

Mexican Axolotl

Species: *mexicanum*
Genus: *Ambystoma*
Family: Ambystomatidae
Order: Caudata
Class: Amphibia
Phylum: Chordata
Kingdom: Animalia



Conditions for Ownership

Axolotls are restricted in Canada. Under no circumstances may axolotls be sold or bought in Canada. A permit is required to ship axolotls and all other vertebrates to Ohio.

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

In order to protect our environment, never release a live laboratory organism into the wild.

Primary Hazard Considerations

Always wash your hands thoroughly after you handle your axolotl, its food, or anything it has touched. Like most amphibians, axolotls absorb things through their skin. Therefore, handling of axolotls should be minimized.

Availability

Axolotls are available year round, as they are bred in captivity. Occasional shortages may occur if demand is high. We offer two types of axolotls: **light** and **dark**. **Dark** are brown or gray in color, whereas **light** are white or golden in color. Light axolotls may have either red or golden eyes. Axolotls are shipped as juveniles and are usually 5–8 cm in length.

How Will Animal Arrive and Immediate Requirements

Axolotls are shipped in water in a bag. They cannot live in their shipping container, due to build up of wastes and depletion of oxygen. Upon receipt, take the bag and float it for 30-60 minutes in the aquarium in which the axolotl is to be housed. This allows the axolotl to acclimate to the temperature of the aquarium. If your axolotl is cold when you receive it, its movement will be very slow or nonexistent. This does not indicate poor health; it will behave normally once it adjusts to a higher temperature. Once the axolotl is acclimated, carefully cut open the bag and release the axolotl into the aquarium.

Captive Care

Habitat:

- Use a glass aquarium. We recommend a minimum of 5 gallons of water space per axolotl. Use pond, spring, or de-chlorinated tap water. Tap water can be de-chlorinated by letting it sit out for 48 hours or by adding a de-chlorinating solution such as [Stress Coat 212338](#).
- Keep the water temperature between 60–70°F. This should not require a heater in a typical classroom environment.
- Gently aerate the water in the tank, using a filter or an air-stone attached to an air pump.
- You may wish to use a filter in your tank to remove waste and reduce cleaning. Keep the flow light enough that your axolotl can rest without resisting the flow force.
- If you want to use a decorative substrate for the bottom of the tank, use large river rocks, or smooth pieces of slate. Axolotls can ingest pebbles, causing intestinal blockages, so any rocks in the tank must be larger than their head. You may also keep the bottom of the tank bare. Landscape the tank to provide hiding spaces for the axolotl. Plants, large rocks, or driftwood works well.

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Care:

- Axolotls should be fed every other day. They will eat daphnia, rinsed adult brine shrimp, cut-up redworms, salmon pellets, or bloodworms. Feed only as much as can be consumed in half an hour's time or the food will foul your tank. Axolotls can go weeks between meals, so if you forget or are unable to feed them for a few days, they will be fine.
- Axolotls are relatively easy to care for. Once a week, do a 50–60% water change by removing water from the tank and replacing it with fresh water (pond, spring, or de-chlorinated tap). You can change the water less often or remove less water if you have installed a filtration system.
- To reduce bacterial loads or to treat fungal infections, use a mild salt solution, but **do not use table salt**. Instead, use laboratory grade sodium chloride, or kosher salt. Iodine in table salt can trigger partial metamorphosis, killing your axolotl.

Information

- Method of Reproduction: Sexual. Males release sperm capsules in various locations throughout the tank. He then leads the female to these capsules where she picks up the sperm capsule in her cloaca. Within 8–48 hours, she deposits the fertilized eggs, generally on vegetation in the tank. She can lay 100–1,000 eggs in any given spawning.

Life Cycle

- Axolotls are an example of neoteny. Neoteny refers to an animal whose adult stage is the same as the larval stage. Most salamanders leave their larval stage and walk up onto land to live as an adult. Axolotls remain in water for their entire life.
 - Egg: Small (1–2 mm). Brown in color if dark, pale yellow if light. Takes six weeks to hatch at normal room temperature (around 70°F).
 - Larvae: Once hatched the larvae can swim around but has yet to develop legs. Size is about 11–50 mm. Front legs are formed about two weeks after hatching. The hind legs develop a few weeks after that.
 - Adult: Looks the same as the larvae once it has formed both sets of legs but is larger in size. Average size is 12–24 cm. Sexual maturity is reached in about a year and they become full adult size in about 18–24 months. Axolotls can live in captivity for about 10 years.
- Sexing: Determining sex in axolotls is not possible until they are 12–24 months old. Males: have a slimmer abdomen and a larger cloacal region. Females: have a round abdomen and a smaller cloacal region.

Wild Habitat

- While all axolotls in the United States are laboratory bred, they originated from Lake Xochimilco, Mexico. This is the only natural habitat of the *Ambystoma mexicanum*, and as a lake habitat, it is disappearing. In the wild, they eat mollusks and arthropods, and are eaten by large fish.

Special Notes

- Axolotls have the ability to regenerate lost limbs or even portions of their gills. This ability is greatest at an earlier age and dissipates over time.
- As mentioned above, axolotls remain in their larval form for their entire lives, a trait known as **neoteny**. However, though the use of chemical injections (iodine and/or thyroxine) axolotls can sometimes be influenced to become a land salamander. The success rate is not very good but it is possible, but the lifespan is usually cut in half. One reason it is possible to do this is that in addition to their gills, axolotls do have a pair of rudimentary lungs which they will occasionally fill with air from the surface. In a laboratory setting, they have been known to produce viable young with the tiger salamander, whose larval stage resembles the axolotl larvae.

Disposition—Do one of the following:

- We do not recommend releasing any laboratory animal into the wild. As a laboratory animal, it has not encountered or learned wild survival skills and is therefore likely to come to an inhumane end.
- Adoption is the preferred disposition for a vertebrate.
- If the animal cannot be adopted by a capable owner, it may be surrendered to your local humane society.
- If the animal must be euthanized, we recommend consulting the AVMA guidelines on euthanasia (American Veterinary Medical Association, <https://www.avma.org/KB/Policies/Pages/Euthanasia-Guidelines.aspx>).
- According to these guidelines, acceptable methods of euthanasia for an amphibian include exposure to CO₂ at >60% or treatment with tricaine methane sulfonate (also known as TMS, MS-222 and [Bio-calm 470302-958](#)). TMS is an anesthetizing agent that will cause fish and amphibian death due to central nervous system depression and hypoxia with overexposure. Handle this substance while wearing personal protective equipment (gloves, safety glasses, lab coat). The fish or amphibian is placed in a solution of **5 g per 5 gallons** of water for **30 minutes** or until all motion has ceased. To make sure the animal is dead, check for reflexive movement when the eye is touched. If movement occurs, replace the animal in the TMS solution for another 30 minutes.
- A deceased specimen should be disposed of as soon as possible. Consult your school's recommended procedures for disposal.
- In general, a small dead vertebrate should be handled with gloves, wrapped in an absorbent material (e.g., newspaper), wrapped again in an opaque plastic bag, then placed inside an opaque plastic bag that is sealed (tied tightly) before being placed in a general garbage container away from students.