

Catalogue of American Amphibians and Reptiles.

MECHAM, JOHN S. 1980. *Eumeces multivirgatus*.***Eumeces multivirgatus* (Hallowell)
Many-lined skink**

Plestiodon multivirgatum Hallowell, 1857:215. Type-locality, "Posa Creek, 460 miles west of Fort Riley, Kansas," corrected to "Cow Creek, Larimer County, Colorado" by Taylor (1935b:344). Holotype, Acad. Natur. Sci. Philadelphia 9371, collected by Dr. Hammond. Not examined by author.

Eumeces multivirgatus: Cope, 1875:45. First use of combination.

• CONTENT. Two subspecies are recognized: *multivirgatus* and *epipleurotus*.

• DEFINITION. A moderate-sized species of *Eumeces*, adults average 65 mm (maximum 73 mm) snout-vent length; tail length 1.5–2.0 times body length; 23–26 scale rows around body; 53–62 dorsals; 7 (rarely 6 or 8) supralabials; postnasals usually present; 2 pairs of nuchals; usually 2 postmentals; interparietal rarely enclosed posteriorly by parietals. Dorsal ground color pale to olive brown; a light line on the third scale row bounded by narrow dark lines (sometimes reduced to dots); a pale middorsal stripe (may be lost with age); a dark line usually present on adjacent parts of first and second scale rows (may be reduced or lost in adults); lateral dark pigment present as a diffuse band or two or more dark lines, typically an upper primary and lower secondary line, the latter often edged below by a light line that follows the sixth scale row and tends to blend with the lighter venter. Lips and throat are pale, and the belly light slate. Specimens of the unstriped morph are essentially patternless, but have an indistinct dark lateral streak on head and body, darker pigment on the posterior margins of the dorsal scales, and (especially in young) an ill-defined light streak above the eye that sometimes extends over the shoulder on the third scale row. Ground color of young in both morphs is much darker than in the adult, and the tail is brilliant blue.

• DESCRIPTIONS. Mecham (1957) treats geographic and age variation. Characterizations of both subspecies are in Stebbins (1966) and Conant (1975). Cope (1900), Taylor (1935a, 1935b), Bailey (1937), and Smith (1942, 1946) give useful descriptions.

• ILLUSTRATIONS. Stebbins (1966) provides a color illustration of the northern race, and diagrams of dorsal patterns of both forms. Maslin (1957) diagrams juvenile and adult patterns in both races, and Tanner (1957) diagrams pattern variation in Arizona specimens. Conant (1975) presents colored photographs of both races, and of the patternless morph of *E. m. epipleurotus*. Photographs, including the patternless phase, are in Heyl and Smith (1957), Mecham (1957), and Everett (1971).

• DISTRIBUTION. Most of Nebraska, extreme southwestern South Dakota, southeastern Wyoming, eastern and southern Colorado, southeastern Utah, northern and eastern Arizona, most of New Mexico, western and northwestern Texas, and northwestern Chihuahua. Kansas records were rejected by Smith (1956).

• FOSSIL RECORD. Gehlbach and Holman (1974) reported *Eumeces multivirgatus* from the post-Wisconsin of Culberson County, Texas.

• PERTINENT LITERATURE. The longstanding taxonomic confusion resulting from recognition of *Eumeces gaigeae* (= *E. m. epipleurotus*) and *Eumeces taylori* (= *E. m. epipleurotus*, patternless morph) as species distinct from *E. multivirgatus* was resolved by Lowe (1955), Maslin (1957), Heyl and Smith (1957), and especially Mecham (1957) who presents the most comprehensive discussion of variation. Gehlbach (1965) describes variation and ontogenetic changes in northwestern New Mexico. Distributional and bibliographic surveys are available for Colorado (Maslin, 1959), Nebraska (Hudson, 1942), and Texas (Raun and Gehlbach, 1972). Habitat and altitudinal range are discussed by Mosauer (1932), Bundy (1951), Brown (1952), Maslin (1957), Mecham (1957), and Gehlbach (1965). Everett (1971) describes courtship and mating, Van Devender and Van Devender (1975) summarize information on clutch size, eggs, and hatchlings.

• ETYMOLOGY. The name *multivirgatus* (Latin, *multus* meaning many, *virgatus* an alternate meaning for which is striped) refers to the color pattern. The meaning of *epipleurotus* (Greek, *epi* meaning on or over, *pleuro* meaning side, rib, or lateral) is uncertain, but possibly refers to the dorsolateral light stripe.

1. *Eumeces multivirgatus multivirgatus* (Hallowell)

Plestiodon multivirgatum Hallowell, 1857:215. See species synonymy.

Plestiodon leptogrammus Baird, 1858 (1859):256. Type-locality, "Platte River Valley." Type-specimen(s) U.S. Nat. Mus. 3119, collected by Lt. Warren and Dr. Hayden. Cope (1900) lists "10 specimens, Running Water, Nebraska, Lt. Warren" under this number, without comment on their status as types. The type or types apparently have been lost.

Plestiodon inornatus Baird, 1858 (1859):256. Type-locality, "Sand hills of Platte" [Platte River, Nebraska]. Syntypes, U.S. Nat. Mus. 3110 (2 specimens), collected by Dr. Hayden. Examined by author.

Eumeces multivirgatus: Cope, 1875:45. See species synonymy.

