

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

Invertebrate Abstract

Element Code: IMGAS39010Data Sensitivity: No**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE****NAME:** *Holospira arizonensis***COMMON NAME:** Arizona holospira**SYNONYMS:** *Holospira arizonensis emigrans*, *Holospira arizonensis mularis*, *Holospira arizonensis mustang*, *Holospira whetstonensis arata***FAMILY:** Urocoptidae**AUTHOR, PLACE OF PUBLICATION:** Stearns, R.E.C. 1890. Scientific results of explorations by the U.S. Fish Commission's steamer Albatross. No. XVII. Descriptions of new West American land, fresh-water, and marine shells, with notes and comments. Proc. U.S. Nat. Mus. 13 (for 1890) (813): 205-225; 95-106.**TYPE LOCALITY:** Cave at Dos Cabezas, Cochise County, AZ. (Bequaert and Miller, 1973).**TYPE SPECIMEN:** NMNH catalog #104392 (Holotype), collected by V. Bailey.**TAXONOMIC UNIQUENESS:** According to Bequaert and Miller (1973), there are six native species with three subspecies of *Holospira* in the southwest.

The large amount of individual variability between the species, among the same species, and even within populations makes the *Holospira* genus taxonomy complicated. (Bequaert and Miller, 1973).

DESCRIPTION: *Holospira* species are unicolorous, medium-sized snails (adults 8-20mm long). Their shell is turret-shaped, cylindrical, of many closely coiled whorls, and a persistent conic top. Peristome is rounded, partly detached, and thickened. The axis of the spire is hollow but closed or narrowly open at the umbilicus. The wall of the hollow access may bear spiral lamellae or slight protuberances, mainly at the penultimate whorl. The shape, number, length, and arrangement of the internal lamellae, as well as the sculpture, size, and shape of the shell, are highly variable (Bequaert and Miller, 1973).**AIDS TO IDENTIFICATION:** Local species of *Holospira*, often even within populations, are excessively variable in most shell characters such as size, shape, and sculpture.**ILLUSTRATIONS:**

TOTAL RANGE: Dos Cabezas Peaks, Chiricahua Mts., Mule Mts., and Mustang Mts., Cochise County, AZ. (Bequaert and Miller, 1973).

RANGE WITHIN ARIZONA: See “Total Range”

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: Species of *Holospira* live in poorly sheltered habitat where small, relatively light, immature shells may be transported far and wide by the wind. This frequent air-borne dispersal of snails may counteract speciation by isolation (Bequaert and Miller, 1973).

Long, tightly coiled shells are adapted for life in a desert; their slender shape with a relatively small aperture aids in water retention. A peculiarity of the genus is a complex barrier of lamella within the last two or three whorls. The function of the barrier is that they may prevent arthropod predators from entering the shell (Thompson, 2004).

REPRODUCTION:

FOOD HABITS:

HABITAT: Limestone terrain with sunny, dry exposure under small rocks, leaf litter, or Bear Grass. *Holospira* often proliferate and congregate in populous colonies. (Bequaert and Miller, 1973). They usually have very small geographic distributions that measure a few miles or less. Some species have a total geographic range of less than 100 meters (Thompson, 2004).

ELEVATION: *Holospira arizonensis* can be found at 4,800 to 5,500 ft (1,463-1,676 m) (Bequaert and Miller, 1973).

PLANT COMMUNITY: Bear Grass

POPULATION TRENDS:

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS:	None
STATE STATUS:	3 (AZGFD, AWCS 2022) [1C (AGFD SWAP 2012)]
OTHER STATUS:	None

MANAGEMENT FACTORS: Since this species has a smaller range, certain events could be catastrophic.

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS: Life history studies as well as population status and distribution surveys need to be conducted.

LAND MANAGEMENT/OWNERSHIP:**SOURCES OF FURTHER INFORMATION****REFERENCES:**

- Arizona Game and Fish Department. 2012. Arizona's State Wildlife Action Plan 2012-2022. Phoenix, AZ.
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- IT IS. Available: http://annual.sp2000.org/2005/ITS-77039-show_species_details.html.
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MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION: *Holospira arizonensis* was the first species of *Holospira* described in Arizona (Bequaert and Miller, 1973).

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