeth counties in extreme west Texas. The southern rim of the Edwards Plateau limits the southward distribution of the species in Texas. In northeastern Chihuahua, *S. poinsettii* is absent in the Sierra Juarez (just south of the Franklin Mountains and El Paso, Texas) and the Sierra Samalayuca to the west of Samalayuca; however, *S. p. axtelli* occurs in the Sierra del Presidio (just east Samalayuca), extending southeastward, vicinity of Chilicote and La Mula, and east into the Sierra de Hechiceros. In adjacent northern Coahuila, *S. p. axtelli* occurs in the Sierra de la Encantada and southeast to the vicinity of Múzquiz and Sabinas, and northeast into the Lomero de Peyotes range, southwest of Villa Unión. Specimens from near Múzquiz are somewhat reluctantly assigned to *S. p. axtelli*; dorsal patterns are suggestive of intergrade specimens to the south (see Morphological Intermediate Variants).

Sceloporus poinsettii polylepis Smith and Chrapliwy

Smallscale Crevice Spiny Lizard

Sceloporus poinsettii polylepis Smith and Chrapliwy, 1958:269. Holotype, UIMNH 21464, adult male in fluid, from 18 miles north (by one-lane dirt trail that generally paralleled railroad track, Hobart M. Smith, in litt., 1 February 1994) of Escalón,

Chihuahua, ca. 1501 m (4925 ft); obtained 25 June 1934 by David H. Dunkle and Hobart M. Smith. Two topotypes (UIMNH 21465-66) have the same collection data as the holotype. The holotype (examined by author), a male of about 69-72 mm SVL, having small dorsal scales (41-42), dark postocular stripes, pale postocular blotches and dark cruciform (X-shaped) occipital blotch, and a longitudinally divided anterior frontal, is regarded as a morphological intermediate variant (intergrade). See introductory comments.

Recognition. A subspecies of *Sceloporus poinsettii* recognized by combination of: (1) black rear of head with whitish marks; black continuous behind distinct, short, whitish postocular bar (no distinct dark cruciform blotch); (2) sexual pattern dimorphism on body, adult females usually with irregular pattern of pale and dark marks and adult males with black vertebral blotches separated by paired white spots; (3) small dorsal body scales, 37.5 (33-41, 93% 35 or more), (4) anterior frontal entire (90%), not longitudinally divided; (5) maximal SVL not exceeding 100 mm SVL.

Description. Color and pattern.—The top of the head and neck are dark, near black thus providing contrasting whitish, narrow and short postocular bars, and nape spotting, the latter usually arranged to form an intertympanic band. The black rear of head is continuous behind the white postocular bars. The black side of the head is sharply demarcated from the pale supralabial area below. A pale dot often occurs on each parietal and the interparietal. The collar is three to five black scales wide, and may have a blue scale within the black collar above the shoulder. The pale anterior and posterior borders of the black collar are about two scales wide, and both are usually narrowly interrupted medially (either pale border may be entire); the anterior border may be broken into a series of spots with the lateralmost spots often having short, lateral anterior extensions. Dorsal body patterns are usually markedly different in males and females (Fig. 7). Males have black vertebral blotches on the body that decrease in size and fade posteriorly; these blotches are separated by whitish, often paired spots that coalesce and likewise become less distinct posteriorly. The largest males may be mostly uniform dorsally or have only an anterior indication of black blotches (UTEP 3702, Fig. 7; RWA 5731-32). Sides of the body are a patternless pale yellowish (usually) or orangish. A small male of 62 mm SVL (UTEP 3614) is not distinctly blotched (Fig. 7) unlike a similar-sized male (UTEP 8913, 62 mm SVL). Dorsal body patterns in females are not distinctly crossbanded, having a variable mixture of scattered pale dots and dark markings (Fig. 7). Some females (no enlarged pair of postanal scales) have dorsal body patterns similar to that in males (UTEP 6224, Fig. 7, and UTEP 6085); UTEP 6085 has faded crossbar-like lateral extensions of the black vertebral blotches. Dark longitudinal lines (scale edges) may occur on the body (Fig. 7, UTEP 3614-15). The dorsal, dark crossbanded tail pattern is of variable distinctness, contrasting or not (Fig. 7); the tail may have several narrow crossbands (UTEP 3614, Fig. 7) or is mostly dark with pale flecks (UTEP 3619, 3622). Tails usually lack any ventral pattern, or faded, dark crossbands may occur on the distal part of the tail (RWA 6172, 6194; UTEP 3633, 4327, all males). Ventral surfaces in adult males are pale yellow except for the uniformly blue underside of head (chin region paler), varying degrees of black on chest (may be complete across throat), and blue, black-bordered belly patches; black is extensive in the groin-preanal areas, and may interconnect belly patches in places. Large females have bluish throats (usually with indistinct pale mottling) and blue, dark-

bordered belly patches, but colors are not as bright as in males. Juveniles (UTEP 8911, male 32 mm SVL, and UTEP 8912, female 30 mm SVL) have pale postocular bars and a few pale nape scales, pale blue-gray and white mottled throats, and faded blue belly patches; bodies, not noticeably crossbanded or blotched, are mostly patternless with only scattered pale scales and some scattered dark marks.

Scutellation. The supraoculars are divided; the scales of the medial and lateral rows generally are subequal in size, but scales of the medial row may be somewhat larger than those of the lateral row. The posterior dorsal head scales usually are symmetrically



Fig. 7. Dorsal patterns of *Sceloporus p. polylepis*. **Upper**, left to right (all males): UTEP 3614, SVL 62 mm (Zacatecas, W La Presa de Junco); UTEP 8916, SVL 73 mm (Zacatecas, SW San Tiburcio); UTEP 3615, SVL 77 mm (Zacatecas, SW San Tiburcio); UTEP 3730, SVL 76 mm (San Luis Potosí, Huertecillas); UTEP 3702, SVL 91 mm (San Luis Potosí, San Antonio). **Lower**, left to right (all females): UTEP 8919, SVL 61 mm (Zacatecas, SW San Tiburcio); UTEP 8914, SVL 74 mm (Zacatecas, SW San Tiburcio); UTEP 3633, SVL 71 mm (San Luis Potosí, San Antonio); RWA 6161, SVL 66 mm (Nuevo León, San Jose de las Raices); UTEP 6224, SVL 66 mm (Nuevo León, NE Los Medina); UTEP 4327, SVL 60 mm (Nuevo León, NNW Santa Rita).

arranged, not irregularly subdivided; the posterior frontal is entire (rarely subdivided, UTEP 8913, 18917, 3632), and the frontoparietals are usually 1-1 and separated by an azygous scale (rarely frontoparietals otherwise separated or touching medially). The mean number of dorsal scales is 37.5 (33-41, $n = 42$, 93% 35 or more), scales around midbody 40.7 (36-47, $n = 42$), femoral pores 21.2 (16-26, $n = 40$, both legs) and 10.6 (8-13, $n = 82$, one leg), and scales between pore series 12.2 (9-17, $n = 40$). Canthals usually number two (99%), and loreals one (93%). Preoculars (each side of head, $n = 84$) are usually one (88%), but occasionally two (7%) or three (5%). The anterior frontal usually is entire (90%, $n = 41$), the prefrontals in contact (93%, $n = 41$), and the anteriormost sublabial separated from the mental (96%, $n = 84$). The largest male is 91 mm SVL (UTEP 3702, Fig. 7) and female 80 mm SVL (UTEP 6085).

Distribution. *Sceloporus poinsettii polylepis* occurs in northeastern Zacatecas (south of the Sierra el Mascarón [Concepción del Oro]) and eastward through northern San Luis Potosí into adjacent Nuevo León (north to vicinity San Jose de las Raices).

The general habitat is a high desert grassland or scrubland with scattered igneous or limestone rock outcroppings of low hills, with the elevation (recorded in field at only two sites) about 1950 and 1981 m (6400-6500 ft). Dominant vegetation associated with the flat grassland or foothills at most places includes arborescent yuccas, magueys, cholla, nopal, catclaw, lechuguilla, and terrestrial bromeliads. Although lizards may occur on large igneous outcrops, many were associated with inconspicuous, small limestone ridges of limited extent that provided suitable rock-crevice concealment, a microhabitat that perhaps correlates with the small adult size of *S. p. polylepis*. Lizards were taken in the sparse rocky habitat depicted in the background of the pond-habitat photo in Webb (2004, Fig. 2, 15 road mi SW San Tiburcio, Zacatecas).

Morphological Intermediate Variants

Many individuals have variable pattern and scutellation features that are not consistent with the combination of recognition features of the five subspecies; these individuals, thus intermediate morphologically, generally occur in intervening geographic regions and are hereafter referred to as "variants" or "intergrades." The somewhat arbitrary allocation of some specimens does not alter the overall geographic integrity of recognizable populations. These specimens are collectively listed in the Appendix. Representative individuals and populations are discussed below.

Populations of *S. poinsettii* in the high forested parts of the Sierra Madre Occidental in most of Chihuahua and adjacent eastern Sonora are judged to be intermediate between *S. p. poinsettii* to the north (western New Mexico) and *S. p. macrolepis* to the south (southern Chihuahua and Durango). Individuals generally have dark, unmarked heads and broad dark crossbands on the body, which are pattern features of *S. p. macrolepis*, whereas the slightly smaller dorsal scales and high frequency of a longitudinally divided anterior frontal are features not unlike those of *S. p. poinsettii*; one of these specimens (UTEP 2050, Yepómera, Chihuahua) is illustrated in Fig. 8. Large adults tend to have black longitudinal lines on the back, a pattern feature that occurs in both *S. p. poinsettii*

and *S. p. macrolepis*. Lemos-Espinal et al. (2002:165, presumably western Chihuahua specimens) reported broad orange streaks on the sides of the body (axilla to groin) in both sexes, perhaps an intensification of known pale orange body scales in *S. p. macrolepis* and the pale orange sides of the body in *S. p. poinsettii*. North-south geographic variation in four scutellation features also indicates the overall intermediate status of the variant population in northern Chihuahua. This variation is further highlighted if the two geographic segments of *S. p. poinsettii* in New Mexico are treated separately (see descriptive account of that subspecies). Dorsal scales are largest in the southernmost population (*S. p. macrolepis*, 28.6, 25-31, $n = 97$) and are only slightly smaller in those in central-northern Chihuahua (32.9, 28-38, $n = 105$), and about the same in *S. p. poinsettii* (31.9, 29-35, $n = 202$). The diagnostic high frequency of an entire anterior frontal in *S. p. macrolepis* (93%, $n = 98$) shifts rather abruptly with the Chihuahuan intergrades and *S. p. poinsettii* having about the same high frequency, respectively 96% ($n = 104$) and 98% ($n = 205$), of a longitudinally divided anterior frontal. Corresponding south to north changes occur in regard to contact or separation of the sublabial and mental (separated 94% [$n = 112$] in *S. p. macrolepis*, 77% [$n = 26$] in Chihuahuan intergrades, and 56.5% [$n = 200$] in *S. p. poinsettii*) and the prefrontals (contact frequency decreasing, respectively, from 89% [$n = 74$] to 65% [$n = 72$] and 47% [$n = 195$]). However, the *macrolepis* x *poinsettii* sample with about the same frequency of one (46%) or two (54%) preoculars ($n = 142$) interrupts this geographic trend with a high frequency of one preocular in both *S. p. macrolepis* (70%, $n = 148$) and *S. p. poinsettii* (95%, $n = 408$).

Individuals occurring in the foothills of the Sierra Madre Occidental, and in the grasslands throughout central Chihuahua south into Durango are regarded as variants. In Chihuahua, southeast of Nuevo Casas Grandes, a large male (UTEP 14585) has broad body bands most like *S. p. macrolepis* and a dark, white-spotted head similar to that of *S. p. poinsettii*. Farther east in grassland areas dorsal patterns are similar to *S. p. poinsettii* (USNM 104713-14, Progreso near Río Santa María; BYU 15334, UTEP 14584, vicinity Ricardo Flores Magón; UTEP 14586, just northeast of El Sueco); the top of the head overall is black (indistinct pale spots) and the body bands are mostly solid black in USNM 104713 (suggestive of *S. p. macrolepis*), otherwise head patterns (dark postocular bars and cruciform blotches) tend toward *S. p. axtelli*, especially that of UTEP 14586. Another lizard from a mountainous area west of Bella Vista, 2020 m (6625 ft) northwest of Cd. Chihuahua (UTEP 8825, Fig. 8) has somewhat pale-streaked crossbands as occurs in *S. p. poinsettii*, but dark pigment is coalesced into vertebral blotches (unlike *S. p. poinsettii*) as occurs in *S. p. axtelli*. All six lizards from near El Tigre, west of Camargo, Chihuahua (UTEP 3587-92) have dorsal patterns (although somewhat variable) similar to that of *S. p. poinsettii* (black longitudinal lines on back, but crossbands lacking) and show varying distinctness of the dark cruciform blotch characteristic of *S. p. axtelli* (UTEP 3587 with this head pattern illustrated in Fig. 8). A color photo (No. 62) of a south-central Chihuahuan specimen (Ejido Mesa de Angostadero) is in Lemos-Espinal et al. (2004c:61).

In desert areas northeast of Cd. Chihuahua, specimens indicate intergradation between *S. p. axtelli* and *S. p. polylepis*. A series of seven (UBIPRO 4283-89) from Cerros Tres Castillos have variable dorsal patterns, but large dorsal scales (32.7, 31-34) not dif-

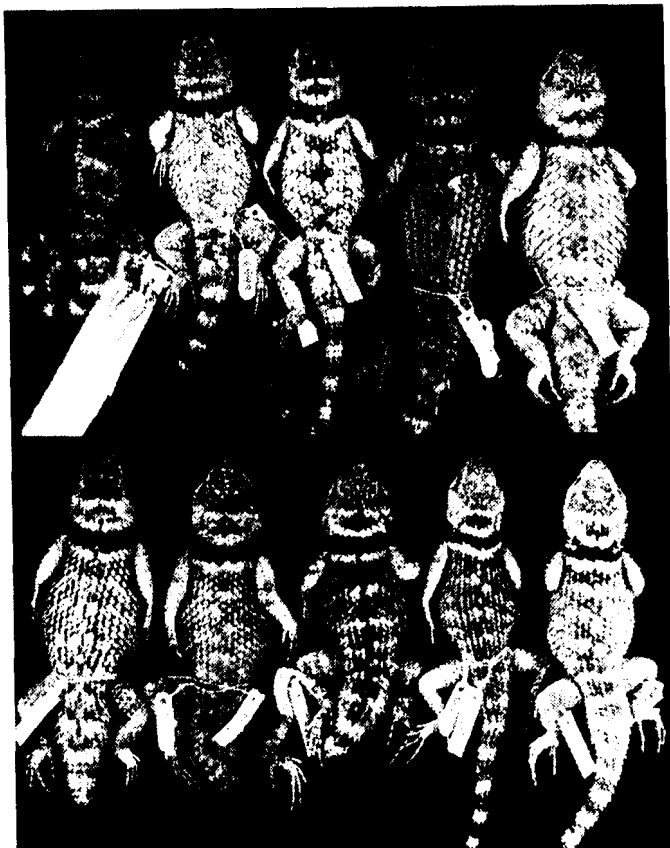


Fig. 8. Dorsal patterns of morphological intermediate variants of *Sceloporus poinsettii*. **Upper**, left to right: UTEP 2050, female, 74 mm SVL (Chihuahua, Yepómera); UTEP 6216, male, 80 mm SVL (Chihuahua, SW Buenaventura); UTEP 8825, female, 84 mm SVL (Chihuahua, W Bella Vista); UTEP 3587, male, 106 mm SVL (Chihuahua, near El Tigre, W Camargo); UTEP 3718, female, 102 mm SVL (Durango, El Palmito). **Lower**, left to right: UTEP 3719, female, 99 mm SVL (Durango, W Rancho Tres Hermanos); UTEP 6180, male, 95 mm SVL (Durango, N Pedriceña); CM 59720, male, 83 mm SVL (Coahuila, Cuesta del Gallo); UTEP 9203, female, 80 mm SVL (Coahuila, W side Sierra San Marcos); CM 43037, male, 91 mm SVL (Coahuila, N Cuatro Ciénegas).

ferent from *axtelli*; the anterior frontal is divided in 6 of 7 (not divided in *polylepis*, 90%). In 12 specimens from Cerros Santa Anita (UBIPRO 4301-12), dorsal patterns are not definitive, and relatively small dorsal scales (35.9, 33-38) and small maximal size (female, 105 mm SVL) suggest intermediacy with *S. p. polylepis*. These UBIPRO specimens are mentioned in Lemos-Espinal et al. (2000:185).

