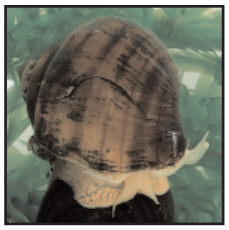
Freshwater Snails



Pond Snails
Species: vary
Genus: varies
Family: varies
Order: many, such as Neritopsina and Basommatophora
Class: Gastropoda
Phylum: Mollusca
Kingdom: Animalia

Ramshorn Snails
Species: vary
Genus: varies
Family: Planorbidae
Order: Basommatophora
Class: Gastropoda
Phylum: Mollusca
Kingdom: Animalia

Mystery Snails
Species: *bridgesi*
Genus: *Pomacea*
Family: Ampullariidae
Order: Architaenioglossa
Class: Gastropoda
Phylum: Mollusca
Kingdom: Animalia

Conditions for Customer Ownership

We hold permits allowing us to transport these organisms. To access permit conditions, click here.

Never purchase living specimens without having a disposition strategy in place.

- Pond and Ramshorn snails: There are currently no USDA permits required for Pond snails and Ramshorn snails. In order to protect our environment, never release a live laboratory organism into the wild.
- Mystery Snails: The USDA considers Mystery snails to be a plant pest. We hold permits to transport these pests. As a condition for transporting these organisms, we are required to notify the end-user of the following information:
  - For no reason shall any of these plant pests be released into the environment.
  - They must be kept indoors and housed in escape-proof containers (any holding tank must have a lid or cover).
  - All waste materials (including the container they were shipped in, dead or living snails or egg cases, etc.) must be disposed of properly. All waste materials must be double bagged and submitted to one of the following methods prior to disposal:
    - Frozen at -20°F for at least 72 hours
    - Immersed in 5% sodium hypochlorite or 70% isopropyl (rubbing) alcohol for 24 hours
    - Autoclaved at 121°C for 15 minutes
    - Disposed of as medical/biohazard waste with contracted company

Primary Hazard Considerations

Always wash your hands thoroughly after you handle live organisms.

Availability

Some types of aquatic snails are collected, in which case availability may be affected by weather conditions.

How Will Animal Arrive and Immediate Requirements

Aquatic snails are usually packed in containers with damp paper towels. The snails may pull their bodies tightly into their shells during their time in transit. We over-pack each order of snails. It is normal to have some deceased snails in the container. You will receive at least the quantity of live snails stated on the container. Upon receipt, immediately remove the snails from the shipping container and place them in the water (see habitat requirements below). Once they acclimate to the water conditions they will begin to move around. Pond and Ramshorn snails should start moving around the tank within a few hours. Mystery snails can "play dead" for up to a few days if under extreme stress or in dry conditions. They have a hard shell "door" (the operculum) that they will pull in tight to close off the shell opening. The operculum is held closed by a muscle, so if it is closed that signifies the snail is still alive.

Captive Care

Habitat:

- Minimum container/tank sizes for short-term housing are as follows:
- Pond snails: 1-gallon container for 12 snails
- Ramshorn snails: 1-gallon container for six snails
- Mystery snails: 5-gallon container for six snails
- For longer-term housing you should use containers/tanks that are at least double the above sizes. Containers can be glass or plastic, and they should have a secure cover that allows for air exchange but prevents the snails' escape. For Mystery Snails, allow at least 2–4" of air space between the water and the aquarium cover if you want to allow them to breed (they lay their eggs above water level). Aquatic snails also like having darker areas of the tank to hide in, which can be provided by things such as plants or artificial rocks. They do not require any artificial light source.
- These aquatic snails can be housed in either standing water or in tanks with steady water circulation. If you keep them in a container without a filtration system, you will need to change the water as it becomes cloudy (change about ¼ the water about once a week). You can use spring water or water from an established aquarium. You can also use tap water that has been sitting out for at least 48 hours to allow for any chlorine in the water to evaporate off. You will need to make sure that your water does not contain any copper or other metals, which can be lethal to snails. Water temperature should be between 65–83°F, and a pH of 7–8 is ideal. Aquatic snails need hard water (containing calcium) for proper shell growth. A degree of hardness of 7–9 dGH (70–90 ppm of calcium) is ideal. Things such as limestone, coral, and shells can be added to increase calcium levels. The water should not contain any salt.

Care:

- Food: These aquatic snails are omnivores and scavengers. They often graze at bottom of the tank, eating debris, decaying plants, small dead animals, uneaten fish flake food, and algae wafers (designed for algae-eating fish like Plecostomus). They will also eat algae off the sides of the tank and the surface of plants. An established aquarium may have enough naturally occurring algae in the tank to provide enough food for a small quantity of pond or ramshorn snails. In a new aquarium, or in exceptionally clean one, you may want to supplement the algae supply with pieces of lettuce or parboiled vegetables. Usually they will only eat aquarium plants if there is not enough other food provided.

