

ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Invertebrate Abstract

Element Code: IMGASJ0160
Data Sensitivity: No**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

NAME: *Pyrgulopsis conica*
COMMON NAME: Kingman Springsnail
SYNONYMS: *Pyrgulopsis conius*
FAMILY: Hydrobiidae

AUTHOR, PLACE OF PUBLICATION: R. Hershler, and J.J. Landye. 1988. Arizona Hydrobiidae (Prosobranchia: Rissoacea). Smithsonian Contributions to Zoology. Number 459: 21.

TYPE LOCALITY: Dripping Springs, Mohave County, Arizona.

TYPE SPECIMEN: Holotype: USNM 859039. J.J. Landye, 9 May 1980.

TAXONOMIC UNIQUENESS: This genus comprises 35 described species and an additional 20-25 undescribed species in the Southwest.

DESCRIPTION: Shell with 3.5 to 4.5 whorls, either well rounded with distinct shoulders or only mildly convex, without shoulders. The shell height is 1.8-2.7 mm. The penis is small with short filament and a single glandular ridge near tip of penial lobe. The aperture often loosened from body whorl. Females were larger than males in one of two populations studied. Head-foot usually unpigmented, or with light dusting on snout, sub-epithelial pigment absent. All hydrobioids have a foot with a rounded posterior end.

AIDS TO IDENTIFICATION: Due to the small size of this animal, it cannot be identified to species in the field but must be identified in a laboratory by a qualified authority. Therefore, to obtain specimens sift sand believed to contain the snail through an ordinary kitchen strainer. The rule of thumb that spring snail species are specific to a particular location (i.e. a single spring or group of springs connected or close to each other), may be used as a means of preliminary identification.

ILLUSTRATIONS:

Line drawings (Hershler and Landye, 1988)
Photographs of shell (Hershler and Landye, 1988)
Scanning electron microscope micrographs of radula (Hershler and Landye, 1988)
Line drawings (Hershler and Ponder, 1998)

TOTAL RANGE: Burns, Dripping, and Cool Springs in the Black Mountains near Kingman, Mohave County, northwestern Arizona.

RANGE WITHIN ARIZONA: See "Total Range."

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: The hydrobioid digestive system is typical of style-bearing neotaenioglossans. The mouth opens to a short oral area containing a pair of dorsolateral chitinous jaws composed of small, simple rodlets, immediately behind which is a well-developed buccal mass (situated within the snout). A pair of simple, unbranched, tubular salivary glands opens anterodorsally to the buccal cavity and (almost always) pass posteriorly over the nerve ring, rarely stopping short of the ring, but never passing through it in hydrobioids. Hydrobioids have a taenioglossate radula (i.e., seven teeth per row) comprising numerous rows of cusped teeth, each of which includes a typically squarish or trapezoidal central tooth flanked on each side by lateral, inner marginal, and outer marginal teeth. Teeth near the anterior end of the radula are often worn or broken, whereas the proximal portion of the ribbon has several to many rows of poorly differentiated or incompletely formed teeth. (Hershler and Ponder, 1998).

REPRODUCTION: Most hydrobioids are oviparous, with females depositing small egg capsules, either singly or (rarely) in strings, on the substrate. A small number of hydrobioids are ovoviviparous, in which female's brood shelled young in the pallial gonoduct. Hydrobioid egg capsules are typically hemispherical to spherical. Copulation in hydrobioids is usually via an anterior opening to the glandular oviduct. The ventral channel may be traversed at least in part by the penis, but it is more likely that the penis only enters the anterior most section. (Hershler and Ponder, 1998).

FOOD HABITS: Feed on algae and organic detritus.

HABITAT:

ELEVATION: 2,640 - 3,600 ft. (805 - 1,098 m).

PLANT COMMUNITY: Unknown.

POPULATION TRENDS: Unknown.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: SC (USDI, FWS 1996)

STATE STATUS: [C2 USDI, FWS 1991, 1994]
1 (AZGFD, AWCS 2022)
[1A (AGFD SWAP 2012)]

OTHER STATUS: Bureau of Land Management Sensitive
(USDI, BLM AZ 2000, 2005, 2008,
2010)
Not Forest Service Sensitive (USDA, FS
Region 3 2007)
[Forest Service Sensitive (USDA, FS
Region 3 1999)]

MANAGEMENT FACTORS: **Threats:** restricted geographic distribution with associated potential for extinction due to chance events; human development; groundwater depletion with loss of spring flow. **Management needs:** protection of remaining spring sources; periodic monitoring of snail populations and their habitats; research on ecology and systematics.

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS:

LAND MANAGEMENT/OWNERSHIP: BLM - Kingman Field Office; Private.

SOURCES OF FURTHER INFORMATION

REFERENCES:

- Arizona Game and Fish Department. 2012. Arizona's State Wildlife Action Plan 2012-2022. Phoenix, AZ.
- Arizona Game and Fish Department. 2022. Arizona Wildlife Conservation Strategy: 2022-2032. Arizona Game and Fish Department, Phoenix, Arizona. 378 pages.
- Hershler, R. and J.J. Landye. 1988. Arizona Hydrobiidae (Prosobranchia: Rissoacea) Smithsonian Contributions to Zoology. Number 459: 21.
- Hershler, R. and W.F. Ponder. 1998. A Review of Morphological Characters of Hydrobioid Snails. Smithsonian Institution Press, Washington D.C.
- NatureServe Explorer: An online encyclopedia of life [web application]. 2003. Version 1.6. Arlington, Virginia, USA: NatureServe. Available <https://explorer.natureserve.org/>. (Accessed: November 18, 2003).
- USDA, Forest Service Region 3. 1999. Regional Forester's Sensitive Species List.
- USDA, Forest Service Region 3. 2007. Regional Forester's List of Sensitive Animals.
- USDI, Bureau of Land Management. 2000. Arizona BLM Sensitive Species List. Instruction Memorandum No. AZ-2000-018.
- USDI, Bureau of Land Management. 2005. Arizona BLM Sensitive Species List.
- USDI, Bureau of Land Management Region 2. 2008. Arizona BLM Sensitive Species List.
- USDI, Bureau of Land Management Region 2. 2010. Arizona BLM Sensitive Species List.

USDI, Fish and Wildlife Service. 1991. Endangered and Threatened Wildlife and Plants; Animal Candidate Review for Listing as Endangered or Threatened Species, Proposed Rule. Federal Register 56(225): 58823.

USDI, Fish and Wildlife Service. 1994. Endangered and Threatened Wildlife and Plants; Animal Candidate Review for Listing as Endangered or Threatened Species, Proposed Rule. Federal Register 59(219): 59010.

USDI, Fish and Wildlife Service. 1996. Endangered and Threatened Wildlife and Plants; Review of Plant and Animal Taxa that are Candidates for Listing as Endangered or Threatened Species. Federal Register 61(40): 7596-7613.

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ADDITIONAL INFORMATION:

“The somewhat elongate shell of this species led to initial assignment of the Burns Spring population to *Tryonia* by Landye” (Hershler and Landye, 1988).

Revised: 1992-03-24 (DBI)
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