In Durango, specimens show an amalgamation of features of *S. p. macrolepis* to the west, *S. p. polylepis* to the east, and *S. p. amydrus* to the south. One lizard from extreme northern Durango (MSUM 9331, south Las Nieves) has dorsal patterns similar

to *S. p. poinsettii*. The pattern features of MSUM 367 (southwest Vicente Guerrero) and MSUM 4305 (north Mezquital) suggest those of both *S. p. macrolepis* (both with broad, complete, but faded crossbands; top of head near black and black collar especially widened vertebrally in 4305) and *S. p. amydrus* (both overall pale brownish, including top of head of 367). Four specimens (UTEP 6165-68) from Rio Chico, Durango, are all assigned to *S. p. macrolepis*, but one large female has faded broad crossbands (UTEP 6165, Fig. 3); likewise, five specimens (UTEP 6158-62) also from the foothills of the Sierra Madre, 10 miles west of Metates, Durango, are most like *S. p. macrolepis* except an adult male (UTEP 6159, Fig. 3) with an almost patternless back resembling *S. p. amydrus*. Intergradation between *S. p. macrolepis* and *S. p. amydrus* occurs in the vicinity of Cd. Durango (map, Fig. 11). Of four specimens (CAS 95919-22, south of Chalchuites, Zacatecas), the adult (95919) and one of the three hatchlings (95922) have wide black collars and broad crossbands on the body (as in *S. p. macrolepis*).

In desert areas of eastern Durango and Chihuahua, and western Coahuila individuals acquire small scales of *S. p. polylepis* and dark longitudinal lines on the body. In the Cuatro Ciénegas area of Coahuila, lizards are judged to be intermediate between *S. p. polylepis* and (but most like) *S. p. axtelli*. Dorsal patterns include indication of the dark cruciform blotch on rear of head (*axtelli*) and dark vertebral body blotches (both subspecies). Two of these (CM 43037, UTEP 9203) are illustrated in Fig. 8. The mean count of dorsal scales in 24 specimens from the vicinity of Cuatro Ciénegas is 34.1 (32-37, 21% 36 or more), which corresponds to that of *S. p. axtelli* (33.6, 30-37); the anterior frontal is longitudinally divided (87%) more like *S. p. axtelli* (46%) than *S. p. polylepis* (10%). The available specimens (24) suggest a relatively small maximal size (as in *S. p. polylepis*), the largest 99 mm (female) and 107 mm (male) SVL.

A variant female (UTEP 3719, west Rancho Tres Hermanos, Durango, Fig. 8, desert-grassland transition) has 36 dorsal scales and a dorsal body pattern of dark lines and faded crossbands. Lizards from eastern Chihuahua (vicinity La Perla south through the Escalón area) and eastern Durango into extreme southwestern Coahuila and northwestern Zacatecas, and the adjacent panhandle of Durango have small dorsal scales (*S. p. polylepis*) averaging 37.0 (33-43, n = 83), and maximal SVL is relatively small (two largest females 95 mm, three largest males 110, 112, and 115 mm). In 17 near topotypic specimens (including holotype of *S. p. polylepis*) from the vicinity of Escalón, Chihuahua (see Fig. 9, upper), dorsal scales average 38.5 (35-43), the anterior frontal (irregular in two) is divided (75%), and the rear-of-head pattern is variable with some patterns not unlike that of *S. p. polylepis* (UTEP 9234) or suggestive of the dark cruciform blotch of *S. p. axtelli* (UTEP 9231). Dorsal patterns of other specimens are variable, some with longitudinal dark lines and the characteristic black cruciform blotch of *S. p. axtelli* (Fig. 9, lower; also UTEP 6180, Fig. 8); the anterior frontal is longitudinally divided (80%) unlike *S. p. polylepis* (entire, 90%). A color photo (No. 61) of an eastern Chihuahuan specimen ("Rancho El Gatuno") is in Lemos-Espinal et al. (2004c:61). Smith and Chrapliwy (1958) designated some small-scaled specimens from south of the Rio Nazas in eastern Durango (Lerdo south to vicinity of Pedriceña) as paratypes of *S. p. polylepis*.

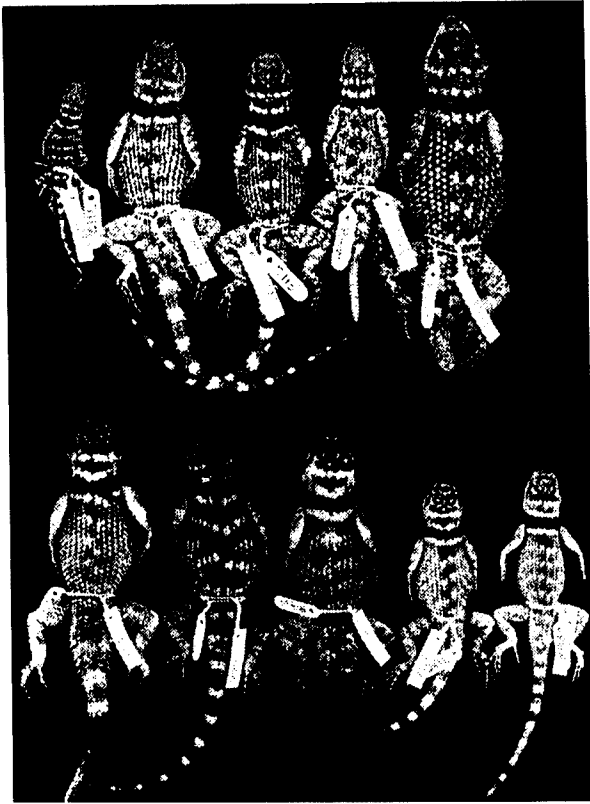


Fig. 9. Dorsal patterns of morphological intermediate variants of *Sceloporus poinsettii*. **Upper**, near topotypic *Sceloporus poinsettii polylepis*, herein as intergrades; all vicinity Escalón, Chihuahua (also UTEP 9224, Lower): UTEP 9223, male, 38 mm SVL; UTEP 9231, male, 72 mm SVL; UTEP 9226, male, 71 mm SVL; UTEP 9233, female, 60 mm SVL; UTEP 9234, female, 90 mm SVL. **Lower**, left to right: UTEP 9186, male, 88 mm SVL (Durango, W La Pendencia, Zacatecas); UTEP 9224, female, 86 mm SVL (Chihuahua, E Escalón); UTEP 9243, female, 89 mm SVL (Durango, SW Picardias); UTEP 9242, male, 64 mm SVL (Durango, SW Picardias); UTEP 9227, male, 65 mm SVL (Coahuila, NW Ahuachila).

In south-central and southeastern Durango, lizards tend to resemble *S. p. amydrus*. A male (UTEP 6670, north Cd. Durango) has pattern features most like *S. p. amydrus*, but differs in having pale postocular blotches (although indistinct) and a high dorsal scale count of 34. To the east, another has faded pattern features (*S. p. amydrus*) but the indistinct pattern of vertebral blotches suggestive of *S. p. polylepis* (UTEP 6193, east Yerbaniz, Fig. 10) and the dorsal scales (34) are smaller than in *S. p. amydrus*. Five specimens from about the same locality in northern Zacatecas (CM 59711-14, UTEP 3629, 18-18.9 miles northeast Nieves) have black-blotched dorsal patterns similar to *S. p. polylepis* (UTEP specimen, Fig. 10, also with dark cruciform head blotch of *axtelli*); two of four counts of

dorsal scales are 38 and 39 (*S. p. polylepis*), whereas the other counts of 34 and 35 are at the lower range of variation. In 12 specimens from northcentral Zacatecas (near Coapas and Tecolotes, RWA 5809, SDSNH 49787-91 and 49793-94, UTEP 14592-94 and 14626) dorsal patterns likewise are generally intermediate between these two subspecies with dorsal scales 36 in one (*polylepis*, SDSNH 49791) but 31-33 in eight (*amydrus*), and an anterior frontal entire in six (*amydrus* and *polylepis*), irregular in one, but longitudinally divided in five of 12.

Lizards from parts of northern Zacatecas, southeastern Coahuila, and adjacent parts of western Nuevo León have characteristics that suggest intergrade status between *S. p. amydrus* and *S. p. axtelli*. Dorsal patterns (both sexes) overall (mostly patternless and narrow black collars) are not unlike that of *S. p. amydrus* (e.g., Coahuilan specimens UTEP 6786, El Chiflon; UTEP 14639-43, Muchachos; USNM 112288-92, near Saltillo; UCM 41492, N Saltillo; and USNM 105786, 105786-93, N Saltillo and Hipolito); another similarly patterned female (UTEP 6066, near Sierra Hermosa, Coahuila, just east Saltillo) is illustrated in Fig. 10. Dorsal patterns of three of five specimens from Cerro La Cuchilla, Coahuila, are most like *amydrus* (USNM 105528, 105530-31), whereas a large male (USNM 105532) has patterns not unlike that of *axtelli*, and a female (USNM 105529) has dark vertebral blotches and a head pattern (faded) as in *axtelli*. Farther east most lizards from one site (Arteaga, USNM 105794-822) generally resemble *S. p. amydrus* in lacking dorsal patterns, but some have faded patterns of *S. p. axtelli* (Fig. 10, lower, USNM 105795, cruciform blotch; USNM 105798, dorsal blotches). Nearby specimens from west of Santa Catarina, Nuevo León (USNM 105827-29) have dark postocular stripes and pale postocular blotches (with variable expression of dark cruciform blotch) as in *S. p. axtelli* and variable body patterns. Some large males from southeastern Coahuila (UTEP 4457) and adjacent Nuevo León (UTEP 6044, Fig. 10), and from Pico de Tiera in northern Zacatecas (UTEP 6197) have near patternless heads (*S. p. amydrus*) combined with body patterns of dark vertebral blotches separated by white scales (*S. p. axtelli*). In Coahuila, variable dorsal patterns suggest intergradation between *S. p. amydrus* and *S. p. axtelli* in specimens from the La Muralla Canyon area (UTEP 4238, 14621-24, 14634-35) and north as far as the Sierra de la Gloria near Monclova and Castaños (RWA 4780, [1]; USNM 46699, UTEP 6195). An adult male from Sierra La Gloria (RWA uncataloged) has head and body patterns of *S. p. axtelli*. Intergradation may occur north as far as the vicinity of Músquiz (RWA 1413-14). Of 25 specimens from west of Bustamante, Nuevo León (just east and south of the Sierra de la Gloria), most are near patternless (resembling UTEP 6066 in Fig. 10) and thus similar to *S. p. amydrus*; one however (EAL 4334, 17.4 miles west Bustamante, Fig. 10) is prominently patterned.

The above-mentioned, generally patternless, lizards (resembling *S. p. amydrus*) from the southeastern part of the range of the species have features of scutellation that also suggest intergradation with *S. p. axtelli*. A comparison of dorsal scale counts from four sizeable samples from restricted geographic areas generally indicates a slight north to south decrease from the higher counts in *S. p. axtelli* (33.6, 30-38, $n = 307$) to the lowest counts in *S. p. amydrus* (29.2, 27-33, $n = 56$); a mean of 33.2 (31-37) in the northernmost sample of 25 specimens from 2 to 17.4 miles W to SW Bustamante, Nuevo León (EAL, RWA) decreases to 32.0 (29-35) in 23 specimens from southwest General

Cepéda, Coahuila (KU) and 31.5 (28-35) in 29 specimens from Arteaga, Coahuila (USNM) to 30.8 (29-34) in 23 specimens from farther south near San Antonio de las Alazanas, Coahuila (EAL, RWA). Femoral pores in specimens of these samples have a mean number of about 10, and do not exceed 13 (unlike *S. p. amydrus*, 12.2, 9-16). The Arteaga sample has a high frequency of two preoculars (84%), unlike the other samples (usually one preocular), that perhaps reflects the unusually high frequency of 62% in *S. p. axtelli*.

The intergrade status of lizards (*amydrus* x *axtelli*) in southern and southeastern Coahuila and northern Zacatecas might be explained by the proposed historic barrier of Pleistocene pluvial lakes and large water-volumed route of the old Río Nazas system (Río Nazas-Aguanaval juncture) that flowed eastward perhaps exiting as part of the Río



Fig. 10. Dorsal patterns of morphological intermediate variants of *Sceloporus poinsettii*. **Upper**, left to right: UTEP 6193, male, 83 mm SVL (Durango, E Yerbaniz); UTEP 3629, female, 93 mm SVL (Zacatecas, NE Nieves); EAL 4334, male, 91 mm SVL (Nuevo León, W Bustamante); UTEP 6066, female, 105 mm SVL (Coahuila, N Sierra Hermosa); UTEP 6044, male, 115 mm SVL (Nuevo León, SW El Castillo). **Lower** (all from near Arteaga, Coahuila), left to right: USNM 105798, male, 125 mm SVL; USNM 105806, male, 110 mm SVL; USNM 105795, male, 104 mm SVL; USNM 105808, female, 80 mm SVL; USNM 105820, female, 95 mm SVL.

Salado system into the Lower Rio Grande; subsequent removal by drier climates then permitted dispersal of *axtelli* south and *amydrus* east and intermixing of the two taxa.

Comparisons

Taxonomic characters of the five recognized subspecies are compared below. See description of the species, *S. p. poinsettii*, for extremes in some scutellation features. Features of scutellation of no taxonomic importance include number of canthals, loreals, and frontoparietals. The irregular configuration of scales in the posterior frontal-frontoparietal region occurs in varying degrees in all populations, but was not otherwise quantified (subjectively, least in *S. p. macrolepis* and *S. p. polylepis*).

Body size. Four of the five subspecies attain large body size with the largest adults of both sexes well over 100 mm SVL. One subspecies, *S. p. polylepis*, is distinguished by small maximal body size in which individuals are not known to exceed 100 mm SVL. Despite this difference in maximal body size, a sexual size difference is maintained in *S. p. polylepis* ($n = 5$ largest females, 74.8, 71-80 mm, and males, 81.2, 77-91 mm) with females 92% the size of the males; corresponding data for at least *S. p. poinsettii* (females, 111.2, 108-115 mm; males, 120.4, 115-128 mm) also yield 92%.

Head pattern. The dark top of the head is mostly of uniform color, either blackish or brown (*S. p. macrolepis* and *S. p. amydrus*) or has a rather contrasting pattern of white speckling in *S. p. poinsettii*. Characteristic of *S. p. axtelli* is a distinct pattern of enlarged, whitish postocular blotch-like areas (dark postocular stripes below) that are usually confluent posteriorly with the intertympanic band and indent the sides of a black cruciform blotch on the rear of the head. The rear of the head is black in *S. p. polylepis* with short, whitish postocular bars and other spots.

