ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Invertebrate Abstract **Element Code:** IMGASL4010
Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Radix auricularia*
COMMON NAME: Big-Eared Radix, Eared Pond Snail
SYNONYMS: *Lymnaea auricularia*
FAMILY: Lymnaeidae

AUTHOR, PLACE OF PUBLICATION: C. von Linne, 1758, Syst. Nat. 10th Ed. 2:774.

TYPE LOCALITY: Europe without more precise locality, but presumably from Sweden (Bequaert and Miller, 1973).

TYPE SPECIMEN:

TAXONOMIC UNIQUENESS: There are about 100 different species within the Lymnaeidae family. The nomenclature of Lymnaeidae is still somewhat unclear, though. The family is divided in two generally accepted subfamilies: Lancinea and Lymnaeinae. The Lancinea subfamily is abundant in Western North America (Columbia, Umpaqua, Klamath and Sacramento River drainage) and consists of the genera *Fisherol*a with one species and *Lanx* with four species in two subgenera. There is much disagreement about the nomenclature of the cosmopolitan Lymnaeinae subfamily. Some authors only accept one genus (*Lymnea*), while others prefer to up to 7 different genera. (Gasteropoduim, 2005, Ghesquiere, 2000).

DESCRIPTION: Adult shell of *Radix auricularia* consists of 5 whorls; it is oval, thin, and fragile with a very large body whorl and a very short spire; spiral striae are sparse or absent; columella with a strong plait; periostracum pale tan to horn. Both the shell and the body of the snail are dextral. The shell color is light or dark-brown, a little bit reddish, 35mm high, 20mm wide, and 14-24 mm long. The animal is yellow with black spots. The Lymnaeidae family has characteristic triangular tentacles. (Gasteropodium, 2005, Ghesquiere, 2000).

AIDS TO IDENTIFICATION: The Lymnaeidae family has characteristic triangular tentacles. (Gasteropodium, 2005).

ILLUSTRATIONS: Color photo (Chan Sow Yan *in* http://nas.er.usgs.gov/queries/FactSheet.asp?speciesID=1012)

Color photo (*In* http://cars.er.usgs.gov/Region_5_Report/html/gastropods.html)

TOTAL RANGE: Canada: Alberta, British Columbia, Newfoundland Island, and Ontario. United States: Alaska, Arizona, California, Colorado, Georgia, Idaho, Illinois, Kentucky, Massachusetts, Michigan, Montana, New Jersey, New Mexico, New York, Ohio, Oregon, Pennsylvania, Utah, Vermont, Virginia, Washington, Wyoming.

RANGE WITHIN ARIZONA: First collected in Apache County in 1965; now well established in the northern highlands and a temporary adventive in southern counties. Cited in Pima County, Cochise County, Coconino County, and Navajo County. (Bequaert and Miller, 1973).

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: The triangular tentacles characteristic of the Lymnaeidae family have many blood veins that can pull oxygen from the water, but they will go to the surface to get a fresh supply of oxygen (Gasteropodium, 2005). Respiration in these snails is aerial, through the lungs (Ghesquiere, 2000).

REPRODUCTION: *R. auricularia* is hermaphroditic and reproduction is so efficient in this species that just two snails are enough to create a large population in relatively short time. The transparent eggs are deposited in a firm, gelatinous clutch on plants, stones, or other objects. (Ghesquiere, 2000).

FOOD HABITS: They feed on algae, plants, and carrion in quiet water with rich vegetation (Gasteropodium, 2005).

HABITAT:

Found in freshwater lakes, ponds, and slow-moving rivers with mud bottoms (Gasteropodium, 2005). Their preferred habitats are stagnant to slow streaming waters with heavy vegetation. (Ghesquiere, 2000).

Separation barriers are largely based on permanent hydrological discontinuity between bodies, with a distance of 30 meters or more between maximum high water marks, to constitute a separation. Additional barriers are chemical and/or physical that include any connecting water body (regardless of size), or more of the following on a permanent basis: no dissolved calcium content, pH lower than 5, lack of dissolved oxygen, extremely high salinity such as that found in saline lakes and brine waters. (NatureServe, 2005).

ELEVATION: In Arizona it ranges from 6,700 to 8,650 ft (2,042-2,636 m). In Deming, New Mexico it was found at 4,300 ft (1,310 m).

PLANT COMMUNITY: Water chestnut (*Trapa natans*)

POPULATION TRENDS: Unknown.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None
STATE STATUS: None
OTHER STATUS: None

MANAGEMENT FACTORS:

PROTECTIVE MEASURES TAKEN: None

SUGGESTED PROJECTS: None

SOURCES OF FURTHER INFORMATION

REFERENCES:

Barker, G.M. 2001. The Biology of Terrestrial Molluscs. CABI Publishing UK. Pp: 139-144.

Bequaert, J.C. & Miller, W.B. 1973. The Mollusks of the Arid Southwest: With an Arizona Checklist. University of Arizona Press, Tucson, AZ. 271 pp.

Chan Sow Yan. Available: http://nas.er.usgs.gov/queries/FactSheet.asp?speciesID=1012).

Gasteropodium. 2005. Gasteropoduim: Family Lymnaeoidae - Family Lymnaeidae. Available at: http://members.tripod.com/arnobrosi/index.html. Accessed on January 24, 2006.

Ghesquiere, Stijn. 2000. Apple snails (Ampullariidae): Various Freshwater Snails: Family Lymnaeidae. Available at: http://www.applesnail.net. Accessed on January 24, 2006.

NatureServe Explorer: An online encyclopedia of life [web application]. 2001. Version 1.6. Arlington, Virgina, USA: NatureServe. Available: http://www.natureserve.org/explorer. Accessed on January 26, 2006.

Preston-Mafham R. & K. 1993. The Encyclopedia of Land Invertebrate Behaviour. The MIT Press, Cambridge, MA. Pp: 12-13.

United States Geologic Survey. 2004. Gastropods. Available at: http://cars.er.usgs.gov/Region_5_Report/html/gastropods.html. Accessed on January 26, 2006.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION:

This species may have come with imported plants in the late 1800s.

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