

Catalogue of American Amphibians and Reptiles.

MEDICA, PHILIP A. 1975. *Rhinocheilus*.

***Rhinocheilus* Baird and Girard**
Long-nosed snake

Rhinocheilus Baird and Girard, 1853:120. Type-species, *Rhinocheilus lecontei* Baird and Girard, 1853, by monotypy.

• CONTENT. A single monotypic species, *Rhinocheilus lecontei* is recognized.

• DEFINITION. *Rhinocheilus* is a colubrid snake genus (Underwood, 1967) with 23-23-19 dorsal scale rows, 8 supralabials, 9 infralabials, 2 + 3 temporals, 1 loreal, 190-218 caudals in males and 181-213 in females. Subcaudals are mostly entire and number 48-61 in males and 41-54 in females. The sexual dimorphism that exists, with males having more ventrals than females, is a condition opposite that exhibited in most colubrids. Anal plate is entire. Maxillary teeth number 13-19. The rostral is prominent and sharp and protrudes beyond the lower jaw. The hemipenis is single, rounded and only slightly forked. The proximal half of the shaft bears many tiny spines. Above the smooth distal half there is a spinous distal half with fairly large recurved spines. The largest spines are near the proximal edge of the spinous section; distally the spines gradually change into calyces and the bilobed section is mainly calyculate. The calyces are fringed with small spines. The calyces terminate abruptly, forming a border of an irregular smooth area at the end, which is wider on the secondary lobe than on the larger lobe on which the sulcus terminates.

Body blotches vary from 14 to 48, the black saddles extend laterally to the edge of the ventrals. The blotches vary from V-shaped to almost equidistant bands around the dorsal and lateral surfaces. Centers of the blotches contain lighter cream centered scales and sometimes contain red pigmentation. Size of the blotches range from one and one-half to four times the interspaces at midbody. Interspaces contain cream or white colored scales with red to pink centers and sometimes black; occasional specimens contain no red pigmentation. The venter ranges from immaculate cream or white scales to being heavily pigmented with black. See species account.

• DESCRIPTIONS, ILLUSTRATIONS, DISTRIBUTION, FOSSIL RECORD, PERTINENT LITERATURE. See species account.

• ETYMOLOGY. *Rhinocheilus* is derived from Greek (*rhin* or *rhino*, meaning nose, and *cheil* or *cheilo*, meaning lip). The gender is masculine.

***Rhinocheilus lecontei* Baird and Girard**
Long-nosed snake

Rhinocheilus lecontei Baird and Girard, 1853:120. Type-locality, "San Diego," California. Holotype, Museum Comparative Zoology (Harvard University) 137, young adult male, collected by John L. LeConte, no date given (not examined by author).

• CONTENT. Three subspecies are recognized: *antonii*, *lecontei*, and *tessellatus*.

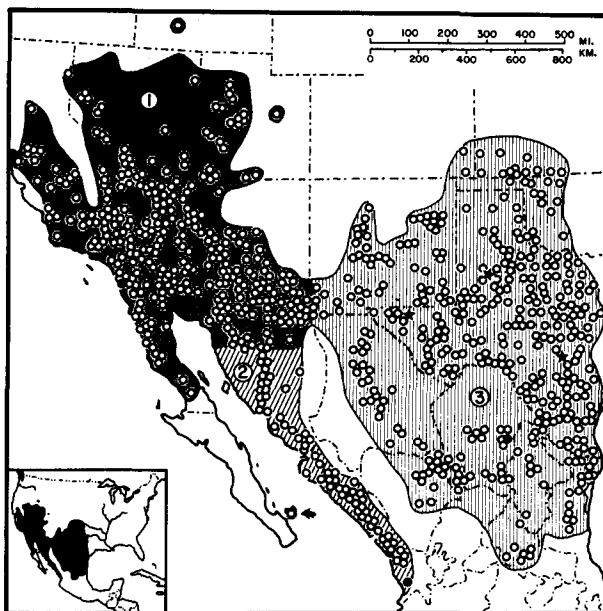
• DEFINITION. See generic definition.