Body crossbands. Crossbands are dark, broad and of solid color (usually only two or three) in *S. p. macrolepis*, are pale-streaked in *S. p. poinsettii*, are indistinct, absent, or represented only by small, scattered dark marks in *S. p. amydrus*. Crossbands may be faded or irregularly broken and interrupted, or restricted to dark vertebral blotches with intervening white vertebral spots in *S. p. axtelli* and *S. p. polylepis*. In the last-mentioned two subspecies patterns tend to be dimorphic with adult females banded or irregularly patterned and males blotched. Black-edged dorsal body scales aligned to form longitudinal lines, generally present in *S. p. poinsettii*, may occur at least sporadically in other subspecies. The dorsal body pattern is the primary difference distinguishing *S. p. macrolepis* and *S. p. amydrus* (but also average number of femoral pores, see below).

Dorsal scales. Dorsal scales are keeled, but in large individuals scales of the vertebral area covering about six longitudinal rows are smooth or mostly smooth. Numbers of dorsal scales (counted middorsally as near as possible, from enlarged interparietal to level even with rear margin of thigh) geographically segregate into three slightly overlapping groups—large scales in *S. p. macrolepis* (28.6, 25-31, $n = 97$) and *S. p. amydrus* (28.9, 26-33, $n = 80$), intermediate-sized scales in *S. p. poinsettii* (31.9, 29-35, 98% 34 or less, $n = 202$) and *S. p. axtelli* (33.6, 30-37, 98% 36 or less, $n = 307$), and small scales in *S. p. polylepis* (37.5, 33-41, 93% 35 or more, $n = 42$). The ranges of variation of the

small-scaled and large-scaled subspecies share only counts of 33.

Midbody scales. Numbers of midbody scales (dorsal and ventral longitudinal rows counted transversely around midbody) correlate with numbers of dorsal scales. Ventral and ventrolateral scales are relatively small so that counts of midbody and dorsal scales are more divergent (mean difference of 6.8 and 6.9 scales) in subspecies with large scales (*S. p. macrolepis*, *S. p. amydrus*) than in the small-scaled *S. p. polylepis* (3.2 scales).

Femoral pores. The number of femoral pores varies from 7 to 16 (one leg) and 14 to 30 (both legs). All subspecies have about the same average number of pores 10.3 to 11.0 (one leg) or 20.5 to 22.0 (both legs), except for the higher average number of pores (12.2, one leg; 24.4, both legs) in *S. p. amydrus*.

Interfemoral pore scales. The minimal number of scales between the femoral pore series does not readily distinguish any subspecies (average 9.4, 7-12, $n = 66$, *S. p. macrolepis*; 9.6, 7-12, $n = 194$, *S. p. poinsettii*; 10.3, 7-13, $n = 275$, *S. p. axtelli*); however, these scales average the most in *S. p. polylepis* (12.2, 9-17, $n = 40$), and the fewest, correlating with most femoral pores, in *S. p. amydrus* (8.9, 6-12, $n = 74$).

Preoculars. Two preoculars often occur in *S. p. axtelli* (62%, $n = 584$), whereas the other four subspecies most often have one (70% or more; 70%, $n = 148$, *S. p. macrolepis*; 81%, $n = 152$, *S. p. amydrus*; 95%, $n = 408$, *S. p. poinsettii*; 88%, $n = 84$, *S. p. polylepis*).

Anterior frontal. For some reason, the condition of the anterior frontal (entire or divided), unlike other head scalation features, geographically segregates into high frequencies in four of the five subspecies. The anterior part of the transversely divided frontal scale is entire in *S. p. macrolepis* (93%, $n = 98$), *S. p. amydrus* (88%, $n = 78$), and *S. p. polylepis* (90%, $n = 41$), but longitudinally divided in *S. p. poinsettii* (98%, $n = 205$). The anterior frontal is entire (54%) or longitudinally divided (46%) with about equal frequency in *S. p. axtelli* ($n = 292$).

Prefrontals. The two prefrontals are usually in broad contact medially in all subspecies (89%, $n = 74$, *S. p. macrolepis*; 88%, $n = 76$, *S. p. amydrus*; 80%, $n = 286$, *S. p. axtelli*; 93%, $n = 41$, *S. p. polylepis*), except for separation (53%) or contact (47%) with about equal frequency in *S. p. poinsettii* ($n = 195$).

Sublabial-mental. The anteriormost labiomenal (herein termed sublabial) and mental are usually not in contact (postmental touching first infralabial, 94%, $n = 112$, *S. p. macrolepis*; 87%, $n = 150$, *S. p. amydrus*; 84%, $n = 484$, *S. p. axtelli*; 96%, $n = 84$, *S. p. polylepis*). The highest frequency of contact of these two scales is about 44% ($n = 200$) in *S. p. poinsettii*, and 47% in the Mertzson sample of *S. p. axtelli* (16% or less in other subspecies and samples).

The two geographically adjacent taxa, *macrolepis* and *amydrus*, differ primarily in dorsal patterns but also in the average number of femoral pores that is higher in *amydrus* (12.2, 9-16, $n = 159$, one leg; 24.4, 19-30, $n = 79$, both legs) than in *macrolepis* (10.6, 8-14, $n = 152$, one leg; 21.3, 16-27, $n = 76$, both legs); they both occur at the highest elevations and have the largest dorsal scales. Pattern and scalation features show a north-

south geographical transition in the Sierra Madre Occidental between *S. p. poinsettii* (north) and *S. p. macrolepis* (south); geographical variants in central-northern Chihuahua generally retain the dorsal patterns of *macrolepis*, unlike some transitional aspects of head scutellation. The nominotypical subspecies and *S. p. axtelli* share in the “intermediate-sized dorsal scales” and have differentiated primarily in head and body pattern (occasional semblance in *S. p. poinsettii* of black cruciform head blotch characteristic of *S. p. axtelli*, see Fig. 2). The two intergrading taxa, *axtelli* and *polylepis*, both share in sexual pattern dimorphism, which seems more discrete in *polylepis*.

Key to Subspecies of *Sceloporus poinsettii*

- 1A. Dark crossbands on body, usually four and with black-edged pale scales, often tending to form longitudinal dark lines; dorsal body pattern lacking dark vertebral blotches; top of head with prominent white speckling; dorsal scales 34 or less (98%); anterior frontal longitudinally divided (98%). *S. p. poinsettii*.
 - B. Character combination not as above. 2.
- 2A. Rear of head patterned with distinct white spots or black cruciform blotch; dorsal body pattern may have series of black vertebral blotches; dorsal scales usually more than 30 3.
 - B. Head of mostly uniform color, lacking any prominent pattern; dorsal body pattern lacking black vertebral blotches; large dorsal scales usually less than 31 (no more than 33) 4.
- 3A. Black postocular stripes and cruciform (X-shaped) blotch on rear of head; dorsal scales usually less than 36 (98%); maximal SVL exceeding 100 mm. *S. p. axtelli*.
 - B. Rear of head black with whitish spots and short, white, postocular bar (no dark cruciform blotch); dorsal scales usually more than 35 (93%); maximal SVL not exceeding 100 mm. *S. p. polylepis*.
- 4A. Two broad, dark (unicolor) bands across back (excluding sacral area); black collar often lengthened and curved posteriorly. *S. p. macrolepis*.
 - B. Body uniformly brownish, or with indistinct crossbands or scattered dark marks; black collar relatively narrow, not noticeably lengthened posteriorly. *S. p. amydrus*.

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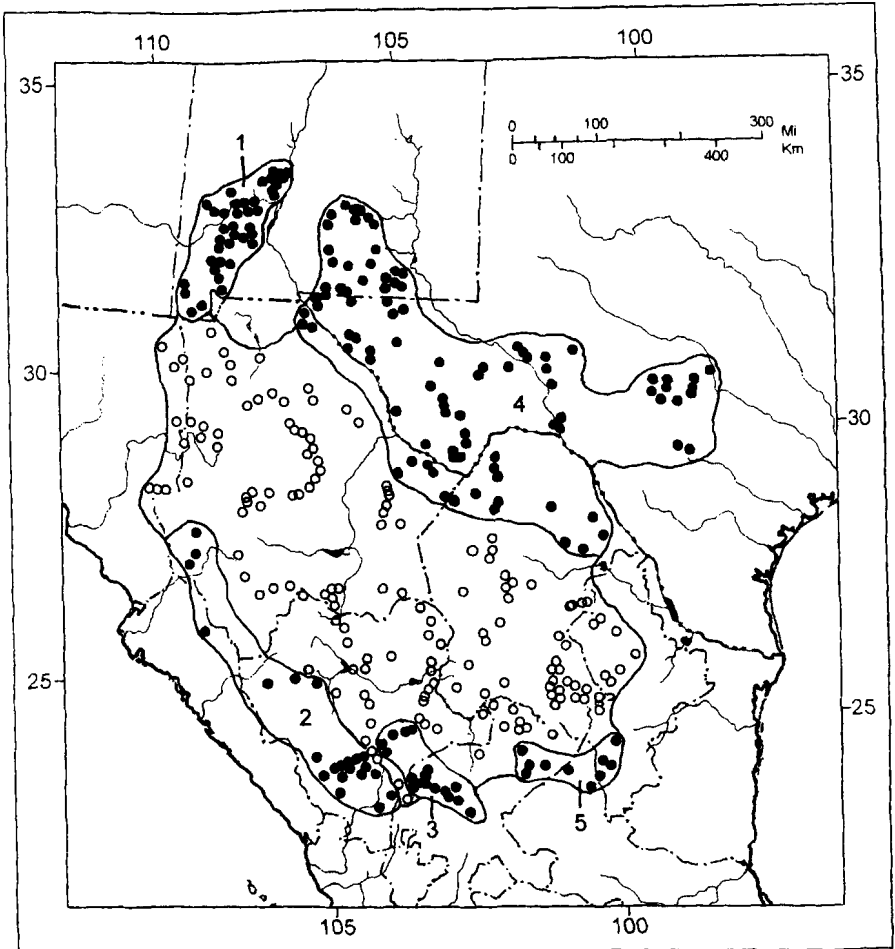


Fig. 11. Distribution of *Sceloporus poinsettii* in New Mexico, Texas and northern Mexico (specimens examined only, many localities share same symbol, see Appendix). Guide to symbols and subspecies: Open circles, morphological intermediate variants. Solid circles, subspecies of *S. poinsettii* (demarcated by solid lines): 1, *S. p. poinsettii*; 2, *S. p. macrolepis* (see text, Distribution, Jalisco specimen); 3, *S. p. amydrus*; 4, *S. p. axtelli*; 5, *S. p. polylepis*.

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Appendix

Localities of museum specimens examined are indicated below and plotted on the distribution map (Fig. 11, excluding some generalized or otherwise imprecise localities). Each map symbol may incorporate closely approximated localities: some localities have been refined with bracketed comments (often coordinates of north latitude and west longitude in anticipation of using (but unsuccessfully) an electronic program to aid in map-plotting). Features of scutellation were not recorded for all examined specimens. "Additional records" includes specimens not examined or for other explained reasons not plotted on the map. Institutional codes identifying museum collections are listed in the previous section. Methods. Distances are cited as originally transcribed (kilometers or miles).

