

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

Invertebrate Abstract

Element Code: IMGASJ0150
Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Pyrgulopsis bacchus*
COMMON NAME: Grand Wash Springsnail
SYNONYMS:
FAMILY: Hydrobiidae

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

TYPE LOCALITY: Grapevine Spring, Mohave County, Arizona.

TYPE SPECIMEN: Holotype USNM 859037. J.J. Landye. 4 June 1980

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

DESCRIPTION: Shell has 4.0 to 4.25 moderately rounded, unshouldered whorls. Male and female are about the same size. Head/foot is usually darkly pigmented throughout, except for tentacles and a broad central patch on sides of head-foot which are either lightly dusted or unpigmented.

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 of pallial oviducts (Hershler and Landye 1988)
Photographs of shell (Hershler and Landye 1988)
Scanning electron microscope (SEM) micrographs of radula (Hershler and Landye 1988)
SEM micrographs of protoconch (Hershler and Landye 1988)
SEM micrographs of penial (penis) variation (Hershler and Landye 1988)

TOTAL RANGE: Grapevine Springs, Whisky Springs and Tassi Springs within the Grand Wash trough, Mohave County, northwestern Arizona. Specimens of empty shells suspected to

be *P. bacchus* were collected from the southern end of the Virgin Mountains, Clark County, extreme southeastern Nevada.

RANGE WITHIN ARIZONA: See "Total Range."

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY:

REPRODUCTION:

FOOD HABITS: Feed on algae and organic detritus.

HABITAT: May be very abundant, in the tens of thousands, with as many as 30 to 50 snails being found on a single submerged cottonwood leaf.

ELEVATION: 1,570 - 1,720 ft. (479 - 525 m)

PLANT COMMUNITY: Occurs within the aquatic community associated with spring flows. Associated vegetation includes: cattails, sedges, cottonwood, willow, ash and mesquite.

POPULATION TRENDS: Unknown

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None (USDI, FWS 1996)
[C2 USDI, FWS 1994]
[C2 USDI, FWS 1991]

STATE STATUS: None

OTHER STATUS: Bureau of Land Management Sensitive
(USDI, BLM AZ 2000, 2005)
Forest Service Sensitive (USDA, FS Region
3 1999)

MANAGEMENT FACTORS: Maintaining long-term continuity of viable spring systems is very important in management of this species.

Threats: groundwater depletion and subsequent loss of spring flows; habitat degradation due to livestock use. **Management needs:** fencing of habitat open to livestock; monitoring of spring discharges and habitat condition.

PROTECTIVE MEASURES TAKEN: Livestock exclosures have been in place at Grapevine Springs since 1982 and at Whiskey Springs for an unknown time.

SUGGESTED PROJECTS: Study of seasonal population dynamics.

LAND MANAGEMENT/OWNERSHIP: Grapevine and Whiskey springs are managed by BLM, Arizona Strip Field Office. Tassi Springs, on Lake Mead National Recreation Area, is not fenced and is used as part of an active livestock operation. Big Springs (NV) is privately owned.

SOURCES OF FURTHER INFORMATION

REFERENCES:

- Hershler, R. and J.J. Landye. 1988. Arizona Hydrobiidae (Prosobranchia: Rissoacea). Smithsonian Contributions to Zoology. Number 459:21.
- USDA, Forest Service Region 3. 1999. Regional Forester's Sensitive Species List.
- 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, 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):58821.
- 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):59905.
- 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.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

- Bob Hershler - National Museum of Natural History, Smithsonian Institution, Washington, D.C.
- Jerry Landye - USDI, Fish and Wildlife Service, Pinetop, Arizona

ADDITIONAL INFORMATION:

The major springs within the Grand Wash trough were surveyed in September and October 1991 with many snails found in Whiskey, Grapevine and Tassi Springs. Access was denied to the private property at Seven Springs and Big Springs.

Revised: 1992-03-12 (DBI)
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1997-03-03 (SMS)

2001-10-31 (SMS)

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