

Catalogue of American Amphibians and Reptiles.

GEHLBACH, FREDERICK R. 1967. *Lampropeltis mexicana*.

***Lampropeltis mexicana* (Garman)
Gray-banded kingsnake**

Ophibolus triangulus var. *mexicanus* Garman, 1884:66. Type-locality, "Mexico, near [Ciudad] San Luis Potosí." Syn-types, Mus. Comp. Zool. 4652-3 (both females), collected by E. Palmer, August 1879.

Coronella mexicana: Gunther, 1893:110. Generic reallocation and first use of combination.

Oreophis boulengeri Dugés, 1897:284-285, figs. a-h. Type-locality, "... Guanajuato ... (Sierra de Santa Rosa)" Mexico. Holotype, unnumbered, in Mus. Alfredo Dugés, Univ. Guanajuato, Mexico (not seen) = *L. mexicana*, *vide* Dunn (1922). Smith and Necker (1943) provided a description and a photograph of the holotype.

Lampropeltis mexicana: Blanchard, 1920:7. First use of combination.

Lampropeltis leonis: Loveridge, 1924:138-139. Mistaken allocation.

• CONTENT. Four subspecies, *mexicana*, *alterna*, *blairi*, and *thayeri*, are recognized.

• DEFINITION. A medium sized (244-1145, mean 620 mm. total length), longtailed (14-18, mean 16 per cent of total length) *Lampropeltis* with a color pattern consisting of one or more black-bordered, orange-red dorsal markings alternating with white-bordered gray markings. Also distinctive are the red-centered blotch on the frontal-parietal region of the head, anteriorly trilobed or broken into black, or black and red fragments; mottled gray snout; dark postocular spot or stripe; widened temporal region of the head; large eyes (14-19, mean 17 per cent of head length); and reduction of the dorsal scale rows to no fewer than 18 at the anus.

• DESCRIPTIONS. External morphology and coloration were reviewed by Gehlbach and Baker (1962) and Gehlbach and McCoy (1965). Two subspecies (*alterna*, *blairi*) were treated in detail by Wright and Wright (1957). Dorsal scale row formulae were given in Flury (1950) and Webb (1961). Hemipenes were described by Smith (1942), and Gehlbach and Baker (1962), but nothing else has been recorded about internal structure. Eggs were described by Gehlbach and McCoy (1965).

• ILLUSTRATIONS. Typical adults or young of various subspecies were shown in photographs as follows: *alterna*, Brown (1902), Conant (1957), Gehlbach and McCoy (1965), Murray (1939), Wright and Wright (1957); *blairi*, Axtell (1951), Wright and Wright (1957); *mexicana*, Smith (1942), Smith and Necker (1943); *thayeri*, Webb (1961). Photographs of intergrades (*alterna* × *blairi* and *alterna* × *mexicana*) were published in Gehlbach and Baker (1962) and Webb (1961). Drawings of *mexicana*, *alterna*, and *blairi* were provided by Dugés (1897), Blanchard (1921), and Gehlbach and McCoy (1965).

• DISTRIBUTION. Found between elevations of about 1200 and 7500 feet on rocky substrates in desert and woodland communities from Edwards, Pecos, Culberson (Guadalupe Mountains), and Presidio (Sierra Vieja) counties, Texas, southward through western Tamaulipas, Nuevo Leon, and Coahuila to southwestern Durango, south-central San Luis Potosí, and the Sierra de Santa Rosa of Guanajuato, Mexico. The range was mapped by Gehlbach and Baker (1962) and roughly corresponds with the Chihuahuan Desert ecologic region.

• FOSSIL RECORD. None.

• PERTINENT LITERATURE. The only taxonomic revision was by Gehlbach and Baker (1962), who also reviewed feeding habits, diel cycle, and ecologic distribution. Blanchard (1921), Smith (1942, 1944), and Webb (1962) speculated on phylogeny and gave information on variation. Webb (1961) provided a key to subspecies. New locality records, data on variation, and a tabular comparison of the most important subspecific characteristics were presented by Gehlbach and McCoy (1965). Other new locality records, and growth, food, and ecologic data were published by Axtell (1951), Jameson and Flury (1949), Liner (1964), Mecham and Milstead

(1949), Murray (1939), Schmidt and Owens (1944), Scudday (1965), and Smith (1941).

