



Axolotl

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



Photo courtesy of Lynne Panebianco

Habitat

- **In the Wild:** Axolotls were historically found in Lakes Chalco and Xochimilco of the Valley of Mexico near Mexico City, Mexico. Native habitats are these large, relatively permanent (until recently), high-altitude lakes. Lake Chalco has been drained for drinking water. Lake Xochimilco remains as only a network of canals and lagoons.
- **Exhibit Location:** U.S.S. Antiquities

Characteristics

- Axolotls most resemble their closest relative, the larval form of the tiger salamander. As adults, they have retained the juvenile state, possessing feathery, external gills and finned tails for swimming. They develop lungs, but retain branch-like gills. Their legs are small and weak.
- Laboratory specimens exist in many color morphs, ranging from the wild type (dark, mottled brownish-green) to albino.
- Their length averages 9 inches, but they can grow to more than 12 inches long.
- Sexes can be easily distinguished in adult axolotls. Males have enlarged cloaca (the hole where the reproductive and intestinal tract empties), while females have smaller cloaca and have round, plump bodies.
- **Lifespan: In the Wild** unknown ; **In Captivity** 5-6 years (some 10-15 years)

Behaviors

- Axolotls are solitary and may be active at any time of the day.
- They communicate mainly through visual and chemical cues during mating. At other times of the year, there is little or no other specific communication.
- Axolotls can detect electrical fields and also use their vision and chemical cues to perceive their environment and discover prey.
- **Enrichments at the Zoo:** changing exhibit furniture

Reproduction

- Sexual maturity is reached at 1 year of age, in the next breeding season. In the wild they breed from March through June.
- Each animal nudges the other's cloacal region, eventually leading to a "waltz," with both animals moving in a circle. Next, the male moves away while moving the back end of his body and tail in a wave-like motion (resembling a hula dance), and the female follows. The male will deposit a cone-shaped jelly mass with a sperm cap by vigorously shaking his tail for about ½ minute and then moves forward a body length. The female moves over the mass, also shaking her tail, and picks up the mass with her cloaca.
- There are 100-300 eggs deposited in the water and attached to substrates (rocks and floating vegetation). Eggs hatch 10-14 days later and are immediately independent.

Diet

- **In the Wild:** worms, tadpoles, insects, larvae, crustaceans (anything they can catch)
- **At the Zoo:** crickets, wax moth larvae, pinkie mice

Conservation Status

- **IUCN status:** Vulnerable; **CITES:** Appendix II
- Virtually nothing is known about its ecology, natural history, or its relationship with other ambystomids.
- Axolotls are being threatened toward extinction in their native habitat by pollution, exploitation, agricultural development, draining and filling of lakes, and introduction of predators. Wild axolotls are becoming so scarce that permits are required for the possession and taking of a wild specimen.
- Predators: sports fish

Did You Know?/Fun Facts

- Axolotls are salamanders. *Ambystoma mexicanum* is the species found in labs and as pets, but other species exist within the genus.
- Until recently, axolotls were sold as food at markets. They have also been used for medicinal purposes as cures for colds and respiratory ailments.
- Axolotl is derived from the language of the Aztecs (Nahuatl). Xolotl is an ancient god and twin brother of the Aztec god Quetzalcoatl. He has also been known as the God of Games.
- Axolotls are important research animals and have been used in studies of the regulation of gene expression, embryology, neurobiology, and regeneration.
- Occasionally taken as a food item (a substitute for fish), axolotls are prepared by either roasting or boiling, and the tail is eaten with vinegar or cayenne pepper.
- They can be aggressive towards one another and will bite off each other's gills, feet, and tails (body parts will regenerate).

Sources:

- Eng, C. (1997). What is an axolotl?. Retrieved Oct. 28, 2005, from Geocities Web site: <http://www.geocities.com/Yosemite/4301/axolotlwhat.htm>.
- Majchrzak, A. 2004. *Ambystoma mexicanum*” (On-line), Animal Diversity Web. Accessed October 28, 2005 at http://animaldiversity.ummz.umich.edu/site/accounts/information/Ambystoma_mexicanum.html.
- Sedgwick County Zoo, 2005. Axolotl. Retrieved Oct. 28, 2005, from Sedgwick County Zoo Web site: <http://www.scz.org/animals/a/axolotl.html>.