



Golden Sands  
Resource Conservation  
& Development Council, Inc.



## Aquatic Invasive Species Quick Guide

### Big-eared Radix (*Radix auricularia* L.)

**Description:** The big-eared Radix (also called European ear snail) has a yellow-tan, conical shell with 4-5 whorls and deep grooves between them. The lowest whorl is several times wider than the other whorls—it holds about 90% of the shell's total volume. The large, ear-shaped shell opening (aperture) is on the right side. The big-eared Radix does not have an operculum. This species can tolerate large fluctuations in water temperature and water level, and can also tolerate periods without oxygen. It prefers shallow, silty habitats, but has been observed in deep, rocky areas. In Great Britain, the species appears to be restricted to hard-water systems.



The big-eared Radix averages between 1/2 and 1 inch long, and the shell opening is greater than 50% of the shell's height.

**North American Distribution:** Widely scattered in at least 15 U.S. states, and all of the Great Lakes.



Young big-eared Radix are harder to discern from natives, but as they age, their lowest whorl becomes disproportionately larger than the upper whorls.

**Dispersal Vectors:** This European species is capable of self-fertilization (hermaphroditic) and breeds twice per year. Each snail can produce about 1300 eggs per year, laid in clumps of 50-150 eggs each. Eggs of the big-eared Radix can be transported along with plants, so it may have been introduced to new locations throughout the United States via the aquarium trade. Boats and other equipment moving plant material or mud between water bodies could also transport attached snails.

**Ecological Impacts:** The big-eared Radix feeds mostly on decaying organic material and algae of the genus *Cladophora*. It is an important host of many trematode parasites, especially the liver flukes *Fasciola gigantica* and *F. hepatica*. Some fishes and turtles feed on the big-eared Radix. Its impacts to native aquatic organism communities are largely unknown.

**Control Options:** Prevention of spread is crucial. Aquarium plants and animals should never be released into natural waterways.

Manual removal of snails is possible, but probably impractical in most cases. This snail's preference for soft substrates makes it difficult to access them by wading, and snails burrowed into the substrate may be difficult to find.

Niclosamide pesticides are used to control snails, but are not species-selective. They may be effective on the big-eared Radix, but other snails would also likely be harmed by the pesticide.

No effective biological control agent is known at this time.

#### Additional Information:

Mills, E. L., J. H. Leach, J. T. Carlton and C. L. Secor. 1993. *Exotic species in the Great Lakes: a history of biotic crises and anthropogenic Introductions*. *Journal of Great Lakes Research* 19(1):1-54.

Kipp, R.M., A.J. Benson, J. Larson, and A. Fusaro. 2013. *Radix auricularia*. USGS Nonindigenous Aquatic Species Database, Gainesville, FL. <http://nas.er.usgs.gov/queries/factsheet.aspx?SpeciesID=1012> Revision Date: 6/11/2012

**Photo credit:** Paul Skawinski

This Quick Guide is part of a series on aquatic invasive species, and may be reproduced for educational purposes. Visit us at [www.uwsp.edu/uwexlakes/clmn](http://www.uwsp.edu/uwexlakes/clmn) or [www.goldensandsrcd.org/our-work/water](http://www.goldensandsrcd.org/our-work/water) to download this series of handouts. Developed by Golden Sands Resource Conservation & Development (RC&D) Council, Inc. as part of an aquatic invasive species (AIS) education program, supported by an AIS grant from the Wisconsin Department of Natural Resources.