Sceloporus poinsettii poinsettii. **New Mexico: Catron County:** Mogollon Creek (T12S, R17W, Sec. 36) [33°13'N, 108°03'W] (NMSU 3689); T12S, R15W, Sec. 3 [33°16'50"N, 108°23'20"W] (NMSU 4111); R15W, T12S, Sec. 18 [33°15'10"N, 108°26'20"W] (NMSU 4112); Black Range, Wall Lake [33°21'N, 108°04'44"W] (MSB 4202-15); 1 mi N (MSB 2098), 2 mi N (MSB 4231), and 3 mi N (St. Hwy 61) Wall Lake (MSB 20902-03); Railroad Canyon [33°33'21"N, 108°07'31"W] (MSB 22348); Gila Cliff Dwelling National Monument [GCDNM, 33°13'38"N, 108°16'18"W] (UAZ 2871); 2.7 km NW GCDNM (MSB 42795); N St Hwy 15, just E GCDNM boundary at T12S, R14W, NW 1/4 Sec 26 (UTEP 18550); vicinity GCDNM (UAZ 15558); Middle Fork Gila River, 6 mi N T.J. Corral (T12S, R14W, Sec. 33) [not compatible with "T.J. Ruins" ? at 33°13'16"N, 108°14'20"W] (GNHC 13707); West Fork Gila River, 4-6 mi upstream from GCDNM [ca. 33°15'10"N, 108°18'45"W] (MSB 41622); Mogollon Mts., Willow Creek [Campground, 33°24'05"N, 108°34'43"W] (MSB 4233); Mogollon Mts., White Water Canyon [33°21'35"N, 108°03'55"W] (MSB 11460); 15 mi NW Winston, Sierra County (along St. Hwy 59) [ca. 33°29'N, 107°46'10"W] (MSB 13469); near Old Horse Springs (UCM 34131, 34133); 11/2 mi SE Old Horse Springs [33°54'10"N, 108°12'30"W] (UCM 6190-6207); 6 mi WSW Old Horse Springs [33°53'15"N, 108°18'40"W] (UCM 6183-89); 7 mi W Old Horse Springs (UCM 6179-82); 12 mi S Old Horse Springs, Bat Cave, SW corner of San Augustine Plains [33°45'30"N, 108°14'28"W] (UCM 6208, MSB 13470); 12 mi W Old Horse Springs [33°55'50"N, 108°23'30"W] (UCM 11073); 2 mi E Beaverhead [ca. 33°45'23"N, 108°14'50"W] (UCM 6209). **Grant County:** Pinos Altos, 7 mi NE Silver City [32°52'N, 108°13'30"W] (MSB 40944-47, UCM 48193); Little Cherry Creek at St. Hwy 15 (UTEP 1703); Little Cherry Creek, 2.8 mi N (UAZ 15840, 15972-76, 18534, 18972) and 3.8 mi N (UAZ 15554, 15557, 15566) Pinos Altos; 3 and 4 mi N Pinos Altos (GNHC 12452, 13012, 13016); Ben Lily Memorial, 3 mi NW Pinos Altos or ca. 11 mi N Silver City (T16S, R14W, S1/2 Sec. 24) [32°53'52"N, 108°14'42"W] (GNHC 13015, UAZ 25245, UTEP 11870-72); Ben Lily Lake [just W Ben Lily Memorial] (GNHC 12454, 12589), and Cherry Creek, 11.9 mi N Silver City (GNHC 12453); 1/2 mi N (St. Hwy 15) [MSB 23129], 11.2 mi E [MSB 23131], and 2 1/8 mi S [MSB 23130] Cherry Creek Campground [32°54'51"N, 108°13'25"W]; Pinos Altos Road, Silver City (GNHC 12183); East Fork McKnight Canyon [32°56'54"N, 108°08'56"W] (GNHC 12184); Cherry Creek, 1/4 mi N McMillan Campground [32°55'26"N, 108°12'47"W] (GNHC 12738); Silver City [post office, 32°46'12"N, 108°16'47"W] (GNHC 13019, 13814); 1 mi W Silver City (UAZ 25243-44, 25247-48); 1/2, 2, 21/2 [32°48'N, 108°14'50"W], 3, 4, 4 1/2 [32°49'50"N-108°14'W] and 7 mi (NNE) Silver City [= Pinos Altos] (GNHC 12180, 12182, 12185, 12577-80, 12585, and 12916 at T17S, R14W, Sec. 13); Meadow Creek, NE Silver City (GNHC 12842-43); Cleveland Mine, 51.4 mi N Silver City (T17S, R14W, Sec. 2) [32°51'25"N, 108°15'35"W] (GNHC 12181, 13430); along St. Hwy 15 (= Forest Road 756), 1.8 mi N jct with St. Hwy 35 [33°02'N, 108°13'W] (MSB 2124); Lake Roberts, 16 mi N-6 mi E [air] Silver City (T14S, R13W) [33°02'N, 108°10'W] (MSB 17563-65); Skates Canyon, 7 mi SW Lake Roberts [33°00'44"N, 108°06'23"W] (GNHC 13011); 18 mi SW Silver City, Hwy 90 (101/2 mi E Thompson Canyon) [32°33'N, 108°23"W] (GNHC 13009); 23 mi S Silver City on White Water Road [near 32°31'40"N, 108°05'55"W] (GNHC 13529); 27 mi S Silver City (GNHC 13447); 32 mi SW Silver City, C-Bar Canyon, S end Burro Mts (T21S, R16W, Sec. 13) [32°29'N, 108°26'30"W] (GNHC 13580); 62 mi S Silver City, Burro Ciemeiga Homestead (T23S, R14W, Sec. 7) [32°19'15"N, 108°19'20"W] (GNHC 13597); Mimbres [River] (T15S, R11W, Sec. 31) [32°57'20"N, 108°01'30"W] (GNHC 13013-14, 13018); Fort Bayard [32°47'46"N, 108°08'59"W] (GNHC 12739); 1/2 mi N-2 mi E Bayard (GNHC 13676), and Vanadium, 2 mi E Bayard (T17S, R12W, Sec. 32) [32°46'45"N, 108°07'W] (GNHC 13684); 2 mi W (St. Hwy 90 [= 152]) Sierra-Grant county line [32°54'45"N, 107°47'25"W] (UAZ 40318); Hanover [32°48'48"N, 108°05'26"W] (UCM 13703); 5 mi [N]E (St. Hwy 90 [= 152]) San Lorenzo [32°50'30"N, 107°53'30"W] (MSB 13468); 13 mi NE (St. Hwy 90 [= 152]) San Lorenzo (= 0.6 km N-1 km W Emory Pass at Iron Creek Campground) [32°54'55"N, 107°46'35"W] (RWA); Iron [Creek] Canyon, Black Range (MSB 4235-36); 25.7 road mi [St. Hwy 61] S Wall Lake, Catron County (ca. 33°03'50"N, 108°00'20"W] (MSB 4232); west fork Gila Trail, Gila National Forest (UTEP 495); [Mimbres Mts] Galinas Canyon, Gila National Forest (T16S, R10W, Sec. 26) [32°53'10"N, 107°51'55"W] (UTEP 14755-58); Galinas Creek [T17S, R10W, Sec. 10] (MSB 52023); Big Burro Mts, Sawmill Canyon area, just N Forest Road 836 (T25S, R16W, NW 1/4 Sec. 14) [32°34'10"N, 108°28'W] (UTEP 11506-08). **Hidalgo County:** 39-40 mi S Hachita (ASNHC 10643, 10701-02, 10704-06, 10727, 11245-51; seemingly same site reported by Ballinger et al., 1977, as 1 mi S Highlonesome Wells, and Ballinger, 1978, as 5 mi N Antelope Wells Mexican border crossing); 31.2 mi W-3.3 mi N [air] Antelope Wells (UTEP 9602-05, 10048, 14580-82; RWA 5 226-27); 3.7 mi W-2.7 mi N [air] Antelope Wells (UTEP 14583), 5 mi W Antelope Wells (NMSU 2101); 41/2 mi N (or NW) Antelope Wells (MVZ 79204-06; NMSU 1715-29; KU 73087-91) [all foregoing localities in Hidalgo County seem to represent the same general collection site, ca. 4 air mi NNW Antelope Wells (near jct with St. Hwy 79), along St. Hwy 81 at T33S, R17W, center Sec. 27 or 31°23'45"N, 108°33'30"W]; 141/2 road mi E (St. Hwy 79) jct with St. Hwy 338 (= ca. 91/2 mi W jct Hwys 79-81) [31°22'15"N, 108°40'30"W] (UTEP 12428-29); 4.9 road mi W (St. Hwy 9) Animas [31°56'35"N, 108°53'W] (UTEP 1155-56); 4.7 mi W (MSB 48828), and 4.4 mi W (St. Hwy 9) Animas (UTEP 13751-52); 5 mi N Animas [32°00'50"N, 108°51'55"W] (Lowe, 1955; Bogert and Degenhardt, 1961, "isolated hill"; AMNH 73740); 4.6 mi S-0.8 mi W Cotton City [32°01'10"N, 108°52'W] (AMNH 109129-31). **Luna County:** Cedar Mts, ca. 9 air mi [N]E Hachita, Grant County (T27S, R13W, SW 1/4 Sec 3 and 15) [31°58'10"N, 108°09'45"W] (UTEP 16398-401, 16410). **Sierra County:** Aldo Leopold Wilderness, South Diamond Creek, ca. 1.0 mi downstream of Burnt Canyon [extreme NW part of county] (MSB 49541-43); 18 mi [N]W Winston (St. Hwy 59) [ca. 33°27'50"N, 107°48'50"W] (UCM 6211-13); Black Range, Taylor Creek, 14 mi W-2 mi N Winston [ca. 33°23'15"N, 107°51'W] (MSB 4228-30); 30 mi NW Chloride (St. Hwy 59) [33°25'10"N, 107°57'50"W] (MSB 17858); Edwards Draw, 3 mi N Winston (St. Hwy 52) [33°23'20"N, 107°40'15"W] (GNHC 13008); [Las] Animas Creek, 30 mi E Silver City (T14S, R9W, Sec. 34) [33°03'N, 107°45'45"W] (GNHC 13708); 0.3 mi W Kingston (St. Hwy 90 [= 152]) [32°54'50"N, 107°42'15"W] (UTEP 13750); Mimbres Mts, Pierce Canyon, ca. 13 air km NW Lake

Valley (T17S, R8W, Sec. 33) [32°47'20"N, 107°40'05"W] (UTEP 16078); Ladder Ranch, Cross-O Spring, ca. 6 mi N-28 mi W [air] Truth or Consequences [33°12'20.4"N, 107°36'16.4"W or T13S, R7W, SW1/4 Sec. 6] (MSB 60150). **Socorro County:** Magdalena Mts, 3 mi S-4 mi W Socorro [NE corner Socorro Peak, Nogal Canyon, 34°05'50"N, 106°57'55"W] (MSB 4220); Magdalena Mts, 16 mi W-3/4 mi S [air] Socorro, Agua Fria Canyon [34°02'N, 107°14'W] (UTEP 4221); Magdalena Mts, "just above the box" Sawmill Canyon [33°52'30"N, 107°08'W] (MSB 25742); Magdalena Mts, vicinity Water Canyon, 16.1 mi W Socorro (US Hwy 60) [stream crossing hwy, 34°03'30"N, 107°03'30"W] (MSB 11005, 11418, 11523); Magdalena Mts, North Fork Water Canyon (T3S, R3W, SE1/4 Sec. 21) [34°01'55"N, 107°09'30"W] (UTEP 8714; MSB 4222, 5946-47, 6090); Madera Canyon, 111/2 mi W-21/4 mi N [air] San Antonio (T4S, R2W, Sec. 20) [33°56'55"N, 107°04'10"W] (NMSU 5666); San Mateo Mts (MSB 23384-87); San Mateo Mts, vicinity Bear Trap Canyon, 19 mi W-20 mi S Magdalena [33°35'45"N, 107°35'W, mileages not near Bear Trap Canyon] (MSB 4216-19, 13690-97); San Mateo Mts, Luna Park (MSB 37118); San Mateo Mts, 1/2 mi S Luna Park Campground, 9 mi N Monticello [33°29'45"N, 107°24'53"W] (UCM 32939); San Mateo Mts, Big Rosa Canyon (T5S, R5W, NE1/4 Sec. 6) [33°54'10"N, 107°24'W] (MSB 32128); San Mateo Mts, Springtime Campground [33°34'31"N, 107°24'14"W] (MSB 11010); San Mateo Mts, along Forest Road 549, 21/2 and 2.9 road mi SW jct with Forest Road 476 [33°48'30"N, 107°35'15"W] (UTEP 13748-49); San Mateo Mts, canyon on St. Hwy 52, ca. 1 mi S Alamosa Warm Springs [AWS = 3 mi S, 3 mi E Dusty] (MSB 50309).

Additional records. Acceptable localities for some non-examined specimens are: **Catron County:** Mogollon Mts, jct. Snow Canyon and Gillita Creek [near Hwy 149] (Eastern New Mexico Univ. 4136, C.W. Painter, in litt.); Tularosa Mts (LACM 17401-08); 25 mi E Beaverhead [Hwy 59] (UMMZ 85621); 1.7 mi N Wall Lake on St Hwy 61 (CM 48779). **Grant County:** Burro Mts, 2 mi S-13.3 mi E Red Rock (AMNH 84632-35, 109132-33); Big Burro Mts, Gertie Canyon, 2 mi N Peaks (MVZ 7050-54); 4.0 mi E (Hwy 90) San Lorenzo (CM 75495-96); Fort Bayard Horse Training Center. U.S. Forest Service (ASU 4964-66); Fort Bayard Service Wildlife Area, Sec. 24, Ansones Creek (ASU 5901, 5912-13), and Sec. 12, Pear Tree Pasture (ASU 5914); 81/2 road mi (Hwy 15) N Silver City (UAZ 50670-72). **Hidalgo County:** T34S, R18W, jct Sec. 4-5 [S13]; jct Sec. 8-9 [N18]; and NE1/4 Sec. 13 [S St. Hwy 79, McKinney Flats, W (Waterwater Mts)] (n = 3; data from C.W. Painter). **Sierra County:** 5.6 mi E (St. Hwy 90) Emory Pass summit (CM 51421); Seventyfour Draw, R10W, T11S (CM 58963).

Smith ("1936"[1938], 1939) first documented records of occurrence in New Mexico. Degenhardt et al. provided a map (1996:175) with spot localities for *S. p. poinsettii* (western New Mexico only); their two southwesternmost symbols in Hidalgo County suggest occurrence in the Peloncillo Mountains. Andrew H. Price (in litt., 10 October 2005) relayed data that those two symbols were based on two, non-examined specimens (both with collection data of Hidalgo County and Peloncillo Mts.), one (MSB 50382) from junction Skeleton and Pine canyons [SE on road from Apache, Hwy 80, Cochise Co., Arizona], the other (Museum of the High Plains, Fort Hays State Univ. 13596 [also recorded as 2814] from Clanton Canyon. One of these specimens (MSB 50382) has been examined and represents *S. jarrovi*, the other (not examined) also likely represents *S. jarrovi*; *S. poinsettii* has not been found in Clanton Canyon [= Clanton Draw, personal visit] where *S. jarrovi* (UTEP 10830) occurs on rocks and *S. clarkii* (UTEP 10834-35) climbs trees. *Sceloporus poinsettii* is not known to occur in the Peloncillo Mountains.

Two specimens (both examined) with questionable locality data are recorded from near Elephant Butte Lake/Dam, Sierra County (BYU 30520, Tanner, 1987:397) and from 5 mi S Hatch, Doña Ana County (CAS 104789); visits to these two general areas have not provided additional specimens. CAS 104789 bears the field tag JRD (James R. Dixon) 7398, who informed the author (in litt., 3 June 2005) that the locality is correct but the species is in error, his field number referring to a DOR snake, *Salvadora hexalepis*. Degenhardt et al. (1996:173) commented on the unacceptable locality of Deming, Luna County (Smith, 1939:225, Acad. Nat. Sci. Philadelphia 21121, not examined). Some other questionable localities are Hachita (USNM 45100-02, not examined, immediate unsuitable habitat; Van Denburgh, 1924; Smith, "1936"[1938], 1939), and Homestead, Separ (GNHC 13010, examined, "sunning on old corral"), which may refer to Burrow Cieneaga Homestead, Grant County (cited above), but some 10 miles NW Separ. Philip A. Medina (in litt.) noted that MVZ 79204-06, Hidalgo County, collected by him on 10-12 April 1964, are not from the Alamo Huevo Mts (as recorded in the MVZ catalog) but from north of Antelope Wells. Some imprecise (not mapped) localities are "Upper Playas Valley" (MSB 4234, examined), "West Fork of Gila River, 7500" (FMNH 29465-69 and probably 30870 and 30872, examined), and the widespread "Sevilleta National Wildlife Refuge" in Socorro County (MSB 49513, examined).

Despite recorded localities in Arizona (USNM 8493, not examined, Cochise County, Apache, Smith, 1939:225; NMSU 4110, examined, Cochise County, Chiricahua Mts, S Fork, Cave Creek Canyon; and GNHC 13017, 13020-24, examined, Cochise County, "Sierra Vista" [13017, "desert grassland"; others, "no habitat info available"]), *S. poinsettii* is currently considered not to occur in the Peloncillo Mountains or in Arizona.