• ETYMOLOGY. The species was named for Mexico. Subspecies were named as follows: *alterna* from the Latin *alternus*, describing the definitive coloration; *blairi*, a patronym for W. Frank Blair, herpetologist at the University of Texas; *thayeri*, a patronym for John E. Thayer, the collector.

1. *Lampropeltis mexicana mexicana* (Garman). Mexican kingsnake

Ophibolus triangulus var. *mexicanus* Garman, 1884:66. See Species Account.

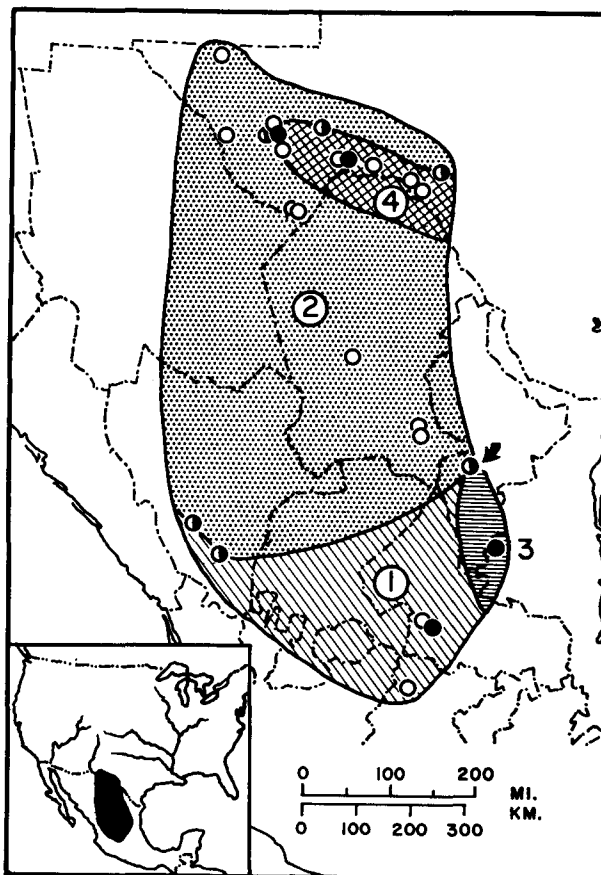
Lampropeltis greeri Webb, 1961:326-333, fig. 1. Type-locality, "Rancho Santa Barbara (Weicher Ranch), 29 miles west-southwest of Ciudad Durango, Durango, Mexico." Holotype, Michigan State Univ. 190 (young male), collected by J. Greer and R. Webb, 18 July 1959, elevation ca. 7400 feet.

Lampropeltis mexicana greeri: Gehlbach and Baker, 1962:298. First use of combination (= *L. m. mexicana* according to Gehlbach and McCoy, 1965).

Lampropeltis mexicana mexicana: Gehlbach and Baker, 1962:298. First use of combination.

• DEFINITION. Primary red and black dorsal markings at midbody are blotches, rarely saddles, and number 30-47 (mean 35); ventral scales are 190-200 (mean 195), and dorsal scale rows at midbody are 23-25 (mode 23).

• REMARKS. This subspecies intergrades with *thayeri* near Galeana, Nuevo Leon, and with *alterna* near Ciudad Durango, Mexico. One of the latter specimens provided a basis for the description of *L. greeri*.



MAP. The solid circles mark type-localities, open symbols indicate other localities, and half-filled circles indicate areas of intergradation. Arrow indicates Galeana, Nuevo Leon, where *alterna* and *thayeri* occur in close proximity without interbreeding but where *mexicana* and *thayeri* intergrade.

2. *Lampropeltis mexicana alterna* (Brown) Davis Mountains kingsnake

Ophibolus alternus Brown, 1902:612-613, pl. 34. Type-locality, "Davis Mountains, Jeff Davis County, Texas." Holotype, Acad. Nat. Sci. Philadelphia 14977 (female), collected by E. Meyenberg.

Lampropeltis alterna: Stejneger and Barbour, 1917:87. Generic reallocation and emendation.

Lampropeltis mexicana alterna: Gehlbach and Baker, 1962:298. First use of combination.