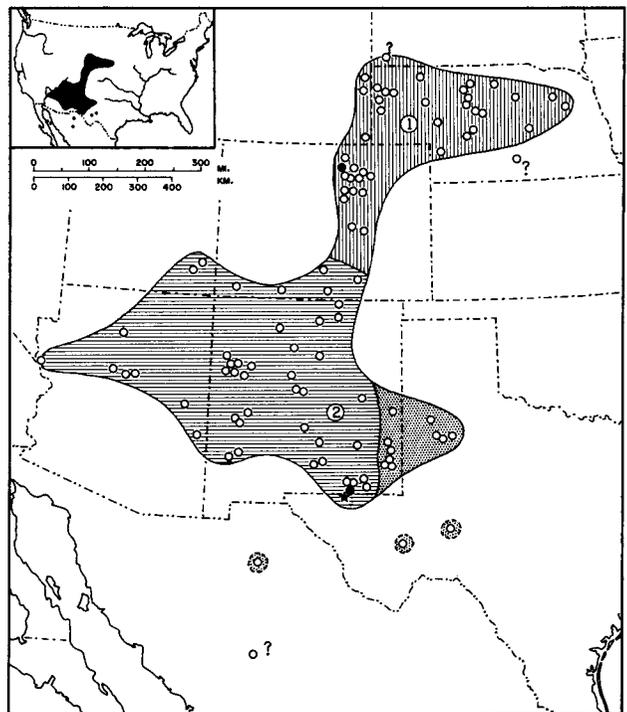
Eumeces epipleurotus Cope, 1880:40 (part). Not of Cope, 1900:650. See following subspecies account.

Eumeces multivirgatus multivirgatus: Lowe, 1955:234. First use of trinomial.

• DEFINITION. Ground color of adults pale, slightly darker than light line on third scale row, contrasting sharply with longitudinal dark lines; dark lines on first and second scale rows unreduced throughout life; juvenile pattern darker, with less well-defined lines; patternless morph rare.

2. *Eumeces multivirgatus epipleurotus* Cope

Eumeces epipleurotus Cope, 1880:40. Type-locality, "northern boundary of Texas, and Nebraska at Fort Kearney," restricted to the Guadalupe Mountain region (Texas) by Axtell (1961:347). Lectotype, U.S. Nat. Mus. 5263, collected by J. H. Clark (Cope, 1900:651). Examined by author.



MAP. Solid circles mark type-localities; open circles indicate other records. The star marks a fossil locality. Stippling indicates populations of uncertain subspecific status, and question marks indicate questionable localities.

- Eumeces leptogrammus*: Boulenger, 1887:378 (part). *Eumeces epipleurotus* regarded as adult of *E. leptogrammus*.
- Eumeces gaigei* Taylor, 1935a:219. Type-locality, "near Taos (Taos County), New Mexico." Holotype, Univ. Kansas Mus. Natur. Hist. 7300, collected by Edward H. Taylor on 13 June 1929. Not examined by author.
- Eumeces epipleurotis*: Taylor, 1935b:342. Emendation.
- Eumeces taylori* Smith, 1942:94. Type-locality, "southern part of the Guadalupe [sic] Mountains, at 6000 feet altitude, near Frijole [Culberson County], Texas." Holotype, Univ. Michigan Mus. Zool. 70516, collected by Walter Mosauer. Not examined by author.
- Eumeces multivirgatus gaigei*: Lowe, 1955:234. First use of combination.
- Eumeces multivirgatus taylori*: Lowe, 1955:234. First use of combination.
- Eumeces multivirgatus gaigeae*: Maslin, 1957:87. Emendation.
- Eumeces multivirgatus epipleurotus*: Axtell, 1961:347. First use of combination.

• DEFINITION. Ground color of adult olive brown, contrasting little with dark lines but enhancing visibility of light line on third scale row; young much darker, with distinct middorsal light line that bifurcates indistinctly on head and well-developed dark lines on first and second scale rows; with increase in age middorsal light line usually disappears and dark line on first and second scale rows becomes progressively reduced by invasion of ground color from sides (reduced to zigzag marking or lost in adults); patternless morph common in parts of the range.

COMMENT

Further analysis of geographic variation and reassessment of geographic races is needed. Problematic individuals or populations were noted by Tanner (1957), Dixon and Medica (1965), Mecham (1967), and Dixon (1971). Van Devender and Van Devender (1975) identified three adults from Galeana, Chihuahua as *E. m. epipleurotus*, but the pattern of five indistinct light stripes is unusual in adults of that race. A hatchling from Creel, Chihuahua, identified as *E. multivirgatus* by Legler and Webb (1960) on the basis of scale characters, lacks light lines on the posterior half of the body, so identification is uncertain. A specimen from "Chihuahua" (U.S. Nat. Mus. 30833), identified as *E. multivirgatus* by Taylor (1935b), Smith (1946), and Smith and Taylor (1950) is *E. multilineatus* (Tanner, 1957). *Eumeces multivirgatus mexicanus* Anderson and Wilhoft (1959) from Yaguiraichic, Chihuahua, appears to be a synonym of *E. multilineatus* according to Legler and Webb (1960).

The genetics, frequency, and adaptive significance of the patternless allelomorphous variant (Mecham, 1957) present an interesting problem. It is unreported in Colorado, and rare in Nebraska (Baird, 1858 [1859]; Heyl and Smith, 1957), and Arizona (Tanner, 1957). Pattern polymorphism is most common in southeastern New Mexico and western Texas, promoted by adaptive superiority of the striped pattern at high altitudes, and of the patternless phenotype in lower, more xeric environments (Mecham, 1957). This does not explain polymorphism in Texas High Plains populations, however.

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