

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

**Invertebrate Abstract**

**Element Code:** IMGASJ0390

**Data Sensitivity:** No

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Pyrgulopsis deserta*

**COMMON NAME:** Desert Springsnail, Virgin Springsnail, St. George Snail

**SYNONYMS:** *Amnicola deserta*

**FAMILY:** Hydrobiidae

**AUTHOR, PLACE OF PUBLICATION:** Pilsbry H.A. 1916. New Species of *Amnicola* from New Mexico and Utah. Nautilus 29:111-112.

**TYPE LOCALITY:** "Pilsbry (1916:111) gave the type-locality as 'Washington County, Utah.' We suspect that the spring in Middleton (USNM 847210) may actually be the type locality as specimens from the spring very closely resemble the holotype" (Hershler and Landye, 1988).

**TYPE SPECIMEN:** Holotype, ANSP 12112, USNM 847210. J.J. Landye. 21 February 1977.

**TAXONOMIC UNIQUENESS:**

**DESCRIPTION:** Small species. Shell height is 1.2 to 2.0 mm (0.05-0.08 in) with globose to ovate-conic shell. Shell with 3.25 to 4.25 whorls with well-rounded, unshouldered whorls. Shape variation evident not only among, but also within populations. Penis is of moderate size, with enlarged filament bearing (on dorsal surface) elongate glandular ridge; ventral penial surface with two to three additional ridges. Melanic pigmentation of head-foot varying from dark throughout (except for tentacle and snout tips and sole of foot) in some populations, to a light dusting on all surfaces or even absent in others. 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 springsnail 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 shells (Hershler and Landye, 1988)

Scanning electronic microscope micrographs of radula (Hershler and Landye, 1988)

**TOTAL RANGE:** Springs along the Virgin River in southwestern Utah and northwestern Arizona.

**RANGE WITHIN ARIZONA:** Unidentified springs in the Littlefield area, Mohave County.

### **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:** Unknown

**HABITAT:** Unknown

**ELEVATION:** 1,870-1,900 (570-580 m) According to AGFD, HDMS unpublished records accessed 1-13-03.

**PLANT COMMUNITY:** Unknown

**POPULATION TRENDS:** Unknown

### **SPECIES PROTECTION AND CONSERVATION**

**ENDANGERED SPECIES ACT STATUS:** None  
**STATE STATUS:** 1A (AGFD SWAP 2012)

**OTHER STATUS:**

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

**MANAGEMENT FACTORS:**     **Threats:** potential water projects such as spring capping and development; highway construction; land exchanges allowing development of habitat.  
**Management needs:** protection of remaining spring sources; periodic monitoring of populations and their habitats; research on ecology and systematics.

**PROTECTIVE MEASURES TAKEN:**     Unknown

**SUGGESTED PROJECTS:**     A range-wide survey to determine the distribution is critically needed, as is basic information on ecology, life cycle, and population dynamics. Another important need is the development of a monitoring protocol to assess population size.

**LAND MANAGEMENT/OWNERSHIP:** Private

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

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**ADDITIONAL INFORMATION:**

**Revised:** 1992-04-23 (DBI)  
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