• DESCRIPTIONS. The subspecies were described in Klauber's (1941) generic revision. Additional descriptions for *Rhinocheilus lecontei lecontei* are as follows: Baird and Girard (1853), Cope (1900), Van Denburgh (1922), Klauber (1932), Ditmars (1936), Tanner (1941b), Klauber (1941), Smith and Taylor (1945), Hill (1948), Woodin (1953), Stebbins (1954), Wright and Wright (1957), Shannon and Humphrey (1963), Miller and Stebbins (1964), Fowlie (1965), Stebbins (1966), and Dixon (1967). Descriptions of *Rhinocheilus lecontei tessellatus* appear in the following: Garman (1883), Cope (1900), Klauber (1941), Smith and Taylor (1945), Stebbins (1954), Smith (1956), Wright and Wright (1957), Conant (1975), Tanner and Robison (1960), Stebbins (1966), Cochran and Goin (1970), Collins (1974), and Hendricks (1974). Descriptions of *Rhinocheilus lecontei antonii* appear in the following: Dugès (1886, 1888), Cope (1900), Klauber (1941), Smith and Necker (1943), Bogert and Oliver

(1945), Hardy and McDiarmid (1969), and Fulger and Dixon (1961).

• ILLUSTRATIONS. Colored photographs and/or drawings of *R. l. lecontei* are figured in Schmidt and Inger (1957), Stebbins (1966, 1971) and a close up of the skin appears in Vogel (1953). Black and white photographs and/or drawings of *R. l. lecontei* are figured in Baird (1859a,b), Cope (1900), Van Denburgh (1922), Ditmars (1936), Schmidt and Davis (1941), Klauber (1941), Pickwell (1947), Johnson, Bryant and Miller (1948), Stebbins (1954), Wright and Wright (1957), Shannon and Humphrey (1963), Miller and Stebbins (1964), Fowlie (1965), and Dixon (1967). Colored plates of *R. l. tessellatus* appear in Conant (1975), and Cochran and Goin (1970). Black and white photographs and/or drawings of *R. l. tessellatus* are figured in Branson (1904), Smith (1956), Wright and Wright (1957), McCoy (1962), Liner (1964), McCoy and Gehlbach (1967), and Collins (1974). Black and white photographs and/or drawings of *R. l. antonii* appear in Dugès (1886), Cope (1900), Smith and Necker (1943), and Bogert and Oliver (1945).

• DISTRIBUTION. *Rhinocheilus lecontei* occurs in habitats ranging from the hot and dry Chihuahuan, Sonoran and Mohave deserts and the colder Great Basin desert to the tropical habitats in Mexico as far south as Jalisco, Tamaulipas, and San Luis Potosí. The range is comprised of three major sections. One section encompasses much of Texas (west of the 97th meridian), the western half of Oklahoma, the southwestern portion of Kansas, and New México, except, for the northwestern third of the state. This section of the range also extends southward into Mexico along the eastern side of the Sierra Madre Occidental from Chihuahua and Durango through Coahuila, Nuevo León, Tamaulipas, and San Luis Potosí. A section joins the first around the border between Arizona and New Mexico and then extends northwestward through Arizona (excepting the area north of the Mogollon Rim), the western half of Utah, most of Nevada, and the southern two-thirds of California. The range extends southward into most of Baja California del Norte. The third section extends southward along the western side of the Sierra Madre Occidental from Sonora through Sinaloa and Nayarit to Jalisco (exact locality unknown). Several disjunct populations exist, one in Elmore County, Idaho, another in Carbon County, Utah, and a third in Baja California del sur (based on a single specimen from Cerralvo Island near the tip of the peninsula). Most likely this species will be found to inhabit all of Baja California, but presently the southernmost peninsular locality is Mission San Borja.



MAP. Solid symbols mark type localities, hollow symbols mark other known localities, and stars indicate fossil localities. Areas of intergradation are shown by the overlap of stippling.

• **FOSSIL RECORD.** All known fossils are from Pleistocene and Recent deposits in Texas. Two vertebrae from a cave in Lubbock County (Holman, 1969), eight middle precaudal vertebrae from Kendall County (Hill, 1971), and three precaudal vertebrae from Culberson County (Gehlbach and Holman, 1974) constitute the known fossil records.

