

ARIZONA GAME AND FISH DEPARTMENT  
HERITAGE DATA MANAGEMENT SYSTEM

Animal Abstract

Element Code: ARADB05021Data Sensitivity: No**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE****NAME:** *Chionactis palarostris organica***COMMON NAME:** Organ Pipe Shovel-nosed Snake**SYNONYMS:****FAMILY:** Serpentes:Colubridae**AUTHOR/PLACE, PUBLICATION:** L.M. Klauber. 1937. San Diego Natural History Museum reports publication as Klauber (1951), Trans. San Diego Nat. Hist. 11(9):141-204.**TYPE LOCALITY:** Five miles south of Magdalena, Sonora, Mexico.**TYPE SPECIMEN:** Holotype: SDSNH 40673 (No. 26771, in L.M. Klauber collection).  
Collected by George Lindsay in April, 1937.**TAXONOMIC UNIQUENESS:** Two species in genus, and two subspecies in *C. palarostris*.  
Only *C. p. organica* occurs in the U.S.**DESCRIPTION:** A relatively small snake with total lengths of 10-17 inches (25-43 cm). Behler and King (1979) reported lengths of 10-15.5 inches (25-39 cm). Snout is yellow and slightly convex in profile, with an overhanging lower jaw; snout is flatter than most other snakes. Pupil small and round. Dorsal scales are smooth and in 15 rows; anal plate is divided. Ventral scales number 140-160, while cuadals number 42-48 and are in two rows (Fowlie 1965). Back of head is black. Ground color is cream to yellow white, and is cross banded with black, yellow (or whitish), and red. The pattern starts with a black mask from eye to eye across the top of the head, where it runs black band, narrow yellow band, wider red, narrow yellow, black band for length of snake. Most of the black bands completely circle the body. Usually fewer than 21 black bands on body (Stebbins 1966:177-178).

Klauber 1937: holotype is a male with 10 black rings, and 144 ventrals. Three black rings on tail, and the underside of the head is cream. Length is 312 mm, and tail length is 57 mm.

In a study conducted by Rosen, Holm and Lowe (1996), SVL ranged from 146-360 mm with the longest from a female (looked at 72 adults). Males had relatively longer tails; 23.2 mm in males to 18.9 mm in females. Lengths were similar between the sexes, averaging 311.9 mm in males (N=60) and 312 mm in females (N=12).

**AIDS TO IDENTIFICATION:** The color of the snout is yellow on the shovel-nosed snake, while black on the Coral snake (*Micruroides euryxanthus*). The Coral snake also has red bands that encircle the body. The Western Shovel-nosed snake (*C. occipitalis*) has a flatter more pointed snout, than the Organ Pipe Shovel-nosed snake, and more than 21 black body bands.

**ILLUSTRATIONS:** Color photo (Behler and King 1979: plate 610)  
Photo (Fowlie 1965: 31)  
Color drawing (Stebbins 1966: plate 32)  
Color drawing (Stebbins 1985: plate 38)  
Color photo (Brian Hubbs *in*  
<http://myweb.cableone.net/azmilk/azs-organ.htm>, 2003)

**TOTAL RANGE:** Extreme south central Arizona south to Gulf of California, as far south as Hermosillo, Mexico (Shaw and Campbell 1974).

**RANGE WITHIN ARIZONA:** Along Sonoyta-Ajo road in Organ Pipe Cactus National Monument and the surrounding area, from Mexican U.S. border to 23 miles north.

### **SPECIES BIOLOGY AND POPULATION TRENDS**

**BIOLOGY:** A relatively long-lived strong nocturnal burrower, that appears to prefer rockier terrain than the Western Shovel-nosed snake. They produce a mildly toxic saliva that is not dangerous to humans. Daylight hours are spent beneath the surface in rodent or lizard holes, or beneath rocks. This snake is inactive in cold temperatures and extreme heat.

“The shovel-nose snake avoids competition by habitat partitioning. They are observed on the surface during a narrow window of time; in mid-spring and early summer, at the moment of darkness. They are occasionally diurnal in the morning and late afternoon. They are presumed active, but are not observable during warmer months (April to October). They have a high metabolic demand for a snake, and must consume roughly a cricket a day to maintain condition.” (Rosen, Holm and Lowe 1996).

**REPRODUCTION:** Breeding habits unknown, presumably lays 3-4 eggs in the summer. Sexual maturity is delayed until age two in males, and probably 2-3 in females (Rosen, Holm, Lowe 1996). An abstract put out by Pima County, reports a clutch size of 24 eggs (<http://www.co.pima.az.us/cmo/sdcp/sdcp2/fsheets/vuln/opss.html> 2003).

**FOOD HABITS:** A specialized eater, feeding upon arthropods including crickets, cockroaches, spiders, centipedes and notably scorpions.

**HABITAT:** In Arizona, occupies paloverde-saguaro habitats, and is fossorial in sandy and sandy-gravelly soils; prefers bajadas and hilly terrain. Per Rosen, Holm and Lowe (1996), this snake is a “habitat specialist living on middle bajadas with moderately open vegetation and heavy gravels in a matrix of very fine sandy (silty) loam.”