Sceloporus poinsettii macrolepis. **Mexico: Chihuahua:** Cuiteco [27°26'N, 108°00'30"W] (Tanner, 1987, BYU 14273-76, 14287-89); Cercoahui [27°18'N, 108°03'20"W] (Tanner, 1987, BYU 14602, 15667-70); 4.8 mi SE Maguarichi [= Maguarichi, ca. 27°51'30"N, 107°59'13"W] on road to La Laja [Rancho Las Lajas, ca. 27°52'30"N, 107°54'W] (Tanner, 1987, BYU 17070-72); Mojarachi [= Mojarachi, 27°51'N-107°55'W, Lemos-Espinal et al., 2004b:167] (Taylor and Knobloch, 1940 [collections within 10 mile radius, Taylor, 1943:275, footnote]; Smith and Chrapliwy, 1958; UIMNH 21467-69). **Durango:** 10 mi W Durango (Smith and Chrapliwy, 1958; Smith et al., 1964; Webb, 1984; UIMNH 41628); 14 mi WSW Durango (RWA 5232); 15 mi S Durango (UTA 5936-39); 20.1 mi W Durango (RWA 1475-77); 21 mi WSW Durango (MSUM 361); 27 mi S Durango (UCM 20958); 27 mi W Durango (UCM 20948); 28 km S Durango (UTEP 9371-72); 291/2 mi S Durango (UTA 4779); 321/2 mi W Durango (Tanner, 1987, BYU 14533-35, 15376); 32.6 mi SE Durango near Hwy 23 [road to Mezquital] (UAZ 45507); 34 mi W Durango (UIMNH 41629); 34.6 mi W Durango (UIMNH 6581-82); 42 mi S Durango (UTA 4776-78); El Salto (Smith and Chrapliwy, 1958; Smith et al., 1964; Webb, 1984; UIMNH 35453-56, UTEP 1317); 1 mi E El Salto (MSB 10051-55); 5 mi S El Salto (Webb and Baker, 1962, MSUM); 5 mi W or SW (Hwy 40) El Salto (Smith and Chrapliwy, 1958, UIMNH 76282-87; Smith et al., 1964, UIMNH 41630-36; and RWA 5487); 51/2 mi SW El Salto (KU 40413); 5.8 mi WSW El Salto (UAZ 14240, 14933); 6 mi SW El Salto (UAZ 33191); 7.7 mi E El Salto (UAZ 38064-65); 9-10 mi W or SW (Hwy 40) El Salto (Smith and Chrapliwy, 1958, KU 40407-12, 40417-21, 44851; UIMNH 76288); 121/2 and 13.9 mi ENE El Salto (UAZ 2565, 3566); 15 mi SW El Salto (KU 44852); 6.4-8.1 mi NE El Salto (UIMNH 43295-97); 19 mi E El Salto (RWA [1]); 30 mi E El Salto (KU 40414, 40422); 6 mi SE Llano Grande (Baker and Baker, 1975, UTEP 4831-32, 5435, 6199-6206); 1 mi S Llano Grande (UTA 5958); 1 mi E Llano Grande (UTEP 6207); 1.6 air km S Llano Grande (KU 182633-37); 10 mi E Llano Grande (UTEP 6111-12); E La Ciudad (Tanner, 1987, BYU 41327); W La Ciudad (Tanner, 1987, BYU 41368); 2-31/2 mi E La Ciudad (UTEP 14600-05); 4 mi W La Ciudad (Tanner, 1987, BYU 40100); 5 km W La Ciudad (CAS 169767-68); 1/4 mi E Coyotes (UAZ 37925); 4 mi SW Coyotes (Chrapliwy and Fugler, 1955; Smith and Chrapliwy, 1958; Duellman and Berg, 1962; Webb, 1984; KU 33855); 13 mi N Coyotes (UAZ 37923-24); 8 mi N Est. Coyotes (CAS 169749-50, 169753-54); near Est. Coyotes, 5 mi E El Salto (KU 169765); vicinity Palo Gordo [32°27'N, 105°18'W] (UAZ 37999); Rancho Santa Barbara (KU 182638-47); 19.6 mi SE Mezquital (UAZ 45506, 45549); 10 mi W Metates (UTEP 6158-62); Rio Chico (UTEP 6165-68); 5 km E Canelas (UTEP 4105); Las Adjuntas (UTEP 6175); 3 mi E Las Adjuntas (KU 44853); 11/2 mi W San Luis (UTEP 6208-09); 4 km NNE La Flor [along unpaved road in 1982, meadowy area locally known as Bajío de las Es] (UTEP 9373, sent to Fauna Silvestre, Mexico City); 10.2 mi E Navios (RWA 5233); 1 mi ESE Cajones (Webb and Baker, 1962, MSUM 3140); 1 km NE Hacienda San Juan de Michis (MSUM 10412); Rancho Las Margaritas [= El Capulin] (Drake, 1958, MSUM); 18-20 mi W Santiago Papisquero (UCM 20949-53); ca. 15 air mi SSW Tepehuanes [25°07'55"N, 105°46'55"W] (MSUM 8940, 8942); ca. 18 air mi SW Tepehuanes

[25°06'55"N, 105°51'05"W] (MSUM 9332-34, 9340). **Sinaloa:** Sierra Surutato, 1.1 road mi SE La Cienega (McDiarmid et al., 1976, CAS 155908-09).

Additional records. **Chihuahua:** Mojarárich (FMNH 105405) and Lemos-Espinal et al., 2004b:167, UBIPRO 11840-41). Lemos-Espinal et al. (2004a:4-5) recorded UBIPRO specimens as *S. p. macrolepis* (specific localities with coordinates of latitude and longitude) from the vicinity of Mojarárich and Maguarich (and three other sites, Quirare, Humira, and Capilla de los Remedios [last-mentioned arbitrarily listed herein as intergrade. Additional records]). **Durango:** El Salto (Dunn, 1936; Tanner, 1970); 27 mi E El Salto (Smith and Chrapliwy, 1958; Smith et al., 1964; UIMNH 41629); 1/4 mi E El Mil Diez (Rossman and Blaney, 1968); Buenos Aires (Webb, 1984, AMNH); Coyotes (Smith, "1936"[1938]:614; Smith and Chrapliwy, 1958; Marx, 1976; Webb, 1984:238; FMNH 1510 [n = 10]); 2 mi SE Coyotes, 1 mi S Hwy 40 (CM 64851-53); 66 mi W Durango (ca. 2 mi E Las Adjuntas) (FMNH 216157); 3 mi NW Coyotes (LACM 136880). La Ciudad (Boulinger, 1885:220, 1897:40 [table]). Günther, 1890[1885-1902]:65; Smith, "1936"[1938]; Webb, 1984:238; Natural History Museum, London); 142 km W Cd. Durango [Hwy 40, vicinity La Ciudad] (Carpenter, 1978:24); Michilía Biosphere Reserve (Ortega et al., 1982), and within 51/2 km radius La Peña (Alvarez and Polaco, 1983:87); 22 mi WSW Durango (CAS 87348); 3 mi E El Salto (CAS 91821, 91852); 32.1, 36.3, 37, 37.9, 39.3 and 57.7 road mi E (Hwy 40) Durango-Sinaloa state line (CAS 114884, 114892-93, 114895-97, 114900); 6.9 and 10.3 mi W (Hwy 40) Durango (CAS 114925, 114937-40); 15 mi W El Salto [Km 1101, Hwy 40] (CAS 120846); 6, 9, 19, 30 and 34 mi [Hwy 40] SW Durango, 2, 4, 7-8, 20, 22, and 24.25 mi [Hwy 40] E or NE El Salto, and 13-14 and 30 mi [Hwy 40] SW El Salto (Auth et al., 2000:80, SMBU); along road from Durango to La Flor, 65 to 70 km SW Durango (CAS 169781-82); Rio Chico, (Hwy 40) (CAS 169709).

Sceloporus poinsettii amicus. **Mexico: Durango:** 1 mi NE Francisco I. Madero, Hwy 40 [24°24'20"N, 104°18'W] (MSB 39948-52); 12.9 mi NNE Durango, Hwy 40 [24°09'30"N, 104°34'00"W] (RWA 1472); 11 mi NE Guadalupe Victoria, Hwy 40 [24°31'30"N, 103°59'30"W] (RWA 4037-38, 4239, 5010, 5285, [1]); 26 mi SW Yerbaniz, Hwy 40 [24°27'20"N, 104°05'40"W] (MSUM 364); 3.2 road km SW Luis Moya, Hwy 40 [24°32'N, 103°58'55"W] (RWA 6450); 6 mi SW La Pila [24°04'N, 104°21'W] (MSUM 363, 365, 369-73, 386-88). **Zacatecas:** El Calabazal (SDSNH 52733); 2 mi E El Calabazal (23°45'N, 103°47'10"W) (UTEP 6184); Durango-Zacatecas line on Hwy 45 [23°45'45"N, 103°51'20"W] (UCM 2873-27); 5 km NE Chalchihuites [23°30'40"N, 103°51'25"W] (UTEP 6218); 3.6 mi SW Sombrete [23°40'50"N, 103°40'15"W] (UIMNH 43298); 4 mi W Sombrete, Hwy 45 [23°40'52"N, 103°40'20"W] (UCM 24288); 11 mi ESE Sombrete [23°45'N, 103°47'10"W] (TNHC 30477); 12.9 mi NW Sombrete, Hwy 45 [23°45'N, 103°47'10"W] (RWA 5230); 19 mi WNW Sombrete (TNHC 30478); 231/2 mi S [E, Hwy 45] Sombrete [23°35'45"N, 103°18'W] (Smith and Chrapliwy, 1958; Tanner, 1970, 1987; BYU 13855-58, 13860; CAS 93847 [= BYU 13859]); 3.7 road mi S González Ortega [23°54'30"N, 103°27'25"W] (UTEP 6189-90); 5.1 road mi S Y González Ortega [23°53'30"N, 103°27'W] (UTEP 6215); 11 road mi S González Ortega [23°49'15"N, 103°30'35"W] (UTEP 6213-14); 2 mi W El Sauz (AMNH 118334); 9/12 mi ESE El Sauz, Hwy 45 [23°28'30"N, 103°05'30"W] (RWA 5228, [7]); 4.8 mi NW El Sauz, Hwy 45 [23°34'25"N, 103°16'20"W] (RWA [1]); 2 mi W Sain Alto, Hwy 45 [23°35'10"N, 103°16'50"W] (Chrapliwy, 1956; Smith and Chrapliwy, 1958; Duellman and Berg, 1962; KU 38097-98); 11 mi N Tropic of Cancer, Hwy 45 [23°33'50"N, 103°15'55"W] (UCM 12935); 20 mi NW Fresnillo at Tropic of Cancer, Hwy 45 [23°30'N, 103°07'30"W] (UTEP 6179); 23 mi NW Fresnillo, Hwy 45 [23°26'45"N, 103°04'20"W] (AMNH 107035, UTEP 6045); 27 mi NW Fresnillo [23°29'15"N, 103°06'40"W] (UIMNH 6591-93); 74 mi NW Fresnillo [23°42'35"N, 103°44'15"W] (UIMNH 6583-90); 32 km W Fresnillo, Hwy 45 (MCZ 136431-34); El Arenal, Hwy 45 (MCZ 136435-38); 35 km WNW Fresnillo, Hwy 45 (MCZ 136440-43); 140 mi S Torreón, Coahuila [site estimated to be along Hwy 49 near Las Nieves turnoff] (Tanner, 1987, BYU 36241); Presa Cazadero, Rio Aguanaval, 9-10 mi upstream from Rio Grande (AMNH 96605-06).

Additional record: **Zacatecas:** 3.8 mi SE Arenal (Olson, 1998:80, legend Fig. 2, REOlson 11469).

Sceloporus poinsettii astelli. **New Mexico: Chaves County:** 26 mi E Elk, Rio Peñasco, St. Hwy 82 [32°51'55"N, 104°58'10"W] (LACM 4730-31 [not examined] and MSB 13702-03); 36 mi W Artesia, Eddy County [about same site as above] (KU 73092); ca. 5 mi W (St. Hwy 82) jct with Hwy 13 (ca. 37 air mi W Artesia, Eddy County) (MSB 56291-92, 56867). **Eddy County:** Guadalupe Mountains, Sitting Bull Falls [32°14'35"N, 104°41'45"W] (MSB 41758), and 2.9 road mi NE (Hwy 276) Sitting Bull Falls (UTEP 2801); [Guadalupe Mts] 1/2 mi up Rattlesnake Canyon [32°09'15"N, 104°30'05"W] (Mosauer, 1932; Smith, "1936"[1938]:613; KU 14996); Dark Canyon (T25S, R22E, NE1/4 Sec. 17) [32°08'N, 104°43'10"W] (MSB 23615); Dark Canyon, 16 mi S-24 mi W [air] Carlsbad [T24S, R22E, Sec. 25] (MSB 4850-41), and 17 mi S-22 mi W [air] Carlsbad (MSB 4223-27, 4262); Dark Canyon, 10 air km N White's City (T23S, R25E, NW1/4 Sec. 35) [32°16'N, 104°22'20"W] (MSB 23614); ca. 20.8 air km (N)NE White's City (T22S, R25E, SE1/4 Sec. 29) [32°21'35"N, 104°25"W] (MSB 38503, UTEP 1026); ca. 23 air km WSW Carlsbad (T22S, R24E, SW1/4 Sec. 23) [32°22'30"N, 104°28'10"W] (UTEP 1025); Walnut Canyon, 4 mi W White's City [32°11'10"N, 104°25'30"W] (NMSU 2505); Bat Cave Canyon [32°10'34"N, 104°22'38"W] near White's City (NMSU 2508); 11 mi S-28 mi W [air] Carlsbad (T24S, R22E, NW1/4 Sec. 3) [about same as Sitting Bull Falls] (GNHC 14074). **Lincoln County:** Sacramento Mountains, 1 mi E Capitán, US Hwy 380 [33°32'35"N, 105°33'15"W] (MSB 20508); 1 mi NW Lincoln, US Hwy 380 [33°30'N, 105°24'10"W] (MSB 20502-03); 1 mi SE Lincoln (MSB 20506); 4 mi SE Lincoln, US Hwy 380 [33°27'N, 105°20"W] (MBS 20507); Alamo Canyon, 10 mi SW (St. Hwy 395) jct with US Hwy 380 [33°20'35"N, 105°21'10"W] (MSB 20504-05); 1 mi N jct with US Hwy 380 on Salazar Canyon Road [33°32'15"N, 105°25'50"W] (MSB 20498-501); N Three Rivers (T10S, R10E, NW1/4 Sec. 27) [Lincoln Canyon, 33°24'55"N, 105°53'35"W] (NMSU 6301); Sacramento Mountains, 3 mi ESE Riverside [33°19N, 105°10'W] (MSB 22297); 1 mi SW Picacho [33°20'50"N, 105°10'05"W] (MSB 20510); 1 mi SE Picacho (MSB 20509); 2 mi SE Picacho [33°20'10"N, 105°06'55"W] (MSB 22434-35). **Otero County:** ca. 24 mi NE Orogrande (T20S, R12E, Sec. 17) [32°33'50"N, 105°50'15"W] (UTEP 4397-98); Sacramento Mountains, south rim Dog Canyon [ca. 32.45°05"N, 105°54'40"W] (MSB 36451); W side Sacramento Mountains, Rinconada Canyon (T13S, R10E, SW1/4 Sec. 9) [33°11'50"N, 105°59'10"W] (NMSU 6302); Guadalupe Mountains, Little Dog Canyon (T22S, R19E, E1/2 Sec. 7) [32°24'25"N, 105°02'05"W] (UTEP 13757-58); N Hueco Mountains (T26S, R10E, SE1/4 Sec. 16) [32°02'30"N, 105°55'30"W] (MSB 6300); Lewis Canyon, Cornucopia Hills (T24S, R17E, SW1/4 Sec. 16) [32°11'05"N, 105°12'55"W] (MSB 6298); Boardwalk Canyon, 1/2 mi E jct with Lewis Canyon Road (T24S, R17E, Sec. 35) [32°10'25"N, 105°10'35"W] (UTEP 12309); (T21S, R14E, SW1/4 Sec. 4) [32°30'10"N, 105°31'30"W] (NMSU 6151); Cornudas Mountains, Alamo Mountain (T26S, R13E) (MSB 6848-50), (T26S, R13E, SE1/4 Sec. 20) (MSB 6299), N side Alamo Mountain (T26S, R13E, Sec. 17) [32°02'20"N, 105°37'50"W] (UTEP 11510); W side Flat Top Mountain (T26S, R13E, W1/2 Sec. 14) [32°02'30"N, 105°35'W] (UTEP 11521-22); Wind Mountain (T26S, R14E, SE1/4 Sec. 16) [32°02'10"N, 105°30'55"W] (MSB 6212); SW side Wind Mountain, 0.6 road mi SE Wind Mountain Well (T26S, R14E, NE1/4 Sec. 29) (UTEP 11523). **Texas: Bexar County:** Helotes (MSB 8689-90, 9084); jct Farm Roads 1604 and 2696 [29°36'30"N, 98°30'30"W] (RWA 5012); along Farm Road 2696, 1.2 road mi N jct with Farm Road 1604 [29°37'30"N, 98°30'55"W] (RWA 4341, 4510); Voight Ranch, 8-12 km ENE Shavano Park (UTEP 8877-79). **Brewster County:** Alpine (UTEP 14573); Alpine, Hancock Hill (RWA 2495); 6.7 mi S (Hwy 118) Alpine (UAZ 15698); 16 mi S Alpine [30°09'40"N, 103°03'50"W] (UTEP 14575); 21/2 road mi S (Hwy 118) Alpine (UTEP 10612-15); 12 road mi S Marathon [30°02'30"N, 103°16'40"W] (UTEP 14576-77, RWA 5060); Big Bend National Park, S end Paint Gap Hills (MSB 21271), 1/2 mi N Dagger Flat Loop (MSB 21267), Chisos Mountains (UTEP 14574), Pine Canyon (BYU 40376), base Panther Peak (MSB 6327), K-Bar Ranch, 2 mi SE Panther Junction (MSB 21264-65, 21274-76), 1/2 mi S Basin Junction (MSB 21268-69, 21272), near research station (MSB 19491, 19493, 19601), NW base Casa Grande Peak (MSB 6328), near Moss Well, Lower Green Gulch (MSB 21266-67). Upper Green Gulch (MSB 21273, 21277), 1/4 mi N Glenn Spring (MSB 21270), W side Black Hills, about 2-4 km N Dove Mt. Road, and 15-0 km E jct Dove Mt Road and US Hwy 385 (UTA 17701). **Crane County:** 6.7 mi S (St. Hwy 51) Crane (RWA 4377). **Crockett County:** rocky road cut