• DEFINITION. Primary red and black or solid black dorsal markings at midbody are bands or rings, rarely saddles or blotches, and number 15-39 (mean 24); ventral scales are 211-229 (mean 220), and dorsal scale rows at midbody are 23-27 (mode 25).

• REMARKS. Intergrades with *mexicana* (see above) and *blairi* are known, the latter from Edwards, Pecos, and Jeff Davis counties, Texas. There is more color-pattern variation among individuals of this race than any other. Red may be absent from most black body markings, present in a few isolated scales, or limited to the nuchal and superanal markings. The frontal-parietal and nuchal markings may be indistinct, fragmented, or absent.

3. *Lampropeltis mexicana thayeri* Loveridge. Thayer's kingsnake

Lampropeltis thayeri Loveridge, 1924:137-139. Type-locality, "Miquihuana, Tamaulipas, Mexico." Holotype, Mus. Comp. Zool. 19551 (male), collected by W. Brown, 16 June 1924.

Lampropeltis mexicana thayeri: Gehlbach and Baker, 1962:298. First use of combination.

• DEFINITION. Primary red and black dorsal markings at midbody are rings, rarely saddles or blotches, and number 24-28 (mean 27); ventral scales are 196-212 (mean 205), and dorsal scale rows at midbody are 22-23 (mode 23).

• REMARKS. This subspecies is known from only two typical specimens and two intergrades (see under *L. m. mexicana*, above), hence, it is poorly defined.

4. *Lampropeltis mexicana blairi* Flury Trans-Pecos kingsnake

Lampropeltis blairi Flury, 1950:215-217. Type-locality, "8.8 miles west of Dryden, Terrell County, Texas . . . on U. S. Highway 90." Holotype, Univ. Texas Nat. Hist. Coll. T 4772 (male), collected by H. Phillips and A. Flury, 3 June 1948.

Lampropeltis mexicana blairi: Gehlbach and Baker, 1962:298. First use of combination.

• DEFINITION. Primary red and black dorsal markings at midbody are saddles and number 13-14 (mean 14); ventral scales are 208-229 (mean 222), and dorsal scale rows at midbody are 25-27 (mode 25).

• REMARKS. Intergrades are discussed above. Some individuals have very dark gray body markings and a dark head. In these the head pattern may be indistinct or lacking in life but can be discerned in preservative.

COMMENTS

Because the gray-banded kingsnake is so secretive, its biology is poorly known. No specimens have been collected from the southeastern part of the range in Mexico in the past 45 years. Eventually the species should be found in New Mexico (Guadalupe Mountains) and Chihuahua, Mexico. Recently it was collected in Zacatecas, Mexico (H. Dundee, *in litt.*).

The subspecies *alterna* and *thayeri* occur in close proximity near Galeana, Nuevo Leon, Mexico, without intergrading. *L. m. alterna* also occurs with *blairi* in Terrell and Val Verde counties, Texas, without evidence of intergradation (Gehlbach, Raun, unpubl.). However, intermediate specimens are known from counties immediately to the north and west of this area. While the present assumed instances of intergradation could represent local hybridization, the virtual meristic identity of *alterna* and *blairi*, their very different color-patterns, and their geographic relationships suggest that *alterna* and *blairi* are color-pattern polymorphs of a single geographic race.

The common name Gray-banded kingsnake was first used by Gehlbach and McCoy (1965) and describes a salient and unique feature of the species, present in all subspecies. The common names Mexican kingsnake and Thayer's kingsnake are proposed here for the first time.

