



# Faucet Snail

*Bithynia Tentaculata* (Linnaeus, 1758)  
syn. *Bulimus Tentaculatus*

ALBERTA REGULATION:  
FISHERIES ACT

Last Updated: February 2018



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Minnesota Department of Natural Resources, Bugwood.org

## Overview:

The faucet snail is a gastropod native to much of Europe. It was introduced to the Great Lakes in the late 1800s, likely via solid ballast.<sup>3</sup> They are a freshwater snail but can tolerate brackish waters. This species matures quickly and has a high reproductive capacity.<sup>3</sup> They can filter feed but also graze on algae and have been implicated in declines of microalgal species richness.<sup>2</sup>

Faucet snails are hosts to several species of intestinal trematodes, which parasitize waterfowl that consume this snail, resulting in large scale mortalities.<sup>1</sup> Between 2002 and 2006 over 20,000 migratory birds died from these parasites in wildlife refuges of

Mississippi and Wisconsin.<sup>2</sup> Faucet snails can cause biofouling of underwater intakes, municipal water supplies and swimming areas.<sup>2</sup> Snails can attach to recreational equipment and can tolerate drying and chemical exposure by tightly closing its operculum.<sup>3</sup>

Faucet snails are difficult to distinguish from similar sized snails but the operculum of faucet snails is white and made of calcium carbonate. The operculums of native snails are composed of a horny material that is translucent and flexible.<sup>3</sup>

As of January 1, 2016, the possession, sale, or transport of this species in Alberta is illegal

under the Fisheries Act.

## Habitat:

Freshwater ponds, shallow lakes and canals. Faucet snails prefer abundant vegetation, silt or mud bottoms, and slow-moving, shallow water (<1 m deep), but can be found at depths up to 5 m. Inhabits waters with pH 6.6 to 8.4.<sup>1</sup>

## Identification:

Faucet snails are small, generally 12-15 mm,<sup>1</sup> about twice as tall as wide, and difficult to distinguish from similar sized snails. The shells are shiny, light-brown to black with 4 to 6 flattened, clockwise whorls.<sup>3</sup>

The snail body has long, pointed tentacles, a simple foot, and the



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(continued)

right lobe is the water siphon.<sup>1</sup> The aperture (opening the soft body occupies) is less than half the height of the shell. The operculum, which covers the aperture when the snails retreats into the shell, is a key distinguishing feature.<sup>3</sup> The operculum is thick, teardrop-shaped, and attached at the outside of the shell. It is made of calcium carbonate so is a white chalky colour and easily cracks if bent. The opercula of adult faucet snails bears concentric rings.<sup>3</sup>

## Ecology:

The faucet snail has separate sexes and egg laying occurs when the water temperature is at least 20°C from May to July and sometimes again in October to November by females born early that year.<sup>1</sup> Eggs are laid on rocks, wood, and other substrates in double-rowed clumps of 1-77 eggs, and clumps can reach densities of 155 clumps per square meter. Two year-old females have the highest fecundity of up to 347 eggs each. Hatching depends on water temperature and can take 3 weeks to 3 months.<sup>1</sup> Newly hatched snails are about 0.8 mm.<sup>3</sup>

Sexual maturity is reached when snails measure 8 mm. In summer the snails can be found on aquatic vegetation or attached to algae covered substrate.<sup>1</sup> It is a scraper feeder as well as a filter feeder by

using its gills to filter algae from the water. In fall and winter, faucet snails attach to gravel, sand, clay, mud or the undersides of rocks. Growth does not occur during the winter months.<sup>1</sup> Faucet snails live up to 4 years.<sup>3</sup>

## Economic Impacts:

Faucet snails would cause significant costs to municipal water systems by clogging intake pipes.<sup>2</sup> Biofouling of swimming areas<sup>2</sup> and parasitic infections of waterfowl for hunting<sup>3</sup> could have impacts on recreation and tourism.

## Environmental Impacts:

Faucet snails compete directly with native gastropods and molluscs for food and habitat resources.<sup>1</sup> As hosts for parasitic trematodes faucet snails threaten the waterfowl that consume them as they contribute to massive die-offs.<sup>3</sup> Grazing by faucet snails can cause shifts in algal species and abundance,<sup>2</sup> which impacts the trophic structure of waterbodies.

