

REPTILIA: SQUAMATA: SERPENTES: COLUBRIDAE LAMPROPELTIS CALLIGASTER

Catalogue of American Amphibians and Reptiles.

BLANEY, RICHARD M. 1979. *Lampropeltis calligaster*.

***Lampropeltis calligaster* (Harlan)
Prairie kingsnake**

Coluber calligaster Harlan, 1827:359. Type-locality, "Missouri," restricted to "vicinity of St. Louis" by Schmidt (1953). No holotype designated.

• CONTENT. Two subspecies are recognized: *calligaster* and *rhombomaculata*.

• DEFINITION. This is a moderately large-sized (to 1360 mm) species of *Lampropeltis* with a tail 10.1 to 15.0% of total length in males, 10.0 to 14.5% in females. A loreal is present, the temporals usually number 2 + 3, the oculars 1 + 2, the supralabials 7, and the infralabials 8, 9, or 10. The dorsal scales are in 21 to 27 rows at midbody, reducing to 21, 19, or sometimes 17 (especially in eastern males) anterior to the vent. Ventrals range from 193 to 215 in males, 191 to 215 in females; subcaudals from 37 to 57 in males, 31 to 52 in females. There are 12 to 15 maxillary teeth, and 12 to 16 dentary teeth, 9 to 11 palatine teeth, and 12 to 19 pterygoid teeth. The hemipenis is slightly and unsymmetrically bilobed. Diploid chromosomes number 36. The color pattern normally consists of 40 to 64 dark-edged brown, reddish-brown, red, or greenish-yellow dorsal blotches on a ground color of light to dark brown, gray or green. The sides are occasionally lighter, sometimes yellowish-brown, with a series of smaller blotches. The pattern in adults often becomes obscured by overall darkening of the ground color and, especially in the western portion of the range, development of four dark longitudinal stripes. The venter is uniformly white or yellow, blotched, spotted, or suffused with brown pigment.

• DESCRIPTIONS. Blanchard (1921) provided details of scalation, proportion, dentition, hemipenes, and color patterns for both subspecies. Regional studies by Collins (1974) and P. W. Smith (1961) described *L. c. calligaster* in Kansas and Illinois, respectively, and Mount (1975) provided variation data for *L. c. rhombomaculata* in Alabama.

• ILLUSTRATIONS. Drawings of dorsal patterns and hemipenis are provided by Blanchard (1921), and another hemipenis illustration is in Dowling and Savage (1960). Colored plates of both forms are found in Conant (1975), and photographs of adult *L. c. calligaster* appear in P. W. Smith (1961), H. M. Smith (1956), and Collins (1974). Anderson (1965) published a photograph of a juvenile *L. c. calligaster*. Photographs of an adult *L. c. rhombomaculata* appear in Huheey and Stupka (1967), and an adult and juvenile appear in Mount (1975).

• DISTRIBUTION. Extreme southeastern Nebraska, southern Iowa, Illinois, and extreme western Indiana southward to Texas and eastward to the Atlantic coast from Maryland and Virginia to northern Florida.

• FOSSIL RECORD. Vertebrae of this species have been reported from the Pleistocene of Meade County, Kansas (Brattstrom, 1967), Llano County, Texas (Holman, 1966), and there is a questionable record from Newton County, Arkansas (Dowling, 1958).

• PERTINENT LITERATURE. The only published comprehensive treatment of this species was by Blanchard (1921) who treated *calligaster* and *rhombomaculata* as distinct species because of the lack of intermediates, although he indicated the probability of the two forms being conspecific. Cook (1945) provided evidence for considering *calligaster* and *rhombomaculata* conspecific. Relationship of this species with *L. getulus* was discussed by Blaney (1977). Vertebrae were described by Holman (1963). Aberrant color patterns were described by Collins (1960) and Ashton (1973). Shoop (1957) described the eggs and young of *L. c. calligaster*, Clarke (1954) described the egg laying process, and Miller (1962) reported a record-sized clutch of 18 eggs for that subspecies. Fitch (1958) described the home range, territory, and seasonal movement of *L. c. calligaster* and (1979) described various aspects of the species' ecology. Stickel and Cope (1947) discussed home range and wanderings of *L. c. rhombomaculata*. Lockwood

(1954), Hamilton and Pollack (1956), Kern (1956), and Klimstra (1959) discussed food habits. Baird (1960) described the inner ear of *L. calligaster*. The relative size of the adrenal gland was discussed by H. M. Smith and White (1955). Minton and Salanitro (1972) included *L. calligaster* in a serological analysis of colubrid snakes and Baker, Mengden and Bull (1972) included it in a survey of the karyotypes of North American snakes.

