

## Catalogue of American Amphibians and Reptiles.

PARKER, WILLIAM S. 1982. *Sceloporus magister*.***Sceloporus magister* Hallowell**  
**Desert spiny lizard***Sceloporus clarkii* Baird and Girard, 1852:127 (part).*Sceloporus magister* Hallowell, 1854:93. Type-locality, "Fort Yuma, California"; restricted to Yuma, Yuma County, Arizona by Smith and Taylor (1950b:355). Holotype, U.S. Nat. Mus. 2967, collected in 1853 by A. L. Heerman (not examined by author).*Sceloporus spinosus clarkii*: Boulenger, 1885: 277 (part).*Sceloporus magister*: Stejneger, 1893. Distinguished from *S. clarkii*. See Remarks.*Sceloporus spinosus magister*: Boulenger, 1897:492 (part).

• **CONTENT.** Nine subspecies are recognized: *bimaculosus*, *cephaloflavus*, *lineatulus*, *magister*, *monserratisensis*, *rufidorsum*, *transversus*, *uniformis*, and *zosteromus*. See Remarks.

• **DEFINITION.** *Sceloporus magister* is a large species of the *spinosus* group (Smith, 1939). Maximum snout-vent length is 112 mm in females and 140 mm in males. Dorsal scales average 32.2 (26–37), ventral scales 44.3 (40–51), scales around body 35.5 (32–39), femoral pores 12.8 (10–16). The dorsal scales are mucronate and keeled. There are four to eight pointed ear scales. The dorsal color pattern is geographically variable (see subspecies accounts). A dark wedge-shaped mark occurs on each side of the neck in all populations. Adult males have a central blue throat patch and black-edged blue lateral abdominal patches that may be confluent.

• **DESCRIPTIONS.** External characters were described by Cope (1900), Ruthven (1907), Camp (1916), Smith (1939, 1946), and Phelan and Brattstrom (1955); middle ear by Wever (1978); chromosomes (2N = 26) by Lowe et al. (1967) and Cole (1970); osteology by Camp (1923), Etheridge (1964, 1967), and Larsen and Tanner (1974); and scale surface features by Burstein et al. (1974), and Cole and Van Devender (1976). Stebbins (1954, 1966) gave brief descriptions.

• **ILLUSTRATIONS.** Black and white photographs were given by Van Denburgh (1922), Smith (1939, 1946), and Miller and Stebbins (1964); drawings by Herrick et al. (1899), Cope (1900), Phelan and Brattstrom (1955), and Stebbins (1954); color illustrations by Schmidt and Inger (1957), Stebbins (1966), and Behler and King (1979). Other illustrations include caudal vertebrae (Etheridge, 1967), cochlea (Wever, 1978), and auditory papilla (Miller, 1978).

• **DISTRIBUTION.** *Sceloporus magister* ranges from west-central Nevada eastward through southern Utah and southwestern Colorado to northwestern New Mexico, southward in the west through southeastern California to the tip of Baja California and the islands in the Gulf of California, through most of Arizona and southern New Mexico to western Texas, south in mainland Mexico west of the Sierra Madre Occidental to northern Sinaloa, and to northern Zacatecas east of the mountains. The species may be arboreal, terrestrial, or saxicolous. Photographs of typical habitat are in Ruthven (1907), Hayward et al. (1958), Banta (1962a), Lowe (1964), and Cole (1970). Range maps were presented by Smith (1939), Stebbins (1954, 1966), Phelan and Brattstrom (1955), and Morafka (1977).

• **FOSSIL RECORD.** Late Pleistocene fossils are known from Los Angeles, California (Brattstrom, 1953); Grand Canyon, Arizona (Van Devender et al., 1977), Howell's Ridge Cave, New Mexico; and western Arizona (Van Devender and Mead, 1978). An Upper Miocene fossil *Sceloporus* "closely related" to *S. magister* was reported from Rockglen, Saskatchewan, Canada by Holman (1970).