## Sociological Impacts:

The transformation of native aquatic communities results in the intrinsic loss of natural capital and enjoyment of natural areas. Faucet snail infested waterbodies could have negative impacts on shoreline property values.

## Prevention:

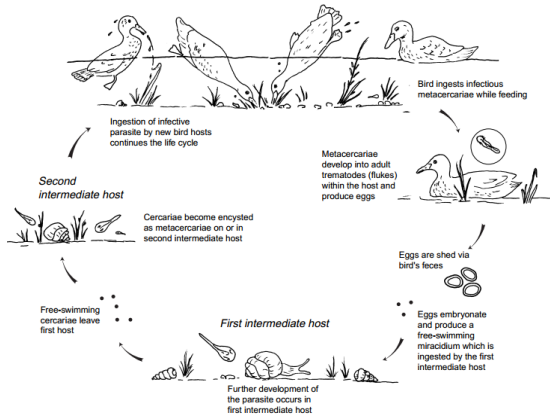
Learn how to identify faucet snails and how to prevent spread. Snails can attach to boat hulls and other water equipment. All aquatic recreational and fishing equipment should be inspected after use and cleaned, drained and dried of all mud and plant material.<sup>3</sup> Snails can attach to boat hulls, trailers, bait buckets, etc. and be transported to other water bodies. Motors should be drained and live well and bait well plugs pulled. Waterfowl hunting equipment (decoys, waders, etc.) should be thoroughly washed and left in the sun to dry for several days.<sup>3</sup> Never empty your aquarium into natural water bodies.

## Control:

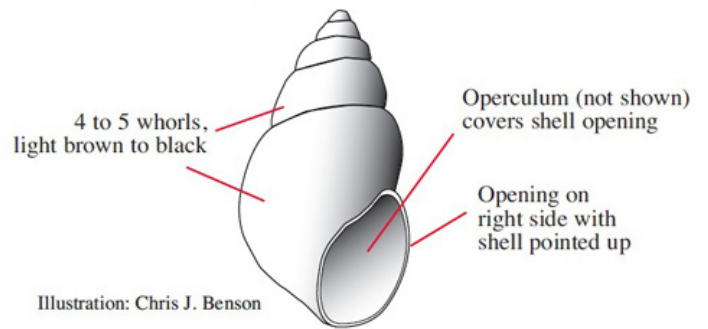
Control or eradication of faucet snails once established is impossible. No physical, chemical or biological control methods exist to date.<sup>2</sup>



# Faucet Snail *(continued)*



General fluke, or flatworm, lifecycle. U.S. Geological Survey



www.seagrant.umn.edu

## REFERENCES:

1. Faucet Snail (*Bithynia tentaculata*). Ecological Risk Screening Summary, U.S. Fish and Wildlife Service, February 2011, Revised, September 2014, Revised, July 2015. <https://www.fws.gov/fisheries/ans/erss/highrisk/Bithynia-tentaculata-ERSS-revision-July2015.pdf> Accessed: March 22, 2017.
2. *Bithynia tentaculata* USGS Nonindigenous Aquatic Species Database, Gainesville, FL, and NOAA Great Lakes Aquatic Nonindigenous Species Information System, Ann Arbor, MI. <https://nas.er.usgs.gov/queries/GreatLakes/FactSheet.aspx?NoCache=4%2F4%2F2010+10%3A47%3A34+PM&SpeciesID=987&State=&HUCNumber=>> Revision Date: 6/26/2014. Accessed: March 22, 2017.
3. Anett Trebitz, Gerald Shepard, Valerie Brady, Kurt Schmude. The non-native faucet snail (*Bithynia tentaculata*) makes the leap to Lake Superior. *Journal of Great Lakes Research* 41 (2015) 1197–1200. [https://www.researchgate.net/profile/Anett\\_Trebitz/publication/284138605\\_The\\_non-native\\_faucet\\_snail\\_Bithynia\\_tentaculata\\_makes\\_the\\_leap\\_to\\_Lake\\_Superior/links/56746eec08aebcdda0de24e3.pdf](https://www.researchgate.net/profile/Anett_Trebitz/publication/284138605_The_non-native_faucet_snail_Bithynia_tentaculata_makes_the_leap_to_Lake_Superior/links/56746eec08aebcdda0de24e3.pdf) Accessed: March 22, 2017.