along US Hwy 190, 12.3 mi E Pecos River (author sight record only); ca. 21.2 air km NE Fort Lancaster (UTEP 14167). **Culberson County:** Guadalupe Mountains National Park, McKittrick Canyon (UTEP 6698); Guadalupe Mountains, Frijole (Mosauer, 1932-2, KU 18425); Delaware Mts, ca. 6-7 air mi SE jct US Hwy 62-180 and St. Hwy 54 [31°42'N, 104°47'W] (UTEP 15884); Rustler Hills, along Farm Road 2185, 9.0 road mi S jct with Ranch Road 652 (UTEP 12310-11); N end Apache Mountains, along Farm Road 2185, 21.3 road mi NW jct with Farm Road 2809 [38°18'48"N, 104°32'07"W] (UTEP 13735). **El Paso County:** Huaco Mountains, within two-mile radius Huaco Tanks State Park (UTEP 170-71, 604-06, 611-15, 623, 641-49, 800, 1041-42, 1046-47, 1067, 1246, 1648, 1832-42, 2318, 2586-87, 2590, 2620-22, 2949-54, 3364, 4131-32, 6170, 10678, 10742); 6.3 mi W Huaco Tanks [31°53'50"N, 106°7'10"W] (UTEP 2796-97); 1.2 air mi S Helm's West Well [31°45'05"N, 106°01'45"W] (UTEP 2854-55); 1 mi S US Hwy 62-180 on Gasline Road [this intersection 0.8 mi W jct US 62-180 and Huaco Tanks road, St. Rd 2775] (UTEP 2650); 6.4-6.6 mi S and 1/2 mi E jct US Hwy 62-180 and Gasline Road (UTEP 197-98, 1068); ca. 2 mi N and 1/2 mi E jct Gasline Road and Fabens cutoff road (UTEP 10033); 4 mi W Huaco Pumping Station (in Hudspeck County) near jct Gasline Road (UTEP 4133, 5305). **Hudspeth County:** N slope Sierra Blanca Mt. (UTA 400); Quitman Mts, 8.7 mi W (via Interstate-10) Sierra Blanca (UZA 40656); Comudas Mountains, NW side San Antonio Mountain, just across New Mexico state line [32°00'02"N, 105°33'36"W] (UTEP 11524); Sierra Tinaja Pinta Mts, ca. 5.1 air mi NNE Comudas [31°51'30"N, 105°28'W] (UTEP 16061); Eagle Mountains, Wind Canyon [30°54'30"N, 105°04'W] (UTEP 8171-72); Spar Valley mining area [30°56'15"N, 105°03'W] (UTEP 1873), and Siphon Canyon [30°55'30"N, 105°04'W] (UTEP 1874); Indio Mountains, vicinity Indio Ranch Research Station [headquarters ca. 30°45'30"N, 105°00'18"W] (UTEP 11385, 11482, 12007, 13693-94, 13889-90, 14027, 14079); Ojo Caliente, 30° on Rio Grande [rancho, 30°49'30"N, 105°19'W] (Yarrow, 1882 [1883]-58, Cape, 1900:353, Smith, 1936 [1938], USNM 2958 [n = 3, two recataloged as USNM 328738-39]). **Irion County:** 7 mi SW Mertzon (ASNH 10261, 10265), 11 mi SW Mertzon (ASNH 2765, 10697, 10699), 13 mi W-NW Mertzon (ASNH 544-46, 1018, 2778, 2782-84, 2813-25, 2872-73, 3680-83, 3818, 3820, 3824-25, 3832, 4016, 4039-46, 4711-16, 4727-30); 15 mi NW Mertzon (ASNH 10264). **Jeff Davis County:** Davis Mountains, 0.3 mi S-0.7 mi W McDonald Observatory [30°40'N, 104°02'W] (UTEP 14578); W edge Fort Davis (UTA 17245-55, neonates); near Fort Davis, HNH 118 (UTA 8692); 1/2 mi N (Hwy 17) Fort Davis (UTEP 2812); 2 mi NW (Hwy 118) Fort Davis (UTEP 6173, 6177-78); Davis Mountains State Park (NMSU 3184); ca. 30 mi W (St. Hwy 166) Fort Davis (ASNH 10263, 10696). **Llano County:** 7 mi S-6.1 mi W [air] Oxford [30°30'15"N, 98°48'05"W] (RWA 4437-38); 2 mi W Llano (UTA 617); Houston Ranch, 12.8 km N Llano (UTA 15019-25); 19 mi SW Llano (TCWC 58470). **Mason County:** near Pontotoc (UTA 1703); 2 mi E Katelym (ASNH 10453); 1 mi S Katelym (ASNH 10757); 6 mi S-3.8 mi W Mason, Llano River (ASNH 10206); 9 mi SW (Ranch Road 1871) Mason (ASNH 81, 84, 86); 15 mi S (Ranch Road 2389) Mason (ASNH 82, 85); Hilda, "10 mi E Mason" [Ranch Road 783, ca. 14 air mi SE Mason] (ASNH 83); 18.3 mi E (St. Hwy 29) Mason [close to Llano County line] (UZA 2875). **Medina County:** 4 air km SSE Mico on Lake Medina (UTEP 9461). **Pecos County:** 20 mi SW McCamey, Upton County (ASNH 10493); 6.7 mi N Fort Stockton (UTEP 11509); ca. 6 mi W-0.8 mi N Fort Stockton [30°54'30"N, 103°00'37"W] (UTEP 16067); along St. Hwy 290, 2 mi E jct with US Hwy 67 (UZA 2874). **Presidio County:** 13.4 mi N-15.6 mi W [air] Terlingua Post Office, Brewster County [29°30'15"N, 103°49'05"W] (UTEP 14579, RWA 5057); 7.8 mi S-1.8 mi E [air] Candelaria [30°01'15"N, 104°29'20"W] (RWA 5142). **Reagan County:** Ted Harris Ranch, 12 mi S Best (ASNH 4803). **Roeyes County:** 1.8 mi S Balmorhea [30°11'52"N, 101°52'N]. **San Saba County:** Gorman Falls Fishing Camp, 6.8 mi SE Bend (ASNH 5196). **Upton County:** King Mt., 4.6 mi NW (US Hwy 385) and 3.2 mi E McCamey (UTEP 14235). **Val Verde County:** N side Amistad Reservoir, near US Hwy 90 (UTA 16297, 18369-70); 10.6 mi N and 1.3 mi E jct US Hwy 90 and US 277-371 [29°35'N, 100°53'W] (UTEP 14572); 0.2 mi N Pecos River along US Hwy 90 (UZA 35609); 5 mi N Pecos River along US Hwy 90 at railroad crossing (UZA 36340); Rio San Pedro [= Devils River] (Webb, 1988, USNM 2948 [n = 2, both recataloged as USNM 29581]). 131668; this indefinite locality for many USNM specimens here map-plotted as restricted [30°03'40"N, 101°07'22"W] by Axtell, 2000). **Yuma County:** **Chihuahua:** Sierra del Presidio, 51.2 mi NNE Samalayuca [31°18'N, 106°24'W] (ASNH 6636-38); Rancho Cerros Colorado (ca. 31°11'N, 106°22'W), 22 air km SE Samalayuca (UBIPRO 1848) and Sierra del Presidio, 10 km E Cerros Colorado (UBIPRO 2067-70) (Lemos-Espinal et al., 1997:198, 199; other specimens at UCM); Rancho El Setenta, 17 km S Samalayuca on Hwy 45 (UBIPRO 2331, 2426, 2440-42); Sierra Rica, 3.4 mi S-23.7 mi E [air] La Mula [= Porrero del Llano] [29°09'30"N, 104°03'W] (RWA 2556); 24.3 road mi S La Mula [28°53'10"N, 104°28'13"W] (UTEP 9219-20); 12.7 km S-34 km E [air] Chilicote [28°53'N, 104°29'15"W] (RWA 6426, UTEP 14589); 1 mi S San Carlos [= Benavides, ca. 29°06'30"N, 103°54'30"W] (SRSU 1547); 6 km SE Manuel Benavides at 29°05'27.7"N, 103°51'16.3"W (Lemos-Espinal et al., 2000:185, UBIPRO 4378); 1 mi N El Porvenir Salaires (SRSU 2829); 66 mi S S Ojinaga (SRSU 2824-25); 1 mi S [Rancho los] Hechicero[s] [28°37'N, 103°39'W] (Chrapliwy and Fugler, 1955, KU 33811). **Coahuila:** 10 road km S road jct in San Miguel [28°32'53"N, 102°56'30"W] (UTEP 14611); 3 mi S-8 mi E [Rancho los] Hechicero[s], Chihuahua (Chrapliwy and Fugler, 1955; Smith and Chrapliwy, 1958; KU 33856); east slopes of Sierra Jardin [three sites encompassing 29°06'10"N, 102°33'38"W] (UTEP 14644-70); Sierra del Carmen (FMNH 25304-06); Sierra del Carmen, Carboneras Canyon (Gloyd and Smith, 1942:32, USNM 103693-95). El Jardin [Rancho, 29°07'30"N, 102°36'W] (FMNH 42386-88), and Tanque de Santo Domingo [Rancho, 28°56'40"N, 102°24'W] (Schmidt and Owens, 1944:104, FMNH 47103-05); Rancho Buena Vista [28°26'30"N, 102°28'W] (Cañon del Hillcoat, FMNH 47106), La Serrento (FMNH 47111), and La Palma [Rancho, 29°20'N, 102°36'W] (Mesa de Hillcoat, FMNH 47107-10, Schmidt and Owens, 1944:104); Juarez, Rancho de los Borregos (Schmidt and Owens, 1944, FMNH 47117); Sierra de la Encantada, 81/2 air km NE Rancho La Encantada [28°38'55"N, 102°23'W] (RWA [1]); 4 mi SSE Rancho La Encantada [28°32'N, 102°22'10"W] (RWA 5971); 41/2-5 mi S Rancho La Encantada (UTEP 14636, 14638); Rancho Las Margaritas [28°42'N, 101°47'W] (Smith and Chrapliwy, 1958, KU 38305-06); 3 mi W Múzquiz (UTEP 14613); 2.3 mi SW Múzquiz [27°50'30"N, 101°32'57"W] (RWA [3]); 5 mi SW Múzquiz [27°48'N, 101°31'W] (RWA 1421); ca. 20 air mi ESE Zaragoza [28°23'55"N, 101°14'52"W] (RWA [1]); ca. 18 air mi ESE Zaragoza (3.7 mi from Rancho Las Cuevas) [28°23'26"N, 101°12'W] (RWA [1]); 17.2 mi SSW Villa Unión [28°03'N, 100°48'W] (TCWC 38947, 38951); 10 mi S Sabinas (FMNH 208105); 15 mi S Sabinas, Hwy 57 (Schmidt and Owens, 1944, FMNH 47118-22).

Additional records. An updated account of acceptable records of occurrence in southeastern New Mexico (*S. p. axtellii*) is mapped in Degenhardt et al. (1996). A detailed discussion of the distribution in Texas with a documented listing of localities (and map) is in Axtell (1987). **New Mexico:** **Chaves County:** 18 mi WNW Hope, Eddy County [32°52'25"N, 105°01'30"W] (AMNH 84640). **Eddy County:** Guadalupe Mts, 30 mi SW Carlsbad (CM 18303); 12 mi NW Carlsbad (CM 64850). **Lincoln County:** 19 3/4 mi E-6 mi N Capitan [T8S, R17E, Sec. 11] (Eastern New Mexico Univ. 4235, C. W. Painter, in litt.); 4.2 mi W Glencoe (TNHC 33462). **Otero County:** 2 mi N Cloudcroft (TNHC 11840). **Coahuila:** Sierra del Carmen, Juarez Canyon (Gloyd and Smith, 1942:232, FMNH 10497); Sierra del Carmen, Palau, and Hacienda La Encantada (Schmidt and Owens, 1944:104).

Sceloporus poinsettii polylepsis. **México:** **Nuevo León:** Microondas La Joya access road (Hwy 57 turnoff 1.8 road mi N Nuevo León state line) [23°49'40"N, 100°31'05"W] (RWA 5731-33, [1]); UTEP 6085, 14568-69); 6.3 road mi NE Los Medina [poblado ca. 24°01'N, 102°23'W] (Hwy 57 turnoff 13.9 road mi N Microondas La Joya turnoff) (UTEP 6224); 31/2 road mi NNW Santa Rita [ca. 24°12'30"N, 100°29'W] (RWA 6172, UTEP 4327); 1.1 mi E Hwy 57 turnoff to San Jose de las Raíces [24°33'57"N, 100°16'25"W] (RWA 6161, [1]). **San Luis Potosí:** Huertillas [ca. 24°04'30"N, 101°08'W], 5.3 road mi (Hwy 62) W Ignacio Zaragoza (RWA [1], UTEP 3729-30); San Antonio on Hwy 62 (10.6 mi E jct Hwy 57-62 in Matehuala, or 1.3 road mi W Nuevo León state line) [23°41'30"N, 100°23'30"W] (RWA 6194, UTEP 3632-33, 3702). **Zacatecas:** Sierra de las Iglesias, 31.2 road mi W La Presa de Junco (ca. 151/2 air mi NW San Tiburcio) [24°17'45"N, 101°41'45"W] (UTEP 3614); 15 road mi SW (Hwy 54) turnoff (Hwy jct) to San Tiburcio (UTEP 3615, 8911-19); 18 km SW (Hwy 54) San Tiburcio (UTEP 6751-52); 81/2 road mi E (Hwy 62) to Matehuala San Tiburcio (RWA [3], UTEP 3618-23).

