

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

Invertebrate Abstract

Element Code: IMGASJ7130

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Tryonia quitobaquita*

COMMON NAME: Quitobaquito Tryonia

SYNONYMS:

FAMILY: Hydrobiidae

AUTHOR, PLACE OF PUBLICATION: Hershler, R. and J.J. Landye. 1988. Arizona Hydrobiidae (Prosobranchia: Rissoacea). Smithsonian Contributions to Zoology. Number 459: 50, 52, 54, 57-58.

TYPE LOCALITY: Quitobaquito Springs, Pima County, Arizona

TYPE SPECIMEN: Holotype: USNM 859061. J.J. Landye, 13 March 1971.

TAXONOMIC UNIQUENESS:

DESCRIPTION: Adult shell height (height from top of shell to bottom of shell) 1.4-1.8 mm. Shell has 3.5 to 4.5 highly convex whorls with deep sutures (point at which whorls meet) and lobe which contains the operculum or the "door" that appears when the head/foot is withdrawn) usually darkly pigmented. Elsewhere head/foot has light dusting of melanin, with broad central section on sides of head/foot sometimes having distinctive light coating. All hydrobioids have a foot with a rounded posterior end. The cephalic tentacles are without well-defined ciliary tracts. Penis with two lobes on inner curvature, a small one just distal to midpoint and a somewhat larger one near the base. Much of the distal portion of the penis is a dense cover of cilia.

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 trap specimens, sand believed to contain the snail must be put through an ordinary kitchen strainer. A rule of thumb is that a springsnail species is specific to a particular spring and location may therefore be used as a means of identification.

ILLUSTRATIONS: SEM micrographs of shell (Hershler and Landye, 1988)
SEM micrographs of radula (Hershler and Landye, 1988)
Line drawings (Hershler and Landye, 1988)
Line drawings (Hershler and Ponder, 1998)

TOTAL RANGE: Spring complex within Organ Pipe Cactus National Monument, Pima County, 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:

HABITAT: Spring complex in Sonoran Desert.

ELEVATION: 1,060 - 1,160 ft. (323 - 354 m).

PLANT COMMUNITY: Sonoran Desert.

POPULATION TRENDS: Unknown.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None (USDI, FWS 1996)
[C2 USDI, FWS 1994]

STATE STATUS: [C2 USDI, FWS 1991]
None
OTHER STATUS: Forest Service Sensitive (USDA, FS Region 3 1999)

MANAGEMENT FACTORS: **Threats:** highly restricted distribution with associated potential for extinction due to chance events; groundwater pumping and depletion; growth of thick vegetation and inhibits free flowing water. **Management needs:** restoration of previously occupied habitat and repatriation; protection of spring sources; periodic monitoring of snail populations and their habitats; research on ecology and systematics.

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS:

LAND MANAGEMENT/OWNERSHIP: NPS - Organ Pipe Cactus National Monument.

SOURCES OF FURTHER INFORMATION

REFERENCES:

- Hershler, R. and J.J. Landye. 1988. Arizona Hydrobiidae (Prosobranchia: Rissoacea). Smithsonian Contributions to Zoology. Number 459: 50, 52, 54, 57-58.
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- NatureServe Explorer: An online encyclopedia of life [web application]. 2003. Version 1.6. Arlington, Virginia, USA: NatureServe. Available: <http://www.natureserve.org/explorer>. (Accessed: November 18, 2003).
- USDA, Forest Service Region 3. 1999. Regional Forester's 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.
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- 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:

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