

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

Invertebrate Abstract

Element Code:IMGASM3020

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Biomphalaria havanensis*
COMMON NAME: Ghost Rams-horn Snail
SYNONYMS: *Planorbis liebanni*
FAMILY: Planorbidae

AUTHOR, PLACE OF PUBLICATION: *Planorbis liebanni* Pfeiffer, L. 1839. Bericht über die Ergebnisse meiner Reise nach Cuba im Winter 1838-1839 Archiv für Naturgeschichte 5(1) 346-358. *Biomphalaria havanensis* H. B. Preston. 1910. Opinion 735, Bull. Zool. Nomencl. 22 [2]: 94-99.

TYPE LOCALITY: According to Bequaert & Miller (1973), *Biomphalaria havanensis* was first described from Cuba without more precise locality, but presumably near Havana.

TYPE SPECIMEN: Unknown

TAXONOMIC UNIQUENESS: Planorbidae is the largest family of aquatic pulmonate gastropods. This family includes numerous native as well as invasive species in Arizona. The genus *Biomphalaria* contains several species, two of which have been recorded from the United States; the native *Biomphalaria havanensis* and the introduced *Biomphalaria glabrata*. (Kohl, 2000, Perez et al., 2004).

DESCRIPTION: The shell of *Biomphalaria havanensis* is planispiral, thin and fragile, with a depressed body whorl, five or more whorls total, and approximately 10 mm in diameter. Shell is sinistral in orientation, nearly smooth, and marked with irregular growth striations. Shell color is grayish-whitish and transparent when fresh. (Kohl, 2000, Perez et al., 2004).

AIDS TO IDENTIFICATION: *B. glabrata* and *B. havanensis* can be distinguished from each other by their adult shell size. The shell of *B. havanensis* is ~15 mm, which is an average 5 mm smaller than that of *B. glabrata* (Perez et al., 2004).

ILLUSTRATIONS:

Color photo (Kohl in <http://members.aol.com/Mkohl2/Planorbidae.html>)

TOTAL RANGE: The genus *Biomphalaria* has a wide distribution in the Caribbean, Central and South America, and in the United States. The species *Biomphalaria havanensis* occurs in

Arizona, California, Florida, Idaho, Louisiana, South Carolina and Texas, and is widely distributed in the West Indies and Central America (NatureServe, 2000).

RANGE WITHIN ARIZONA: Populations are known in Cochise County, Santa Cruz, and Pima County. Probably yet to be found in other artificial lakes within Arizona. (Bequaert & Miller, 1973).

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: All species within the family Planorbidae are aquatic lung-breathers. They are without gills and instead possess a large pulmonary sac for gaseous exchange; a pseudo branch, or false gill, is located near the pneumostome or anus. (Perez et al., 2004).

REPRODUCTION: *Biomphalaria* is hermaphroditic and capable of self or cross-fertilization. Eggs are laid at intervals in batches of 5 to 40, each batch being enclosed in a mass of jelly-like material. The young snails hatch after 6 to 8 days and reach maturity in 4 to 7 weeks, depending on the species and environmental conditions. Temperature and food availability are among the most important limiting factors. A snail lays up to 1000 eggs during its life, which may last more than a year. *Biomphalaria* eggs are circular or oval and attached to flat surfaces (Rozendaal and World Health Organization, 1997, Davies, 2004).

FOOD HABITS: *Biomphalaria* feeds on diatoms, algae, detritus, and bacterial films. (Cowie, 2001, Perez et al., 2004).

HABITAT: Found in oligotrophic habitats where the velocity is low, approximately 0.3m/sec., on submerged vegetation. (Davies, 2004, Thompson 2004).

ELEVATION: 1,110-4,000 ft. (338-1,219 m)

PLANT COMMUNITY: Water-lettuce and Water-cress (Cowie, 2001)

POPULATION TRENDS:

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: none

STATE STATUS: none

OTHER STATUS: none

MANAGEMENT FACTORS:

PROTECTIVE MEASURES TAKEN:**SUGGESTED PROJECTS:****LAND MANAGEMENT/OWNERSHIP:****SOURCES OF FURTHER INFORMATION****REFERENCES:**

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION: All snail species susceptible to infection with *Schistosoma mansoni* and *S. haematobium* belong to the family Planorbidae. *Schistosoma mansoni* infects snails in the genus *Biomphalaria*, and can also become infected with *S. mansoni*-*S. intercalatum* hybrids, *S. rodhaini* and *S. eduardiense*. (Davies, 2004).

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