Morphological Intermediate Variants. This first paragraph cites voucher specimens from Chihuahua and Sonora from which data were derived to indicate north-south variation in the Sierra Madre Occidental (see text): **Mexico: Chihuahua:** Motezuma Mts., [near] Colonia Dublán (Smith, 1939; Bogert and Oliver, 1945:412; Tanner, 1987; BYU 401, 1323, 1324-25, 15386-87); El Norte, 3 mi N Chihuahua (UAZ 35183); 4 mi N Chihuahua (Tanner, 1987, BYU 15424); La Mesa de Dolores [ca. 70 km SW Madera on Sonora border. Van Devender and Lowe, 1977:47] (UAZ 35184-95, 35343-44); 25 road mi from Colonia Juárez toward Mesa Tres Ríos (Tanner, 1987, BYU 15436-39); Cuesta El Toro, 5-6 mi S Gomez Farias (Tanner, 1987, BYU 15692, 15793); Río Chico [stream halfway between Chihuahua and Babilora] (Tanner, 1987, BYU 15753); Yépomera (UAZ 34212, 34219-28; UTEP 2049-50, 2255-56); Arroyo El Canon, 2 mi NW Yépomera (UAZ 34542); Rancho Casita, 3 km E Yépomera (UAZ 34211); Rancho El Cerro, Arroyo los Puntos, 6 mi E Yépomera (UAZ 34213-18, 34503); 9 mi NW (Hwy 16) Yépomera (UAZ 34540); Los Leones, 11 1/2 mi N (Hwy 16) Yépomera (UAZ 34504-05) [foregoing Yépomera localities in Van Devender and Lowe, 1977]; 4 mi E Temosachic (CM 59717, n = 6); [Rancho] San Pedro [28°23'30"N, 107°26'W] (map, Fig. 1 in Tanner, 1987, BYU 14523, 15771); 1 mi NE San Pedro on Río Papagochic (Tanner, 1987, BYU 15685-90, 17053-55); 18 mi SW San Pedro (Tanner, 1987, BYU 15475); 20-27 mi NE San Juanito [road to La Junta] (Tanner, 1987, BYU 41081-84); 25 1/2 mi S Creel [on La Bufa road] (Tanner, 1987, BYU 17138-42); 3.4 mi W-1.4 road mi N Yépacich (UAZ 46265); **Sonora:** 40-45 mi E Bacerac [seemingly close to Chihuahua state line by windy dirt road] (MSB 31233); [La Colonia] Mesa Tres Ríos [ca. 29°50'20"N, 108°43'W] (UAZ 35182); 3.1 road mi below Mesa Tres Ríos on road to Nacori Chico (UAZ 45618); about 4 mi E Nutria Ridge [approx. 20 mi W Sonora-Chihuahua border where Río Bavispe flows into Sonora] (Tanner, 1987; same as at Nutria Creek, small tributary of Río Bavispe and/or 4 mi E Nutria, Tanner, 1987:397; BYU 13491); La Cuesta, ca. 10.2 mi E Santa Ana [Santa Ana 28°23'N, 109°09'W] on road to Yécora (UAZ 28215-16); 13.3 mi (by old road to Yécora) SE Santa Ana (UAZ 39419); 3.0 mi (by road to Santa Rosa [28°26'N, 109°11'W]) "NE"[NW] Yécora (UAZ 39420); 3.4 mi NW Yécora along road to Santa Rosa (UAZ 45077-78); 3.8 mi (by road to Santa Rosa) "NE"[NW] Yécora (UAZ 39421-22, 40043); 4.7 mi S (and 0.3 mi [no road]) W Yécora on road S to Rancho La Joya (UAZ 46232); 5.9 mi (by road to Santa Rosa) NW Yécora (UAZ 38822, 39423); 6.4 mi NW Yécora along road to Santa Rosa (UAZ 44918); 6.8 mi (by road to Santa Rosa) "NE"[NW] Yécora (UAZ 39430); 12.1 road mi E Yécora along road to Trigo (UAZ 46231); 7.3 mi W Maicova (UAZ 39971-72).

Chihuahua: Casas Grandes (Smith, "1936"[1938]; FMNH 1655); 11 1/2 mi SE Nuevo Casas Grandes (Tanner, 1987, BYU 13853); 12 mi SE (Hwy 10) Nuevo Casas Grandes (UTEP 14585); W Janos (Tanner, 1987, BYU 30645); near [Ejido] Progreso, Río Santa María (Smith and Chrapliwy, 1958, USNM 104713-14); 14 mi W Ricardo Flores Magón (Tanner, 1987, BYU 15334); 7 mi E (Hwy 10) Ricardo Flores Magón (UTEP 14584); 3.6 km N-1.2 km E [air] jct Hwys 45 and 10 (= El Suceo) [29°55'20"N, 106°22'50"W] (UTEP 14586); 10 mi S Motezuma (Smith, "1936"[1938]; Smith and Chrapliwy, 1958; UIMNH 21463; FMNH 32238, 32248-50, 116570, 116576); 7 mi E Buenaventura (Tanner, 1987, BYU 40078); 11.0 road mi S Buenaventura (UAZ 36304-05); 14 road mi S W Buenaventura (UTEP 6216); 50 mi S Gallego (Tanner, 1987, BYU 13926); 40 mi SW El Suceo (Hwy 45) E de Side Sierra del Nido (UTA 4373); Sierra del Nido, Arroyo Mesteño [ca. 29°29'N, 106°49'W] (MSB 30578); 1 mi N Restaurant Parada [road NW Las Varas, 29°21'40"N, 106°36'W] (RWA 3373); and Cañon Santa Clara (UTA 17496); 7 1/2 road mi W Bella Vista [29°04'30"N, 106°29'30"W] (UTEP 8822-25); 6 mi N (Hwy 45) El Sauz turnout (CM 59702); 9 mi W Hwy 45 on turnout to El Sauz (MSUM 9675); 4 km S-1.6 km W [air] Sacramento turnout (ca. 20 mi N Cd. Chihuahua) [28°49'N, 106°13'05"W] (UTEP 14590); 7 mi N Cd. Chihuahua (FMNH 95976); 5 km SW Cd. Chihuahua (CM 59698, 59701); 50 mi W (Tanner, 1987, BYU 13812-25) and 62 mi W (Hwy 16) Cd. Chihuahua (Tanner, 1987, BYU 13861-65); General Trias center (MSB 33201-05); 1 km E General Trias center (MSB 31363); 8 mi W General Trias (RWA 4580); 12.9 road km WSW General Trias [28°18'35"N, 106°28'50"W] (UTEP 14591); 1 mi E El Mirador (Hwy 16) [28°18'35"N, 106°28'50"W] (UTEP 14606); 15 mi E Cuauhtémoc (Smith and Chrapliwy, 1958, UIMNH 41626-27, 41637-38); 10.4 mi (Hwy 16) NW Cuauhtémoc (Van Devender and Lowe, 1977, UAZ 34541); 11/2 mi W La Junta (UTEP 6217); 4 road mi SW (UAZ 30970) and 9.4-10.4 road mi SW Rancho Los Chales [rancho ca. 30°03'N, 108°32'W, near Sonora state line] (UAZ 30975); 0.9 km S-1.7 km E (air) [S Hwy 45 jct. Hidalgo del Parral [26°55'10"N, 105°38'W] (RWA 6428); 4 mi SSE Parral (RWA); 16 road mi S Parral (RWA 1439); 27 mi S Parral (Tanner, 1987, BYU 15652); 15.4 mi S Matamoros (Tanner, 1987, BYU 41777-78); 10 mi W San Francisco del Oro (Tanner, 1987, BYU 15679-83, 15710); near Belleza [specimen obtained 23 September 1898, see Goldman, 1951:118] (Smith, "1936"[1938]; Smith and Chrapliwy, 1958; Tanner, 1987; Cochran, 1961; USNM 47417); La Union, "N" [= WSW, 26°48'N, 107°09'30"W] Guachochic [= Guachochi] (Stebbins, 1954:236); Sierra Madre, near Guachochic [26°49'N, 107°04'W] (Smith, "1936"[1938]; Goldman, 1951:127; Smith and Chrapliwy, 1958; Cochran, 1961; Tanner, 1987:398 [cited USNM numbers incorrect]; USNM 47419, 47421 [USNM 47420 exchanged to MCZ, not examined]); Km 66 (66 km S Creel) on Hwy between Creel and Guachochi (Lemos-Espinal et al., 2000:185, UBIPRO 3990); Mesa de Agostadero, [Rancho] Cerro Blanco, Km 102 on Guachochi-Belleza Hwy [26°54'38.7"N, 106°47'14.1"W] (Lemos-Espinal et al., 2000:185, UBIPRO 4023-24; Lemos-Espinal et al., 2004b:167, UBIPRO 11456; Lemos-Espinal et al., 2004c:61, color photo 62); Samachic (Smith, "1936"[1938]; Smith and Chrapliwy, 1958; FMNH 11841-47, 15724 [n = 11]); 2 mi W Samachic (KU 47291); 2 mi W Miñaca [28°27'N, 107°25'W] (KU 51824-29, 51834-36); 4 mi SW San Francisco de Borja [27°55'N, 106°41'W] (KU 56214); near Ojito [Durango], ca. 50 road km (via El Vergel) W Parral (UAZ 33192); 27 mi W Jimenez (UAZ 2877); 1 mi S El Tigre, Lago Boquillas [ca. 17 mi W Camargo] (UTEP 3587-92); Rancho Polvorillas [= Piedras Encinadas, 28°47'36.2"N, 104°13'30.8"W] (Lemos-Espinal et al., 2000:185, UBIPRO 3632-33, 3652-53); Llano El Nito, 11/2 km N Rancho Polvorillas (UBIPRO 3707); Cerros Tres Castillos [ca. 11-2/2 km SW of 29°54'41.8"N, 105°42'13.7"W] (Lemos-Espinal et al., 2000:185, UBIPRO 4283-89); Cerros Santa Anita [29°40'14.1"N, 105°19'13.6"W] (Lemos-Espinal et al., 2000:185, UBIPRO 4301-12); 18 mi [NW] Escalón [along railroad track, 26°53'55"N, 104°33'15"W] (Smith, "1936"[1938]; Smith and Chrapliwy, 1958; Smith et al., 1964; UIMNH 21464-66); 15 mi NW (Hwy 49) Escalón [26°52'20"N, 104°31'W] (UTEP 9231-35, RWA [1]); 20 mi NW (Hwy 49) Escalón [26°55'20"N, 104°35'13"W] (UTEP 9222, RWA [1]); 13.3 mi [NE] Escalón [= 0.8 mi W Mercurio, 26°50'35"N, 104°09'W] (UTEP 9223-26, 14627-30); 4 mi N La Perla [28°21'40"N, 104°31'W] (UTEP 9221); 15.2 mi N La Perla, Hwy 49 [= 1.7 mi S La Morita, 28°29'08"N, 104°28'13"W] (UTEP 9228-30, 14587-88); 12 mi SE La Perla [SRUS 2826-28]; 28 mi NE La Perla [Hwy 49, ca. 39.00 road mi S La Mula] (CM 59695); Cerro La Cañada, outside of La Perla [= El Berrendo] [28°17'59.8"N, 104°33'5.0"W] (Lemos-Espinal et al., 2000:185, UBIPRO 3581-82, 3584); Rancho San Fernando, 34 1/2 mi W Laguna de Jaco [ca. 27°58'N-104°37'W] (CM 59716); Rancho San Francisco [28°02'30"N, 104°26'W] (Lemos-Espinal et al., 2001:206, UBIPRO 5218-27, 5268-71; UTEP 19197-99); Coahuila: Puerto del Jabali, Llano del Gallo [27°31'20"N, 102°53'50"W] (USNM 241518); 5.4 mi NW Ocampo (UAZ 37921); 10 mi S-4 mi W [air] Ocampo [27°10'20"N, 102°27'15"W] (RWA 40733, UTEP 14609); 341.2 km N Ocampo [27°36'44"N, 102°24'50"W] (UTEP 14614); 2 mi N Cuatro Ciénegas (CM 48326); 2.6 mi N Cuatro Ciénegas (UAZ 37922); 3 mi N Cuatro Ciénegas (CM 43036-38, 43040, 43043-44); 4.9 mi W Cuatro Ciénegas (CM 59719); 51/2 mi SW [Hwy 30] and 7.0 mi S [dirt road] Cuatro Ciénegas (ASU 5478); 6.9 mi SW Cuatro Ciénegas (CM 48301-02, 48311-12); 8.6 mi SW Cuatro Ciénegas, N side Sierra San Marcos (CM 43045); W side Sierra San Marcos, opposite Laguna Churince (UTEP 9203, 14612); 16 km S Cuatro Ciénegas (KU 47038-40); 40 km SW Cuatro Ciénegas (CM 43041-42); 84.4 mi S Souto Ciénegas (SRUS 2830); 11 mi N Cuatro Ciénegas (UTEP 14631-33); 1.7 km N-3.3 km W [air] jct Hwy 30 and turnout to Lamadrill [27°01'50"N, 101°49'30"W] (UTEP 14615-16); 62.6 mi N San Pedro de las Colonias (SRUS 2999); 32 mi N San Pedro de las Colonias (CM 59703-04); SW [ca. 9 mi or 15 km] Rancho El Porvenir at Cuesta del Gallo [26°48'40"N, 103°04'W] (CM 59720); 1 mi W Las Delicias (CM 59705-06); Sierra de la Candelaria [6.7 mi SE Las Delicias turnout, Hwy 30] (RWA [1]); Puerto de las Ventanillas, about 25 mi N (Hwy 30) San Pedro de las Colonias (USNM 241519); 1/2 mi S Parras (CM 59707-08); Cerro La Cuchilla [just N jct Hwy 40 and road to San Pedro de las Colonias] (USNM 105528-32); 14.3 mi SE Viesca (CM 59715); 17.8 and 18.3 mi SW Viesca (SDSNH 49785-86); 7.8 mi NW Ahuachila (UTEP 9227); 8.3 km N-1.6 km W [air] Ahuachila [25°11'20"N, 102°38'50"W] (UTEP 14610); "Monclova" [Goldman, 1951:130] (Smith, "1936" [1938], USNM 46699); Sierra de la Gloria, Monclova (Schmidt and Owens, 1944, FMNH 47123-24); Sierra de la Gloria, 8.8 mi S-

