

New Zealand Mud Snail

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*This article is about the invasive mud snail *Potamopyrgus antipodarum*. For another mud snail from New Zealand, see [Amphibola crenata](#).*

The **New Zealand Mud Snail** (*Potamopyrgus antipodarum*) is a freshwater aquatic snail native to [New Zealand](#) that has spread to [Australia](#), [Europe](#), and [North America](#). It is an operculate snail, that is, it has a 'lid' ([operculum](#)) that can seal the opening of its shell. The mud snail's shell can be either gray or brown in colour, and typically has five to eight 'whorls' coiling out in a clockwise ('right handed' or dextral) direction. Its shell can range up to 12 mm long; the average size is 5 mm.

^[1]

Mud snails feed on [decomposing](#) animal and plant matter, [bacteria](#), and [algae](#). They can reproduce [asexually](#); females "are born with developing embryos in their reproductive system."^[1] Each female can produce between 20 and 120 embryos.^[2]

In their native habitat, the snails pose no problem because of a [trematode](#) parasite which sterilizes many snails, keeping the population to a manageable size. However they have become an invasive pest species elsewhere in the absence of parasites.

Distribution

^[edit]

While [endemic](#) to New Zealand, the New Zealand Mud Snail has become [naturalised](#) in Australia, Europe, and North America, most likely due to inadvertent human intervention.

The rapid reproduction rate of the snail has led to it

New Zealand Mud Snail ?



Scientific classification

Kingdom: [Animalia](#)
 Phylum: [Mollusca](#)
 Class: [Gastropoda](#)
 Order: [Neotaenioglossa](#)
 Family: [Hydrobiidae](#)
 Genus: *Potamopyrgus*
 Species: ***P. antipodarum***

Binomial name


Potamopyrgus antipodarum
 J. E. Gray, 1843

accumulating quickly in new environments; the highest concentration of New Zealand Mud Snails ever reported was in [Lake Zurich, Switzerland](#), where the species colonized the entire lake within seven years to a density of 800,000 per square metre.^[3]

First detected in the United States in the [Idaho's Snake River](#) in [1987](#), the mud snail has since spread to the [Madison River](#), [Firehole River](#), and other watercourses around [Yellowstone National Park](#); samples have been discovered throughout the Western United States.^[1] Although the exact means of transmission is unknown, it is likely that it was introduced in water transferred with live [game fish](#) and has been spread by [ship ballast](#) or contaminated recreational equipment such as wading gear.^[2] The New Zealand Mud Snail has no natural predators or parasites in the United States, and consequently has become an [invasive species](#). It can reach concentrations above 500,000 per square metre, endangering the [food chain](#) by outcompeting native snails and water insects for food, leading to sharp declines in the native populations.^[4] Fish populations then suffer because the native snails and insects are their main food source.

The mud snails are impressively resilient. A snail can live for 24 hours without water. They can however survive for up to 50 days on a damp surface,^[5] giving them ample time to be transferred from one body of water to another on fishing gear. The snails may even survive passing through the digestive system of a fish.



Mud snail size compared to  an [American dime](#).

Mud snails have now spread from Idaho to most western states of the U.S., including Wyoming, California, Oregon, and Montana. Environmental officials for these states have attempted to slow the spread of the snail by advising the public to keep an eye out for the snails, and bleach or heat any gear which may contain the mud snails. Rivers have also been temporarily closed to fishing to avoid anglers spreading the snails.^[6]

The snails grow to a smaller size in the U.S. than in their native habitat, reaching 6 mm (1/4 in) at most

in parts of Idaho, but can be much smaller making them easy to overlook when cleaning fishing gear.

Clonal species like the New Zealand Mud Snail can often develop clonal lines with quite diverse appearances. These are called morphs. Until 2005, all the snails found in the western states of the U.S. were believed to be from a single line. However a second morph has been identified in Idaho's Snake River. It grows to a similar size but has a distinctive appearance. (It has been nicknamed the salt-and-pepper mud snail due to the face and final whorl being lighter than the rest of the shell.) This morph has apparently been present in the area for several years before being identified correctly as a distinct morph of *Potamopyrgus antipodarum*. It dominates the typical morph where they overlap, and has a much higher prevalence of males.^[7]

In [1991](#) the New Zealand Mud Snail was discovered in [Lake Ontario](#) in the [Great Lakes](#), and by [2006](#) had spread to [Duluth-Superior](#) Harbour and the freshwater estuary of the [Saint Louis River](#).^[8] The snails in the Great Lakes represent a different line from those found in western states, and were probably introduced indirectly through Europe.^[7]

References

[\[edit\]](#)

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