• **PERTINENT LITERATURE.** Studies on *S. magister* have included zoogeography (Savage, 1960; Banta, 1962b; Morafka, 1977), color change and integumental reflectivity (Atsatt, 1939; Hunsaker and Johnson, 1959; Hutchison and Larimer, 1960; Norris and Lowe, 1964; Porter, 1967), ear and hearing (Peterson, 1966; Campbell, 1969; Miller, 1966, 1978; Wever, 1978), phylogenetic relationships (Larsen and Tanner, 1975), thermal rela-

tions (Cole, 1943; Cowles and Bogert, 1944; Bogert, 1949a, 1949b; Brattstrom, 1965; Regal, 1967, 1975; Mayhew, 1968; Lowe et al., 1971; McGinnis and Falkenstein, 1971; Engbretson and Hutchison, 1976); collecting technique (Shaw, 1962); physiology (Dantzer, 1971; Minnich, 1972; Pough, 1976, 1977); biochemistry (Ryerson, 1949; Guttman, 1970; Yousef et al., 1977), pancreas (Miller, 1962), arteries (Zug, 1971), dentition (Hotton, 1955), osteology (Camp, 1923), diet (Woodbury, 1933; Johnson, 1966), behavior (Van Denburgh and Slevin, 1921a; Underwood, 1973; Vitt et al., 1974; Carpenter, 1978), parasites (Bovee and Telford, 1965; Telford, 1970; Mahrt, 1979), reproduction (Fitch, 1970; Vitt, 1977), and aspects of ecology (Pianka, 1966, 1967, 1973). Autecological studies (see these for additional references) are by Parker and Pianka (1973), Tanner and Krogh (1973), Vitt and Ohmart (1974), Tinkle (1976), Whitford and Creusere (1977), and Vitt et al. (1981).

References on geographic distribution include Turner and Wauer (1963), Tanner and Banta (1966), and Montanucci (1968) for California; Maslin (1959) and Smith et al. (1965) for Colorado; Tanner and Jorgensen (1963) for Nevada; Raun and Gehlbach (1972) for Texas; Smith and Taylor (1950a), Soule and Sloan (1966), Hardy and McDiarmid (1969), Bostic (1971), Smith and Smith (1973, 1976), and Case (1975) for Mexico.

• **ETYMOLOGY.** The Latin name *magister* means "teacher"; *bimaculosus* (L.) refers to the paired dorsal spots; *cephaloflavus* (L.) to the yellow head; *lineatulus* (L.) to the small dorsal lines; *monserratisensis* to Monserrate Island; *rufidorsum* (L.) to the rusty dorsal stripes; *transversus* (L.) to dorsal cross-bars; *uniformis* (L.) to the patternless dorsum; and *zosteromus* (Greek) to the black shoulder girdle.

• **REMARKS.** *Sceloporus magister* was long confused with *S. clarkii*, although they were clearly distinguished by Stejneger (1893). The history of this confusion, and of the resulting nomenclatural problems, was reviewed by Smith (1939).

The definition of subspecies of *S. magister* is based primarily on the dorsal color pattern of adult males (Phelan and Brattstrom, 1955). The species is in need of a thorough reanalysis of the relationships and validity of its nine subspecies.

**1. *Sceloporus magister magister* Hallowell***Sceloporus magister* Hallowell, 1854:93. See species account.*Sceloporus magister magister*: Linsdale, 1932:365. First use of trinomial.

• **DEFINITION.** Adult males with a black or deep purple mid-dorsal stripe approximately 4.5–5 scales wide, bordered by light stripes; dorsal scales average 31.0; femoral pores average 12.8; somewhat larger than the other subspecies.

**2. *Sceloporus magister bimaculosus* Phelan and Brattstrom***Sceloporus magister magister*: Smith, 1939:145 (part).*Sceloporus magister bimaculosus* Phelan and Brattstrom, 1955:9.