• **PERTINENT LITERATURE.** The most recent taxonomic work is that of Klauber (1941). The literature on various aspects of the biology of this snake is widely scattered. Habitat descriptions are given in Strecker (1902), Brown (1903), Bailey (1905), Strecker (1909), Bailey (1913), Strecker (1922, 1929a,b, 1930), Klauber (1931), Burt (1935), Klauber (1939, 1941), Tanner (1941a), Fautin (1946), Blair (1950), Lewis (1950), Milstead, Mecham and McClintock (1950), Stebbins (1954), Smith (1956), Wright and Wright (1957), McCoy (1962), Tanner and Jorgensen (1963), Turner and Wauer (1963), Tanner and Robison (1960), Miller and Stebbins (1964), Banta (1965), Fowlie (1965), Soule and Sloan (1966), Stebbins (1966), Brown and Brown (1967), Hardy and McDiarmid (1969), Webb (1970), Lowe (1972), Collins (1974), and Grogan and Tanner (1974). Elevational records range from sea level to 5,600 ft., as given in Bailey (1913), Atsatt (1913), Van Denburgh (1922), Klauber (1931), Woodbury and Smart (1950), Taylor (1953), Wright and Wright (1957), Webb and Hensley (1959), Loomis and Stephens (1962), Turner and Wauer (1963), Stebbins (1966), Gehlbach (1966), Hardy and McDiarmid (1969), and Nickerson and Mays (1970).

Reproductive information is found in Conant and Downs (1940), Klauber (1941, 1943), Johnson, Bryant and Miller (1948), Woodin (1953), Stebbins (1954), Smith (1956), Wright and Wright (1957), Shannon and Humphrey (1963), Lardie (1965), Dixon (1967), and Collins (1974). Data pertaining to activity are cited in Van Denburgh (1912), Van Denburgh and Slevin (1913, 1921), Klauber (1939), Tanner (1940), Klauber (1941), Woodbury and Smart (1950), Brattstrom (1952), Stebbins (1954), Wright and Wright (1957), Conant (1975), Stebbins (1966), and Dixon (1967). Food habits are discussed in Ditmars (1936), Ruthling (1915), Grinnell and Camp (1917), Klauber (1934, 1941), Fitch (1949), Stebbins (1954), Fouquette and Lindsay (1955), Conant (1975), Tinkle, McGregor and Dana (1963), Lardie (1965), McKinney and Ballinger (1966), Stebbins (1966), and Collins (1974). Aspects of behavior have been described by Klauber (1941), McCoy and Branculli (1966), McCoy and Gehlbach (1967), Gehlbach (1972), and Lowe (1972). Body temperatures are discussed in Brattstrom (1965), and Cunningham (1966). Shaw (1969) recorded longevity of 18 years, 3 months. Vision is discussed by Walls (1934). Maxillary teeth are described by Boulenger (1894), and Bogert and Oliver (1945). Hemipenes have been described by Cope (1900), and Klauber (1941). Various aspects of sexual dimorphism, scutellation and polymorphism are documented in Tanner (1941b), Klauber (1941), Smith (1942), Klauber (1943), Fox (1948), Shannon and Humphrey (1963), Clark (1966), and Nickerson (1970). Information pertaining to electrophoresis has been discussed by Pearson (1966) and Dessauer (1967), phylogeny by Cope (1895), Bailey (1967), and Underwood (1967), and chromosomes and karyotypes by Bury, Gress and Gorman (1970), and Trinco and Smith (1971).

• **ETYMOLOGY.** The names *lecontei* and *antonii* are patronyms honoring, respectively, John L. LeConte and Antonine L. Dels Dugès. The name *tessellatus* is derived from the Latin word *tessela*, meaning "a small cube of stone," in reference to the mosaic or checkered appearance of the dorsal pattern.

1. *Rhinocheilus lecontei lecontei* Baird and Girard. Western long-nosed snake

Rhinocheilus lecontei Baird and Girard, 1853:120. See species account.

Rhinocheilus lecontei lecontei: Klauber, 1941:296.

Rhinocheilus lecontei clarus Klauber, 1941:308. Type-locality, "Borego Valley, 2 miles north of The Narrows, San Diego County, California." Holotype, San Diego Society Natural History (L. M. Klauber) 31440, adult male, collected by Richard Neil, 7 May 1939 (not examined by author).