LITERATURE CITED

- Axtell, Ralph W. 1951. An additional specimen of *Lampropeltis blairi* from Texas. *Copeia* 1951 (4): 313, pl. 1.
- Blanchard, Frank N. 1920. A synopsis of the kingsnakes: Genus *Lampropeltis* Fitzinger. *Occ. Papers Mus. Zool. Univ. Michigan* 87: 1-7, table.
- 1921. A revision of the kingsnakes, genus *Lampropeltis*. *Bull. U. S. Natl. Mus.* 114: vi + 260.
- Brown, Arthur Erwin. 1901 [1902]. A new species of *Ophibolus* from western Texas. *Proc. Acad. Nat. Sci. Philadelphia* 53: 612-613, pl. 34.
- Conant, Roger. 1957. Arthur Erwin Brown "Custodian of the Garden" and naturalist of note. *America's First Zoo, Philadelphia Zool. Garden* 9: 1-3.
- Dugés, Alfred. 1897. Description d'un Ophidien nouveau du Mexique (*Oreophis boulengeri*, g. et. sp. nn.). *Proc. Zool. Soc. London* 1897: 284-285.
- Dunn, Emmett R. 1922. Note on *Lampropeltis mexicana* (Garman). *Proc. Biol. Soc. Washington* 35: 226.
- Flury, Alvin. 1950. A new kingsnake from Trans-Pecos Texas. *Copeia* 1950 (3): 215-217.
- Garman, Samuel. 1884. The reptiles and batrachians of North America, Part I, Ophidia. *Mem. Mus. Comp. Zool.* 8: xxxi-185.
- Gehlbach, Frederick R., and James K. Baker. 1962. Kingsnakes allied with *Lampropeltis mexicana*: Taxonomy and natural history. *Copeia* 1962 (2): 291-300.
- and Clarence J. McCoy Jr. 1965. Additional observations on variation and distribution of the gray-banded kingsnake, *Lampropeltis mexicana* (Garman). *Herpetologica* 21 (1): 35-38.
- Günther, Albert C. 1893. *Biologia Centrali-Americana: Reptilia and Batrachia*. 1885-1902: xx + 326.
- Jameson, David L., and Alvin G. Flury. 1949. The reptiles and amphibians of the Sierra Vieja Range of southwestern Texas. *Texas J. Sci.* 1 (2): 54-77.
- Liner, Ernest A. 1964. Notes on four small herpetological collections from Mexico. I. Introduction, turtles and snakes. *Southwestern Nat.* 8 (4): 221-227.
- Loveridge, Arthur. 1924. A new snake of the genus *Lampropeltis*. *Occ. Papers Boston Soc. Nat. Hist.* 5: 137-139.
- Mecham, John S., and William W. Milstead. 1949. *Lampropeltis alterna* from Pecos County, Texas. *Herpetologica* 5 (6): 140.
- Murray, Leo T. 1939. Annotated list of amphibians and reptiles from the Chisos Mountains. *Contr. Baylor Mus.* 24: 4-16.
- Schmidt, Karl P., and D. W. Owens. 1944. Amphibians and reptiles of northern Coahuila, Mexico. *Zool. Ser. Field Mus. Nat. Hist.* 26 (6): 97-115.
- Scudday, James F. 1965. Another *Lampropeltis alterna* in Brewster County, Texas. *Southwestern Nat.* 10 (1): 77-78.
- Smith, Hobart M. 1941. *Lampropeltis alterna* from Mexico. *Copeia* 1941 (2): 112.
- 1942. Remarks on the Mexican kingsnakes of the *triangulum* group. *Proc. Rochester Acad. Sci.* 8: 197-207.
- 1944. Snakes of the Hoogstraal Expeditions to northern Mexico. *Zool. Ser. Field Mus. Nat. Hist.* 29 (8): 135-152.
- , and Walter L. Necker. 1943. Alfredo Dugés types of Mexican reptiles and amphibians. *An. Esc. Nac. Cien. Biol.* 3: 179-219, pls. i-vii.
- Stejneger, Leonhard, and Thomas Barbour. 1917. A checklist of North American amphibians and reptiles. Harvard Univ. Press, Cambridge, Massachusetts, iv-125.
- Webb, Robert G. 1961. A new kingsnake from Mexico with remarks on the *mexicana* group of the genus *Lampropeltis*. *Copeia* 1961 (3): 326-333.
- Wright, Albert Hazen, and Anna Allen Wright. 1957. *Handbook of snakes of the United States and Canada*. Comstock Publ. Assoc., Ithaca, New York, 2 vols., xxvii + 1105.

FREDERICK R. GEHLBACH, BAYLOR UNIVERSITY, WACO, TEXAS 76703.

Published 20 November 1967 by the American Society of Ichthyologists and Herpetologists. Publication is supported by National Science Foundation grant G24231.

Primary editor for this account, Herndon G. Dowling.