Type-locality, "6.6 miles east of San Antonio, Socorro County, New Mexico." Holotype, California Acad. Sci. 91199 (formerly Univ. California Los Angeles 3816), collected on 24 August 1948 by Richard G. Zweifel and Kenneth S. Norris (not examined by author).

• **DEFINITION.** Adult males with two parallel series of six or seven dorsal blotches, each blotch 1.5–2 scales wide; dorsal scales 31–34 (average 33.2); femoral pores 11–12 (average 11.6).

• **REMARKS.** This subspecies probably intergrades with both *S. m. magister* and *S. m. uniformis* in southwestern Arizona (Phelan and Brattstrom, 1955).

**3. *Sceloporus magister cephaloflavus* Tanner***Sceloporus magister magister*: Smith, 1939:145 (part).*Sceloporus magister cephaloflavus* Tanner, 1955:32. Type-locality, "approximately 15 miles northwest of Hole-in-the-Rock, Kaiparowits Plateau, Kane County, Utah." Holotype, Brigham Young Univ. 11270, collected on 16 July 1953 by D. Elden Beck (not examined by author).

• **DEFINITION.** Adult males with five or six chevron-shaped dorsal bars, 1.5–2.5 scales wide, between the shoulders and the base of the tail; dorsal head plates and nape “Apricot Yellow” to “Orange Chrome” in both sexes.

• **REMARKS.** This subspecies intergrades broadly over eastern Nevada and southwestern Utah with *S. m. uniformis*, but its relationship with *S. m. bimaculosus* needs further study (Tanner, 1955).

#### 4. *Sceloporus magister lineatulus* Dickerson

*Sceloporus lineatulus* Dickerson, 1919:467. Type-locality, “Santa Catalina Island, Gulf of California, Mexico.” Holotype, U.S. Nat. Mus. 64263, collected 16 May 1911 by C. H. Townsend (not examined by author).

*Sceloporus magister lineatulus*: Smith, 1939:168. First use of combination.

• **DEFINITION.** Dorsal pattern lacks stripes; dark shoulder patch without a light posterior border; dorsal scales average 39.5; ventrals average 40; femoral pores average 19.

#### 5. *Sceloporus magister monserratensis* Van Denburgh and Slevin

*Sceloporus zosteromus*: Mocquard, 1899:313–314 (part).

*Sceloporus monserratensis* Van Denburgh and Slevin, 1921b:396.

Type-locality, “Monserrate Island, Gulf of California, Mexico.” Holotype, California Acad. Sci. 50509, collected 24 May 1921 by Joseph R. Slevin (not examined by author).

*Sceloporus magister rufidorsum*: Linsdale, 1932:366 (part).

*Sceloporus magister monserratensis*: Smith, 1939:165. First use of combination.

• **DEFINITION.** Adult males with a narrow, light-colored middorsal stripe 1.5–2 scales wide, usually bordered by dark spots on each side; dorsal scales average 32; ventrals average 37; femoral pores average 20.0.

#### 6. *Sceloporus magister rufidorsum* Yarrow

*Sceloporus clarkii zosteromus*: Lockington, 1880:295.

*Sceloporus rufidorsum* Yarrow, 1883:442. Type-locality, “San Quentin Bay, Lower California, Mexico.” Holotype, U.S. Nat. Mus. 11981, collected in 1882 by L. Belding.

*Sceloporus zosteromus*: Van Denburgh, 1896:1004.

*Sceloporus clarkii*: Cuesta Terron, 1921:165, 167.

*Sceloporus magister rufidorsum*: Linsdale, 1932:366 (part).

*Sceloporus clarkii rufidorsum*: Burt, 1935:275.

• **DEFINITION.** Adult males with rusty red dorsal stripes, and a light-colored middorsal stripe 1.5–2.5 scales wide; dorsal scales average 29.8; ventrals average 41; femoral pores 17.9.

