

## **The Axolotl (*Ambystoma mexicanum*)**

The axolotl in the wild is limited to two lakes, Lake Xochimilco and Lake Chalco in central Mexico. Not much of either exists any more. There are other similar species such as *Ambystoma andersoni* in other lakes in central Mexico. The axolotl has a special feature in that it remains in its larval stage for its whole life, which can be up to 15 years in captivity, and even breeds, in this larval stage. The male axolotl will “dance” with the female and leave spermatophores lying around and lead the female over to them to pick them up, and in a couple of days she lays hundreds of eggs, which are quite large and often used for research. Sex cannot be determined until they get to full size (around a year), then the males develop a rather large cloaca (swelling behind their back legs).

And research is why we see axolotls today in the pet trade. Axolotls have another amazing feature - they can grow back or regenerate damaged or missing arms, legs, tail, and even parts of organs. There are large colonies kept at various universities all over the world and they are used extensively for regeneration research, and most recently in cancer research. There appears to be a possible chemical in axolotl eggs that can shut off tumour cells. So although the population in the wild is declining, there are hundreds of thousands of axolotls in fish tanks around the world.

As a pet they are pretty easy to keep. They don't need any heat, preferring colder water, as the lake in Mexico where they come from rarely reaches above 20 degrees Celsius. They will eat anything they can fit in their mouths including earthworms, small fish, fish pellets, insects, and each other if the size difference is great. It is good that they can regenerate legs and arms because they are very vigorous feeders, especially when young, and will eat any of their siblings' limbs that get close to their mouths. They never leave the water so an aquarium filled with water is the ideal home, just make sure it isn't in a part of the house that gets too warm as heat can stress them out and make them sick (sounds weird coming from Mexico but the lake water is actually pretty cold at high elevations). They are prone to impactions if kept on gravel, so sand or slate tile are good options. They are quite comical and get to know when feeding time is and come to the surface and eat from your hand.

They start off hatching at about 1cm long and can get to almost 30cm (1ft) long. When first born they feed only by sight and need live, moving food, so they are fed newly hatched brine shrimp (sea monkeys) and bigger food as they get bigger. They have several colour variations such as albino, wild type (brown with spots) melanistic (black) and leucistic (white with black eyes). New colours are surfacing in the pet trade such as golden albino, copper and purple. They make amazing, easy to care for pets, but they do get quite large so a large aquarium is needed. And if you are ever in Mexico you can still order up a plate of axolotl for dinner as it is a delicacy there.

Dr. Chris Mizzi