**ELEVATION:** Sea level to about 2,500 feet (760 m). In Arizona, elevation ranges from 1,410 – 2,280 ft (430-695 m), based on records from the Heritage Data Management System (AGFD, unpublished data accessed 2003).

**PLANT COMMUNITY:** Upland desert in the paloverde-saguaro association. Vegetation may consist of cactus, creosote bush (*Larrea tridentata*), and mesquite (*Prosopis*). According to Rosen, Holm and Lowe (1996), vegetation is dominated by creosote, rattany (*Krameria*) and limited triangleleaf bursage (*Ambrosia deltoidea*) on the uplands, and by xeroriparian thickets of large creosote, whitethorn acacia (*Acacia constricta*), and bush muhly (*Muhlenbergia porteri*). Found in dense linear triangleleaf bursage stands, mesquite, and catclaw acacia (*Acacia greggii*) along small or medium-sized washes.

**POPULATION TRENDS:** The total population is unknown. They are uncommon in Arizona, and in a highly restricted range.

### **SPECIES PROTECTION AND CONSERVATION**

**ENDANGERED SPECIES ACT STATUS:** None  
**STATE STATUS:** 2, at full species (AZGFD AWCS 2022)  
[1B, at full species (AGFD SWAP 2012)]  
**OTHER STATUS:** Forest Service Sensitive (USDA, FS Region 3 1999)

**MANAGEMENT FACTORS:** Extreme northern edge of range and limited distribution. Threats include future road widening, and increased traffic especially along highway 85, which cuts through their prime habitat on the OPCNM.

**PROTECTIVE MEASURES TAKEN:** Its protection is based primarily upon management practices employed within the monument’s boundaries.

**SUGGESTED PROJECTS:** Distribution, habitat, population and life history studies. According to Rosen, Holm and Lowe (1996), research is needed to a) determine how far from Arizona State Route 85 do the populations occur, b) what is the home range of individuals, c) what is the population density in suitable habitat, d) is highway mortality a threat to the entire U.S. population, and e) what is the status and ecology of the species in Sonora, Mexico?

**LAND MANAGEMENT/OWNERSHIP:** BLM – Phoenix Field Office; NPS – Organ Pipe Cactus National Monument; Private.

**SOURCES OF FURTHER INFORMATION****REFERENCES:**

- Arizona Game and Fish Department. 2012. Arizona's State Wildlife Action Plan 2012-2022. Arizona Game and Fish Department, Phoenix, Arizona. 233 pages.
- Arizona Game and Fish Department. 2022. Arizona Wildlife Conservation Strategy: 2022-2032. Arizona Game and Fish Department, Phoenix, Arizona. 378 pages.
- Behler, J.L. and F.W. King. 1979. The Audubon Society field guide to North American reptiles and amphibians. Alfred A. Knopf, New York. Pp. 595.
- Fowle, J.A., M.D. 1965. The snakes of Arizona. Azul Quinta Press, Fallbrook, California. Pp. 32.
- Integrated Taxonomic Information System (ITIS). Retrieved 3/18/2003 from ITIS. <http://www.itis.usda.gov>.
- Klauber, L.M. 1937. A new snake of the genus *Sonora* from Mexico. San Diego Soc. of Nat. History, VIII(27): Pp. 363-366.
- Lowe, C.H. 1964. Amphibians and reptiles. The vertebrates of Arizona, University of Arizona Press. Tucson, Arizona. Pp.171.
- NatureServe Explorer: An online encyclopedia of life [web application]. 2002. Version 1.6. Arlington, Virginia, USA: NatureServe. Available <https://explorer.natureserve.org/> . (Accessed: March 18, 2003).
- Rosen, P.C., P.A. Holm and C.H. Lowe. 1996. Ecology and Status of Shovelnose Snakes (*Chionactis*) and Leafnose Snakes (*Phyllorhynchus*) at and near Organ Pipe Cactus National Monument, Arizona. Dept. of Ecol. and Evol. Bio., Univ. of Arizona, Tucson, Arizona; AZ Game and Fish Dept. Heritage Grant IIPAM I92045. Pp. 1-68.
- San Diego Natural History Museum. 1997. SDNHM Herpetology Type Specimens. <http://www.sdnhm.org/research/herpetology/herptype.html>. Accessed: 8/5/2002.
- Shaw, C.E. and S. Campbell. 1974. Snakes of the American West. Alfred A. Knopf, New York. Pp. 154.
- Stebbins, R.C. 1954. Amphibians and reptiles of western North America. McGraw-Hill Book Company, Inc., New York. Pp. 443-444.
- Stebbins, R.C. 1966. A field guide to western reptiles and amphibians. Houghton Mifflin Company. Boston, MA. Pp. 177-178.
- Stebbins, R.C. 1985. A field guide to western reptiles and amphibians. Second edition, revised. Houghton Mifflin Company. Boston, MA. Pp. 214.
- USDA, Forest Service Region 3. 1999. Regional Forester's Sensitive Species List.
- Wright, A.H. and A.A. Wright 1957. Handbook of snakes of the United States and Canada. Vol I. Comstock Publishing Associates, Ithaca, New York. Pp. 129-130.

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**ADDITIONAL INFORMATION:**

**Revised:** 1991-03-19 (???)  
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