Rhinocheilus antonii clarus: Smith, 1942:203.

• **DEFINITION.** There are two color morphs in this subspecies. In one there are black body bands (16-27), with white scales and with or without red centers, on the lateral surfaces that are separated by narrow white interspaces, which may or may not

have red centered scales. The venter is usually white, although occasional specimens have some black pigmentation. At midbody the interspaces are about one-half the size of the body blotches. This morph was formerly associated with the subspecies name *clarus*. The other morph has 20-48 black body blotches on a cream or yellowish background. These blotches taper to a V-shape laterally and contain cream centered scales. The interspaces are suffused with red dorsally, although laterally they contain numerous black-centered scales, which give the appearance of secondary blotches. At midbody the interspaces are approximately two-thirds the size of the body blotches. The venter is normally cream or yellow, although the black tips of the primary and secondary blotches may reach the edge of the caudals.

• **REMARKS.** The suppression of the nominal subspecies *clarus* is based upon Shannon and Humphrey (1963) who obtained both *lecontei* and *clarus* morphs from a single clutch of eggs. Klauber (1941) had originally described the *clarus* morph from a series of 78 specimens from California, Nevada and Arizona. Klauber reported that in eastern San Diego County and central Riverside County, California, the population is pure *clarus*, whereas in other areas the *lecontei* morph is exclusive or at least predominates. In a series of 50 *Rhinocheilus* from southern Nye County, Nevada I have found the ratio of *clarus* to *lecontei* morphs to be 1:1, and among 31 specimens collected by L. J. Vitt, A. Hulse, J. Platz and J. Congdon from Painted Rock Dam in western Maricopa County, Arizona the ratio was 1.6:1. Smith (1942) rejected Klauber's (1941) treatment of *clarus* and *antonii* as subspecies of *lecontei*, regarding *antonii* (with *clarus* as a subspecies) as a species that occasionally hybridizes with *lecontei*.

2. *Rhinocheilus lecontei antonii* Dugès. Mexican long-nosed snake

Rhinocheilus antonii Dugès, 1886:290. Type-locality, San Blas near Mazatlan, Sinaloa, México (probably San Blas, Nayarit, Mexico). Holotype in the Museo Alfredo Dugès, Guanajuato, México, juvenile female, collector unknown (not examined by author).

Rhinocheilus lecontei antonii: Klauber, 1941:314.

Rhinocheilus antonii antonii: Smith, 1942:203.

• **DEFINITION.** A subspecies with usually 20 or fewer large black body blotches, with white centered scales on the lateral surface. The bands are separated by narrow red and white interspaces, which generally have more red dorsally and more white laterally. The venter is white mottled with black, with the edges of the primary blotches extending laterally to the edges of the caudals. At midbody the interspaces are normally one-third the length of the body blotches.

• **REMARKS.** This subspecies may intergrade with *R. l. tessellatus* in Northeastern Sonora, although few specimens exist from this area.

3. *Rhinocheilus lecontei tessellatus* Garman. Eastern long-nosed snake

Rhinocheilus lecontei: Baird, 1859:21.

Rhinocheilus lecontei var. *tessellatus* Garman, 1883:74. Type-locality, Monclova, Coahuila, Mexico. Holotype, Museum Comparative Zoology (Harvard University) 4577, young female, collected by Edward Palmer, 1880 (not examined by author).

Rhinocheilus tessellatus: Garman, 1887:10.

Rhinocheilus lecontei tessellatus: Klauber, 1941:302-308.

• **DEFINITION.** A subspecies with 18-35 black body blotches on a cream or yellowish background. The saddles taper to a V-shape laterally and contain cream-centered scales. Laterally the interspaces contain numerous black centered scales which also give the appearance of secondary blotches. At midbody the dark saddles are two-thirds the length of the interspaces. The dorsal interspaces are red-colored as are, to a lesser degree, the lateral surfaces. The venter is cream or yellowish and generally immaculate save for the extension of the edges of the saddles and secondary blotches on to the ventrals.

• **REMARKS.** No known areas of intergradation with *R. l. antonii* exist across the southern end of its distribution through the Sierra Madre Occidental in Durango (Webb, pers. comm.).

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