

**ARIZONA GAME AND FISH DEPARTMENT  
HERITAGE DATA MANAGEMENT SYSTEM**

**Animal Abstract**

**Element Code:** ARADB19040

**Data Sensitivity:** YES

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Lampropeltis pyromelana*  
**COMMON NAME:** Sonoran Mountain Kingsnake, Pyro Mountain Kingsnake, Arizona Mountain Kingsnake, Culebra-real Sonorensis  
**SYNONYMS:** *Lampropeltis pyromelana pyromelana*, *Lampropeltis pyromelana infralabialis*, *Ophibolus pyromelanus*  
**FAMILY:** Serpentes:Colubridae

**AUTHOR, PUBLICATION:** Cope (1866)

**TYPE LOCALITY:** Prescott, NE of Fort Whipple, Yavapai Co., AZ.

**TYPE SPECIMEN:** USNM 7845, syntype.

**TAXONOMIC UNIQUENESS:** There are twenty-one species within this genus, five of which occur in Arizona. Recent studies indicate only two subspecies may be valid, though three or four have been historically recognized (Burbrink et al. 2011, Liner 1994, Crother 2000). All subspecies occur in Arizona. (ITIS 2022; Holycross and Mitchell 2020).

**DESCRIPTION:** This species is long and slender, with a wider head in proportion to the neck and round pupils (Holycross and Mitchell 2020). Estimated averages of snout-vent length (SVL) for males is 455-880 mm (17.91-34.64 in) and 490-790 mm (19.29-31.10 in) for females (Holycross and Mitchell 2020). One study measured a range of 195-880 mm SVL (7.67-34.64 in) irrespective of sex (Bowker 1994). Tail length (TL) of males averaged .20-.24% of SVL and .18-.20% of SVL in females (Holycross and Mitchell 2020). This species is vibrant, with a brilliant tricolor pattern that displays red bands with flanking black edges lengthwise dorsally (Holycross and Mitchell 2020). This pattern is known as a “triad,” and between each triad is a strip of white to cream coloration (Holycross and Mitchell 2020). These black markings widen mid-dorsally and appear to connect, but are laterally thin elsewhere (Holycross and Mitchell 2020). There is geographical variation in the number of white body bars present (Woodin 1956). The head and snout are light-colored, usually white, cream, or light gray, and a large, pronounced black head cap is also present (Holycross and Mitchell 2020). Ventrally, this species varies from mostly red, with disrupted and irregularly shaped patterning, to solid black (Woodin 1956; Nickerson and Mays 1970). Scales are smooth and shiny, and come in rows of 23-25 at mid-body, 21-25 anteriorly, and 17-19 before the vent (Holycross and Mitchell 2020). The number of ventral scales also varies geographically, but range from 198-234 (Woodin 1956).

**AIDS TO IDENTIFICATION:** Distinguishing between *L. pyromelana* and *L. knoblochi* is almost impossible, but achievable through use of molecular markers and knowledge of their ranges; *L. knoblochi* occurs on the sky islands in the southeastern portion of the state (Holycross and Mitchell 2020). *L. triangulum* also appears similar to *L. pyromelana*, but has a black snout, less than 210 ventral scales, and less than 45 white bands (Degenhardt et al 1996). *R. leonti* has similarly colored banding patterns, but the black markings are dotted with yellow or white and appears speckled (Holycross and Mitchell 2020). The subcaudal scales are not divided, unlike *L. pyromelana* (Holycross and Mitchell 2020).

**ILLUSTRATIONS:** Color drawing (Stebbins 1966: plate 31)  
Color photo (Behler and King 1979: plate 598)

**TOTAL RANGE:** This species is found throughout much of the western United States from “west-central New Mexico through much of east-central and northern Arizona, north to north-central Utah, and in extreme eastern Nevada” (Tanner 1929; Price and Johnson 1978; Tanner 1983; Bezy and Cole 2014).

**RANGE WITHIN ARIZONA:** This species occurs in Mojave, Yavapai, Coconino, Maricopa, Gila, Navajo, Apache and Greenlee counties. Reports of this species have come from the Arizona strip, Colorado Plateau, and Arizona Transition Zone (Holycross and Mitchell 2020). Specimens have been collected from the Black Rock Mountains, Mount Trumbull, Poverty Mountain, Kaibab plateau, and the Cerbat and Hualapai mountains (Holycross and Mitchell 2020). It is speculated that this species could also occur in Pinaleno, Rincon, Santa Catalina, Gailuro, Santa Teresa, Whitlock, and Winchester mountains, but distinguishing it from *L. knoblochi* makes identification difficult (Burbrink et al. 2011; Holycross and Mitchell 2020).