• ETYMOLOGY. The specific name *calligaster* is derived from the Greek words *kallos*, beauty, and *gaster*, belly. The subspecific name *rhombomaculata* is from the Greek *rhombos*, referring to the geometric figure, a rhomb, and the Latin adjective *maculata*, spotted.

**1. *Lampropeltis calligaster calligaster*
(Harlan)
Prairie kingsnake**

Coluber calligaster Harlan, 1827:359. See species account.

Coluber eximus (part): Holbrook, 1842:69. Considered *calligaster* a synonym of *eximus* (= *Lampropeltis triangulum*).

Ablabes triangulum, var. *calligaster*: Hallowell, 1856:244.

Ophibolus evansii Kennicott, 1859:99. Type-locality, "Central Illinois." Three syntypes, U.S. Nat. Mus. 1593, an adult male, an adult and a juvenile female, collected by R. Kennicott, "1855" (not seen by author).

Lampropeltis calligaster: Cope, 1860:255.

Coronella evansii: Jan, 1863:237.

Ophibolus calligaster: Cope, 1875:37.

Ophibolus triangulus calligaster: Garman, 1883:155.

Coronella calligaster: Boulenger, 1894:198.

Lampropeltis calligaster calligaster: Cook, 1945:48.

• DEFINITION. A subspecies of *Lampropeltis calligaster* characterized by having dorsal blotches with concave anterior and posterior margins, 25 or 27 dorsal scale rows at midbody, and 9 or 10 (rarely 8) infralabials.

**2. *Lampropeltis calligaster rhombomaculata*
(Holbrook)
Mole snake**

Coluber rhombomaculatus Holbrook, 1840:103. Type-locality, "Georgia and Alabama," restricted to "vicinity of Atlanta" by Schmidt (1953). No holotype designated.

Coronella rhombo-maculata: Holbrook, 1842:103.

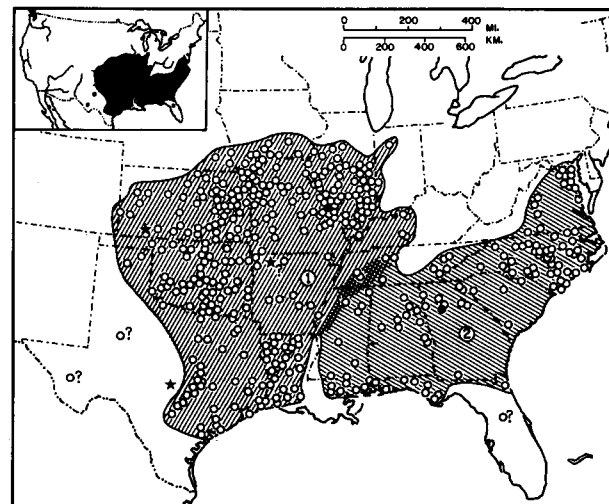
Ophibolus rhombomaculatus: Baird and Girard, 1853:86.

Lampropeltis rhombomaculata: Cope, 1860:255.

Ophibolus triangulus rhombomaculatus: Garman, 1883:156.

Lampropeltis rhombomaculatus: Garman, 1892:9.

Lampropeltis calligaster rhombomaculata: Cook, 1945:48.



MAP. Solid circles mark type-localities, open circles indicate other locality records. Stars locate Pleistocene fossil sites. Overlapping shading patterns mark an area of intergradation.

• DEFINITION. A subspecies of *Lampropeltis calligaster* characterized by having dorsal blotches with straight or convex anterior and posterior margins, 21 or 23 dorsal scale rows at mid-body, and 8 (rarely 9) infralabials.

COMMENT

Smith and Sanders (1952) claimed that at least two geographic races of *Lampropeltis calligaster* may be recognized in Texas on the basis of the number and spacing of blotches. Since pattern variation over the entire range of the species is poorly known, recognition of any new subspecies seems unwarranted. Blanchard's (1921) study of geographic variation in *L. calligaster* was based on only 266 specimens from the entire range. Other studies of this species have been regional in nature and indicate the need for a complete analysis of geographic variation.

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