Information

- Method of reproduction:
  - Pond and Ramshorn snails: They mature rapidly (at 6–8 weeks for Pond Snails, and 4–6 weeks for Ramshorns) and multiply readily (laying up to 100 eggs at a time for Pond snails, and around a dozen at a time for Ramshorns). They are hermaphroditic. They both reproduce asexually, and Pond snails can also reproduce sexually (the preferred method). They lay jellylike masses of eggs under water on plants and on the sides of the container/aquarium. The eggs hatch in about 10–20 days depending on temperature. If you want the eggs to hatch out, move them to a separate container with water of the same temperature so adult snails or fish will not eat them.
  - Mystery snails: They are unusual among snails because they are not hermaphroditic—there are separate male and female sexes. They undergo sexual reproduction, which peaks in the spring. The females lay large clumps of pinkish eggs (usually about 200–600 eggs) above the water. This allows the eggs to avoid predation from fish. Eggs hatch in about 2–3 weeks. The eggs need to be in a humid (not wet) environment to hatch. If the eggs begin to turn chalky white they are probably dying due to low humidity. Females can lay as many as a few clumps of eggs in one month. Eggs hatch in about 2–3 weeks, and then the young snails will head to the water.
  - If you wish to prevent your snails from reproducing, you can simply remove any egg clusters as soon as they appear and dispose of them as per the disposition instructions at the end of this care sheet.
- Determining sex: Pond and Ramshorn snails: They are hermaphroditic (each snail has both male and female sex organs). Mystery Snails: They are very difficult to sex. The opening of the shell in the male usually is larger and rounder. You can also try taking the snail out of the water and keeping it upside down so it will hopefully extend out of its shell a bit, then you can look for the penis sheath in front of the gills, which would identify a male (absent in females). Also, if two snails are mating, the female will be the one underneath.

Life Cycle

- Aquatic snails cannot regulate their body temperature. They will be more active if kept in warmer water temperatures but will have a shorter life span. Because most of these snails are wild-collected, it is difficult to estimate what their lifespan will be in captivity.
- Pond snails: They can live for around one year. The species of pond snails varies, but they are usually around ¼"–½" in size. Their color varies from gray, green, brown, to black.
- Ramshorn snails: They can live for 1–2 years. Ramshorn snails are usually around ¼"–¾" in size. Their shells have the appearance of a coiled rope (or a ram's horn!). Their color varies from brown, reddish brown, to black.
- Mystery snails: They can live for 1–3 Years. Most mystery snails are usually around ¾"–2½" in size. Mystery snails have been bred to have a huge variety of colors, from white, golden, green, blue, purple, brown (the original color), and black. They may or may not have a striped shell.

Wild Habitat

- Pond and Ramshorn snails: These snails are found in many freshwater aquatic habitats throughout the world, including ponds, swamps, and rivers. Their major predators are fish and larger aquatic snails.
- Mystery snails: They are native to areas with tropical climates such as Florida, Hawaii, South America, Central America, and the West Indies. They are very well adapted to areas where the weather alternates between drought and heavy rainfall. They have a hard shell "door" (the operculum) that they can use to close off their shell to keep their body moist while stuck in dry conditions. They can be found in ponds, swamps, rivers, and even muddy ditches. Birds are predators of their eggs, and fish are predators of the snails.

Special Notes

- Aquatic snails tend to gravitate to dark areas of the tank, and they often clump together. They also are good indicators of water quality, and if they suddenly seem to be crawling out of the water it may indicate poor water quality (like high ammonia or nitrates, or low oxygen levels). Some fish (especially loaches, gouramis, and bettas) will eat snail eggs and small snails.
- Any copper-based aquarium treatment will kill aquatic snails.
- Mystery snails: The Ampullariidae family to which Mystery snails belong is unusual in that they possess both gills and lungs. This gives them the ability to leave the water in search of food if needed. They do need to breath air from the surface of the water. They will go to the surface for air, or they can stay further underwater and extend a tube (called a siphon) to the surface to get air. The siphon looks similar to their tentacles, but is larger, longer and just on one side. This siphon also allows them to avoid attacks by birds by remaining underwater. They are more active at night. Mystery snails are sometimes called apple snails, which is a more generic term for many species of snails in the Ampullariidae family.

Disposition

- We do not recommend releasing any laboratory animal into the wild, and especially not organisms that are not native to the environment.
- If you received snails for short-term classroom studies and are done with them, see if you can find someone with a freshwater tank who would like to take them.
- If the snails must be euthanized at the end of study, follow one of these procedures:
- Pond and Ramshorn snails:
  - Frozen at -20°F for at least 72 hours
  - Immersed in 5% sodium hypochlorite or 70% isopropyl (rubbing) alcohol for 24 hours
  - Autoclaved at 121 °C for 15 minutes
- A deceased specimen should be disposed of as soon as possible. Consult your school's recommended procedures for disposal. In general, dead snails should be handled as little as possible or with gloves, wrapped in an opaque plastic bag that is sealed (tied tightly) before being placed in a general garbage container away from students.

Disposition (continued)

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Notes:

5100 West Henrietta Rd • PO Box 92912 • Rochester, NY 14692-9012 • p: 800 962-2660 • f: 800 635-8439 • wardsci.com