## **SPECIES BIOLOGY AND POPULATION TRENDS**

**BIOLOGY:** This species is not encountered frequently, it is semi-fossorial, secretive, and primarily diurnal (Holycross and Mitchell 2020; Woodin 1956; Bowker 1994). It is most active during spring and fall, but also found during the summer monsoons (Holycross and Mitchell 2020). This species is mostly terrestrial, but has been documented to climb trees or shrubs, presumably in search of prey (Holycross and Mitchell 2020). Potential predators include raptors, owls, roadrunners, other snakes (including *L. californicae*, *L. splendida*, *Masticophis bilineatus* and *M. flagellum*), and mammals (foxes, badgers, skunks, coyotes) (Holycross and Mitchell 2020). It is also assumed that this species is host to numerous parasites including protozoans, flukes, tapeworms, roundworms, ticks, and mites (Holycross and Mitchell 2020). When threatened, this species exhibits many defensive tactics such as biting, writhing, musking, and defecation (Holycross and Mitchell 2020). It is possible that this species hybridizes with *L. Triangulum* in nature (Holycross and Mitchell 2020). This

species has been documented to live more than 22 years in captivity (Snider and Bowler 1992).

**REPRODUCTION:** Oviparous. Spermatogenesis occurs in late summer and fall, mating occurs in spring and early summer, and hatching occurs in late summer to early fall. (Goldberg 1997). There is evidence that males store sperm overwinter for spring mating (Holycross and Mitchell 2020). Clutch sizes range from 3-5 eggs (Holycross and Mitchell 2020; Tanner and Cox 1981). Offspring range in size from 195-270 mm SVL (7.75-10.62 in) (Bowker 1994).

**FOOD HABITS:** The primary diet of this species consists of lizards and small mammals. (Holycross and Mitchell 2020). Other snakes are occasionally consumed, and it is possible this species may occasionally eat birds (Holycross and Mitchell 2020). Large prey items are killed by constriction prior to consumption, while small prey may be consumed alive (Holycross and Mitchell 2020).

**HABITAT:** This species prefers forests and canyons in mountain habitats (Holycross and Mitchell 2020). It is most often found in rocky habitats with thick canopy cover and dense leaf litter (Holycross and Mitchell 2020). Holycross and Mitchell note it is “usually associated with areas that provide refugia, such as mesic canyon bottoms with an abundance of rocks, logs, and leaf litter” (2020).

**ELEVATION:** In Arizona, from 681-2540 m (2234-8333 ft), but is most abundant at 1829-2286 m (6000-7500 ft) (Holycross and Mitchell 2020; Woodin 1956).

**PLANT COMMUNITY:** This species is associated with Rocky Mountain Montane Conifer Forests, Great Basin Conifer Woodlands, Interior Chaparrals, Ponderosa Pine Forests, and Broadleaf Riparian Habitats (Holycross and Mitchell 2020; Jones 1988a). Less frequently it can be found in open grasslands or scrub habitats adjacent to montane forests (Holycross and Mitchell 2020).

**POPULATION TRENDS:** Appears to be stable, although some populations are vulnerable due to isolation (Holycross and Mitchell 2020)

## **SPECIES PROTECTION AND CONSERVATION**

<b>ENDANGERED SPECIES ACT STATUS:</b>	None
<b>STATE STATUS:</b>	None
<b>OTHER STATUS:</b>	A, Listed Threatened (Secretaría de Medio Ambiente 2018, 2000)

**MANAGEMENT FACTORS:** Climate change and wildfires threaten this species habitats (Holycross and Mitchell 2020). The illegal pet trade is a significant threat to this species (Holycross and Mitchell 2020).

**PROTECTIVE MEASURES TAKEN:** Collection regulated.

**SUGGESTED PROJECTS:** Distribution, habitat, population and life history studies.

**LAND MANAGEMENT/OWNERSHIP:** USFS- Coconino National Forest, Prescott National Forest, Tonto National Forest, Apache-Sitgreaves National Forest, Coronado National Forest; BLM- Tucson Field Office, Lower Sonoran Field Office, Arizona Strip Field Office, BIA- Tohono Indian Reservation; ASLD- State Trust Land; Private

## **SOURCES OF FURTHER INFORMATION**

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**ADDITIONAL INFORMATION:**

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