#### 7. *Sceloporus magister transversus* Phelan and Brattstrom

*Sceloporus magister magister*: Smith, 1939:145 (part).

*Sceloporus magister transversus* Phelan and Brattstrom, 1955:10.

Type-locality, “Keough’s Hot Springs, 7 miles south of Bishop, Inyo County, California.” Holotype, California Acad. Sci. 91200 (formerly Univ. California Los Angeles 6695), collected on 23 July 1953 by Robert L. Phelan (not examined by author).

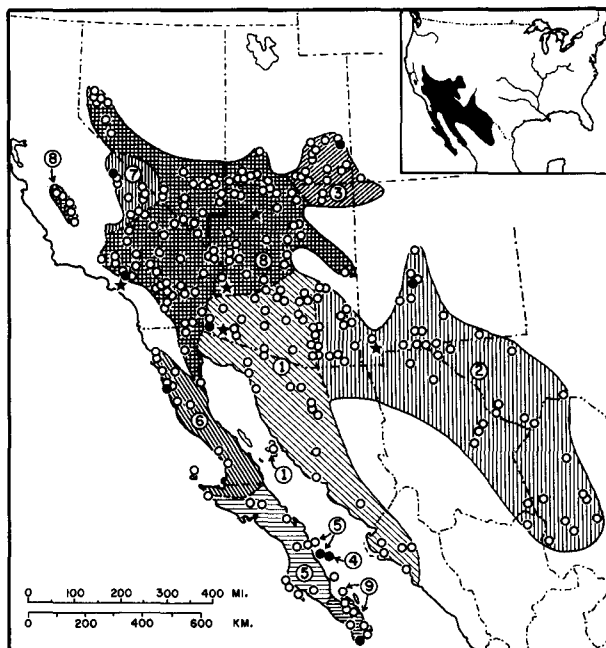
• **DEFINITION.** Adult males (and some adult females) with 6–7 dark dorsal cross-bands 1.5 scales wide, extending onto the sides; dorsal scales average 35 (33–37); femoral pores average 11.5 (11–12).

• **REMARKS.** Intergradation with *S. m. uniformis* occurs in Kern County in the south and from Walker Lake, Nevada through eastern Mineral and Esmeralda counties, Nevada (Phelan and Brattstrom, 1955).

#### 8. *Sceloporus magister uniformis* Phelan and Brattstrom

*Sceloporus magister magister*: Smith, 1939:145 (part).

*Sceloporus magister uniformis* Phelan and Brattstrom, 1955:7.



MAP. Solid circles mark type-localities, hollow circles other records. Stars mark Late Pleistocene fossil localities.

Type-locality, “Valyermo, Los Angeles County, California.” Holotype, California Acad. Sci. 91201 (formerly Univ. California Los Angeles 1812), collected on 14 June 1943 by Raymond B. Cowles (not examined by author).

• **DEFINITION.** Adult males without distinct dorsal markings (bars, stripes, or blotches), dorsum uniform light yellow or tan grading into darker brown on sides; dorsal scales average 33 (29–40); femoral pores average 13 (10–16).

• **REMARKS.** Intergrades with *S. m. magister* in southern Arizona (Phelan and Brattstrom, 1955).

#### 9. *Sceloporus magister zosteromus* Cope

*Sceloporus zosteromus* Cope, 1863:105. Type-locality, “Cape San Lucas, Lower California, Mexico.” Syntypes, U.S. Nat. Mus. 5298 (23 specimens) and 69472–69488, collected by John Xantus (not examined by author).

*Sceloporus clarkii zosteromus*: Cope, 1875:49, 93.

*Sceloporus rufidorsum*: Yarrow, 1883:442–443 (part).

*Sceloporus magister zosteromus*: Linsdale, 1932:366. First use of combination.

• **DEFINITION.** Adult males with a broad (6 scales wide) middorsal stripe that lacks distinct bordering dark lines or spots; dorsal scales average 29; ventrals average 41; femoral pores average 18.5.

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