4.2 mi E [air] Monclova [26°46'20"N, 101°21'W] (RWA [1]); 10 mi S Monclova (CAS 87126); 35.3 road mi E Monclova [road to Candela at 26°46'15"N, 100°58'20"W] (UTEP 6195); 1 mi W Estación Candela (UTA 7959); 9 km S and 3 km E [air] Castaños [26°39'10"N, 101°22'40"W] (RWA 4780); La Muralla Canyon area north of San Lazaro, along Hwy 57 [encompassed by about 26°18'21"N, 101°21'22"W] (Axtell and Axtell, 1971, RWA 3832, UTEP 4238, 14621-24, 14634-35); 5 road mi S (Hwy 57) Palo Blanco [Palo Blanco is 4 road km SE San Miguel, 25°33'N, 101°01'50"W] (RWA [1]); 51/2 mi W-61/2 mi S (Hwy 57) Saucedá (RWA 3831); 21/2 km N-0.4 km E [air] Hacienda de Guadalupe [26°10'10"N, 101°17'35"W] (UTEP 14617-20); 21 mi N Saltillo (Smith and Chrapliwy, 1958 [21 mi N Hipolito, in error], USNM 105763, 105789-93); 7.6 mi N Saltillo (UCM 41492-93); 10 mi ENE Hipolito (Smith and Chrapliwy, 1958, USNM 105786-88); Rancho (San Antonio del) Jaral [25°37'N, 101°24'W] (Smith, "1936" [1938]; Smith and Chrapliwy, 1958; FMNH 1547); "Sierra Guadalupe" [Goldman, 1951-133] (Smith, "1936" [1938]; Smith and Chrapliwy, 1958; USNM 47491-92); 3 road mi S Ojo de Agua [= El Capricho, on road to General Cepeda] (RWA [1]); 1 mi NW Est. La Paz [25°18'40"N, 101°26'W] (RWA 5970, UTEP 14637); 1 mi S Los Encinos at Santo Domingo turnoff, Hwy 57 [25°37'30"N, 101°06'W] (UTEP 14607-08); 4 mi W [Ejido Santa Teresa de los] Muchachos [ca. 25°18'30"N, 101°22'N] (UTEP 14639-43); 10 mi S-5 mi W General Cepeda (Smith and Chrapliwy, 1958, KU 33974, 37546-67); 3 mi NW (Hwy 40) La Rosa (Smith and Chrapliwy, 1958, KU 28161); [near] Saltillo (Smith and Chrapliwy, 1958, USNM 112288-92); 7.8 mi N-31/2 mi E Saltillo (RWA 4812); 15 mi E Saltillo (Smith, "1936" [1938], FMNH 32378); El Chiflon, Hwy 40 [ca. 25°27'45"N, 101°19'W] (UTEP 6786); Mount Zapalinamé (near top of Diamond Pass) [Sierra Zapalinamé, peak about 13 air mi SE Saltillo, 25°22'04"N, 100°55'W] (Smith and Brown, 1941:253; Smith and Chrapliwy, 1958; USNM 105761-62); 3 mi E Bella Union [near Arteaga] (KU 39878); 9.8 mi SE Saltillo (TCWC 35293); 13 mi SSW Saltillo [ca. 25°14'N, 101°04'30"W] (UTEP 4457); 15 mi SE (Hwy 57) Saltillo (Tanner, 1987, BYU 36243-49, 36399); 3.4 km W Ejido Palmas Altas [25°08'15"N, 101°27'45"W] (RWA 3673); 1/2 mi N Sierra Hermosa [25°19'15"N, 100°53'W] (UTEP 6066); 31/2 mi SE [Ejido] Angustura (UTEP 6065); 9.3 mi SE Villa de Arteaga (KU 43293); 3.2 mi S-31/2 mi E [air] Villa de Arteaga, Hwy 57 [25°24'20"N, 100°47'50"W] (RWA 5221); Villa de Arteaga (Smith and Chrapliwy, 1958, USNM 105794-822); 1.1 km S-3.1 km W [air] San Antonio de las Alazanas [25°15'44"N, 100°36'36"W] (RWA 6314); 2 mi W-1.4 mi S San Antonio de las Alazanas on Ciénega del Toro road (EAL 4179 [n = 16], 4317 [n = 7]); Durango: 10 mi SE Santiago Papasquero (MSUM 2776-79); 41/2 mi S 5 Tepehuasos (MSUM 8939); 3 mi E Las Nieves (MSUM 764-67, 769), 31/2 mi E Las Nieves (SRSU 3476), and 49 mi S Parral, Chihuahua (SRSU 3081-83, 3132) [both Las Nieves and the Parral sites at jct Hwy 45 and Rio Florido]; 1.3 mi S 2 Las Nieves (UAZ 46794); 20 mi SE Las Nieves (MSUM 9330-31); El Palmito (UTEP 3717-18); 2 mi S El Palmito (MSUM 2775); 11 mi E La Zarca (UTEP 6171); 15 mi S La Zarca (UCM 8970, 13701-02); Rancho El Cortijo [26°09'N, 100°51'W] (MSUM 756-58, 760-63); 1 mi N San Antonio (UTEP 6210); 7.3 road mi N (Hwy 45) Primo Verdugo (UTEP 9394); 81/2 mi N Donata Guerra (RWA [1]); 8.4 mi W (Hwy 30) Rancho Tres Hermanos (UTEP 3719); 52 road mi N (Hwy 45) Cd. Durango (UTEP 6670); 24 mi N Durango (Smith and Chrapliwy, 1958; Smith et al., 1964; UIMNH 40294); 4 mi S Morcillo (MSUM 4303); 3 mi W Cd. Durango (UTEP 6176); 5 mi S Durango (UCM 20947); 5.4 mi SW Durango (UIMNH 43474); 9.8 mi NNW Nombre de Dios (RWA 2428, UTEP 14599); 20.4 road mi SSE Cd. Durango, Hwy 45 [23°58'N, 104°21'30"W] (RWA 5231); 13 mi N (MSUM 4305) and 15 mi N Mezquital (MSUM 4304); 16 mi S and 20 mi W Vicente Guerrero (MSUM 3622, 366-67); 3 mi E Yerbániz (UTEP 6193); 1 mi SE Doce de Diciembre (= Sombrerito, UTEP 6191); Hacienda de Atonilco, 12 mi SE Yerbániz (Webb and Hensley, 1959; KU 40415, 40424-26, MSUM 11260, UTEP 6172, 6174, 6183-83); 14 mi S-111/2 mi E [air] Cuencame [24°40'N, 103°31'W] (RWA 5223-24); Presa Francisco Zarco (UTEP 14596); 25 mi S Gomez Palacio [near Chocolate] (Tanner, 1987, BYU 40115); 10 mi W Gomez Palacio (Tanner, 1987, BYU 40064-65); 25 mi S Torreón, Coahuila [near Chocolate] (Tanner, 1987, BYU 36240); 5 km W [along railroad] Torreón, Coahuila (FMNH 218894); 11.2 mi S Chocolate (UTEP 9403); 9.8 km S-3.2 km W [air] Chocolate (RWA 6439, 6443; UTEP 14598); near Pedriceña (Smith, "1936" [1938]; Smith and Chrapliwy, 1958; Smith et al., 1964; UIMNH 21459); "close to Pedriceña" (UBIPRO 1908-202); 4 road mi N turnoff to Pedriceña [25°08'10"N, 103°45'15"W] (RWA 4036); 6 mi NE [or N] Pedriceña (Smith, "1936" [1938]; Smith et al., 1964; UCM 50069, 50415; UIMNH 21460-61; UTEP 6180-82); and Tanner, 1987 (BYU 36236-38); 61/2 mi N Pedriceña (UTEP 6163); 12 mi N Pedriceña (UCM 50070-74); 1.7 km N-3.7 km W [air] La Campana [26°08'40"N, 103°32'W] (UTEP 14597); 26 mi N Tlahualilo (TCWC 43893); Cerro San Ignacio [26°40'N, 103°44'W], Mapiimi Biosphere Reserve (Grenot and Price, 1978; Grenot et al., 1978; Maury and Barbault, 1981; UTEP 9402); Sierra de Banderas, 3 mi E Conejos (UTEP 6169); 0.5 mi NE Dinamita (UTEP 3731); 0.7 mi SW Picardías (UTEP 9242-43, 14595); 1.9 mi SW Picardías (RWA [1]); 5 mi S La Unión (UTEP 9178); 4.2 mi W La Penidencia, Zacatecas (UTEP 9185-87). Precise collection data lacking for specimens designated "Sancada" [not found] (UBIPRO 1921-22) and "Durango 2" (UBIPRO 1923-55), collected next to the road in August 1997 (Julio A. Lemos-Espinal, in litt., 14 January 2002). **Nuevo León**: 2.6 road mi SW El Castillo [25°35'N, 100°37'50"W] (RWA 5852, UTEP 6043-44, 14625); near Coahuila border 1.8 mi W-3.3 mi S [air] San Antonio de las Alazanas on Ciénega del Toro road at Ejido 18 de Marzo [25°15'N, 100°35'30"W] (EAL 5014 = KU 203847); 15 mi W Santa Catarina (Smith and Chrapliwy, 1958, USNM 105827-28); Cañon de Huasteca near Santa Catarina (Smith and Chrapliwy, 1958, KU 192602, 192605; USNM 105829); 3.2 mi W (Hwy 34) Sabinas Hidalgo (EAL 4253); 5 mi W and 2 mi S Sabinas Hidalgo [26°29'N, 100°15'20"W] (RWA 4789); 4 mi NW Sabinas Hidalgo (FMNH 32229); 3 km W Sabinas Hidalgo (FMNH 38618); 9 road mi NE Villa de García [25°51'N, 100°31'30"W] (RWA 3840, 3940); Picacho Mts, 9.8 km SW Cerrallo and 10.1, 11.9, 13.3, and 16.7 km W "on" Rancho El Milagro [rancho ca. 26°19'N, 99°39'W] (Chaney et al., 1982, EAL 4296, 4297 [n = 5], 4301, 4565, 4572); 2 mi SW Bustamante (EAL 3909, 3913 [n = 3]); 1.9 mi W (EAL 4527 [n = 3]), 3 mi W (EAL 4330), 4.4 mi W (RWA 4810-11), 5.7 mi W (EAL 4523), and 17.4 mi W Bustamante (EAL 4334 [n = 4], 4516 [n = 6]); 0.7 mi S-2.0 mi W [air] Bustamante [26°31'30"N, 100°32'10"W] (RWA 4600); 3.7 km N-1 km W [air] Cuato [SW Bustamante, 26°24'N, 100°35'55"W] (RWA [2]); 8.8 km W jct Hwy 61 and road to Bustamante [26°32'45"N, 100°32'45"W] (RWA [1]); near Ciénega de Flores (Smith, 1939:225, FMNH 32230, and [near km 1036] 116575, 123818). **Sonora**: 10 mi E Huachinera (CAS 15206); 10.2 road mi below Mesa Tres Rios on road to Nacori Chico (UAZ 53500). **Zacatecas**: 4 km N San Juan de los Charcos (UTEP 4438); 10 mi ESE San Juan de los Charcos (UTEP 6185-88); 5 mi NE Cincos de Mayo (Baker et al., 1980, sight record only); 8 mi S Chalchihuites [23°23'N, 103°54'W] (CAS 95919-22); 18 mi NE Nieves (UTEP 3629); 18.9 mi NE Nieves (CM 59711-14); 27.8 mi NW Camacho road to Mazapilí (CM 59709-10); Coapas (SDSNH 49788-90, 49793-94); 0.7 mi N Coapas (UTEP 14594); 2.3 mi N Coapas (SDSNH 49791); 31/2 km N-1/2 km W [air] Coapas [24°38'55"N, 102°10'40"W] (RWA 5809); 16 mi W Las Norias [24°59'N, 102°13'W] (UTEP 6194); 0.6 km W Teclotes [24°37'30"N, 101°58'45"W] (UTEP 14626; SDSNH 49787, as 0.4 mi W); 0.1 mi ENE Teclotes (UTEP 14592-93); Pico de Tierra, 15 mi NE Camacho (UTEP 6197-98); 0.3 km N-2.2 km W [air] Concepción del Oro [24°36'55"N, 101°26'20"W] (RWA 6170).

Additional records. **Chihuahua**: Colonia García (Smith, "1936" [1938], Acad. Nat. Sci. Philadelphia); Arroyo del Alamos (Smith, "1936" [1938], USNM 42873); 10 mi S Casas Grandes (Smith and Chrapliwy, 1958, USNM 105342); Llano de Flores Magón [30°29'9"N, 107°15'11.6"W] (Lemos-Espinal et al., 2004b:167, UBIPRO 11843-44); Lemos-Espinal et al., 2002:165 [same, slightly different coordinates]; Ejido Flores Magón [29°57'34.0"N, 107°6'29.6"W] (Lemos-Espinal et al., 2001:206, UBIPRO 5728-31); 7 mi E San Buenaventura (Smith and Chrapliwy, 1985, USNM 105338-41); Yepómera (SDSNH 48999); 6 mi E Yepómera [Rancho EL Cerrito] (SDSNH 49000); 20 km NW Chihuahua, 50 km N-45 km W Chihuahua, Parque Nacional Majalca, 60 km S and 20 km W El Sucedo, 5 km NE Ignacio Zaragoza, 20 km N-20 km E Cuauhtémoc, 45 km N and 30 km E Cuauhtémoc, 4 km S-10 km W Metacich, 14 km S-24 km W Metacich, and 5 km NE Tesonachic (Dominguez et al., "1974" [1977]); Presones de la Capilla de los Remedios, Lago Las Mexicanas [28°7'5"N, 106°56'28.9"W] (Lemos-Espinal et al., 2004a:5); Valle de los Pinos, 9 mi S Creel [27°41'43.5"N, 107°35'8.1"W] (Lemos-Espinal et al., 2001:206, UBIPRO 5843); Rancho Santa Lucia [29°32'30.3"N, 105°19'53.3"W] (UBIPRO 5535); and El Rancho [28°01'5.9"N, 104°00'22.0"W] (UBIPRO 6232) (Lemos-Espinal, 2001:206); Creel, San Ignacio, Sierra Tarahumara (Flores-Villela, et al., 1991:131); Bañeatero Division del Norte [26°53'32.8"N, 104°22'17.8"W] (Lemos-Espinal et al., 2002:166, UBIPRO 8026); Sierra Encinilla, Rancho El Gatuno [= Gatunzo, 28°6'51.1"N, 104°5'52.2"W] (Lemos-Espinal et al., 2001:206, UBIPRO 5306-07).

5323, 5353; same as "26" [= 28"] [= 28°] 6'50.7"N, 104°5'51.4"W in Lemos-Espinal et al., 2002:166, UBIPRO 7509-23, 7540-41, 7547-57; also color photo 61 in Lemos-Espinal et al., 2004c:61). Lemos-Espinal et al. (2001:206, and 2002:165) cited additional localities of Chihuahuan UBIPRO specimens, and (2004a:5) recorded Sierra del Nido UBIPRO specimens (specific localities) as intergrades. **Coahuila**: Monclova (Garman, 1887, MCZ); 65 km S Monclova, Hwy 57 (Carpenter, 1978:24); Hacienda Los Borregos, and Sabinas (Schmidt and Owens, 1944, FMNH); 10 mi ENE Saltillo (SDSNH 40277-79); Saltillo (Smith, 1939:225, Acad. Nat. Sci. Philadelphia 20114); N side Sierra in front of Hercules mine [28°2'11.8"N, 103°38'14.0"W] (UBIPRO 5358), and El Alicante [27°56'27.2"N, 103°34'16.9"W] (Lemos-Espinal et al., 2001:206, UBIPRO 5363-64). **Durango**: "Durango, Durango" (Smith, "1936" [1938]; Smith and Chrapliwy, 1958; Cochran, 1961; USNM 46844-45); 82 mi S Hidalgo del Parral (Hwy 45), Chihuahua [ca. 12 mi N La Zarca] (CM 59696); 19 km N Pedriceña (Carpenter, 1978:24); near La Loma (Smith and Chrapliwy, 1958 [not La Goma]); Cochran, 1961; USNM 105486-92); 15 and 25-26 mi SW [Hwys 40-49] Torreón [Coahuila] (Auth et al., 2000:80, SMBU); vicinity of Pedriceña (Smith and Chrapliwy, 1958 [saue USNM numbers as "betw Lerdo and La Goma"]); Cochran, 1961, as "Pedriceña"; USNM 105493-97); 14 mi N Pedriceña (Smith and Chrapliwy, 1958, as "vicinity of Pedriceña"; Cochran, 1961; USNM 105498-500); 7 mi NE Pedriceña (CM 59697); near Pasaje (Smith, "1936" [1938]); Sierra de las Banderas, opposite Conejos (CM 59718); Presa Francisco Zarca [25°9'17.4"N, 103°46'20.2"W, UBIPRO 6047] and La Campana cemetery [26°7'39.1"N, 103°41'00.0"W, UBIPRO 5060] (Lemos-Espinal et al., 2001:206; latter locality also cited in Lemos-Espinal, 2002:165, UBIPRO 7940-41). **Nuevo Leon**: Cañon de Huasteca, 11 mi W Monterrey (Smith, 1939:225, FMNH 32231-32); 12 mi W Monterrey (FMNH 105402-03); 20 mi N Monterrey (FMNH 25434); 30 mi W Monterrey (Smith, "1936" [1938], FMNH 116579); Santa Catarina (Yarrow, "1882" [1883]:58, as *S. torquatus*, USNM 4107; Cope, 1900, USNM 2966, and Smith, "1936" [1938]); 4 mi W Sabinas Hidalgo (Smith, 1939:225, EHT 8738-39), EHT 738-39). **Sonora**: vicinity Yécora (Lara-Gongora, 1986).

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