

Housing and Feeding Larval Axolotls

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1. We house axolotl larvae individually in bowls that have the water changed every other day. We use glass bowls that are 9 cm wide and 3.5 cm deep. They are filled 2/3 full with water (solution: see 5 below).

2. The animals that we house usually range in size from 2 to 4 cm.

3. We feed the animals brine shrimp twice a day at 08:00 and 17:00. Once a week we feed them white worms from a colony that we keep.

I think the simplest way to go is feeding the larvae brine shrimp. They are easy to brew in a separatory funnel that is aerated from the bottom and you get a good hatch in 24 hours.

4. I usually house 24 to 30 animals at a time, but I have housed as many as 80 during a big experiment. I always house the animals individually.

5. Holtfreter's solution. The recipe I use consists of the following:

To 6 liters of water add:

300 ml Sodium Chloride
6 g Potassium Chloride
12 g Calcium Chloride
32 g Magnesium Sulfate

To another 6 liters of water add 24 grams Sodium Bicarbonate. The 12 liters are mixed together in a carboy. The chemicals dissolve best if the water is hot.

White worm colony

I have a 3-pound coffee can that contains potting soil (about 2/3 full). I bury a slice of bread in the dirt once a week (whole wheat) and keep the soil damp. It is important that the bread stay buried or you get mold if it's exposed to air. I started with about 10 worms and in 2 weeks I had a colony. The best way to get the worms for a feeding to the axolotls is to make the soil very wet. They come to the surface and can be picked off. You could feed them to axolotls everyday, but you would need a big supply for a lot of animals. I have a colleague who used to keep a large aquarium full of the worms to feed fish. I think a larva that is 2 cm long could eat six to eight 1.5 cm worms a day. I use the worms primarily for reinforcement during learning experiments. They can last in a bowl of solution for about 24 hours. If they die the salamander won't eat them. It could also become very tedious picking the worms off the potting soil. You can't do it with forceps without picking up some dirt. I always transfer them first to a bowl of clear water using forceps. I tease them away from the dirt (they tend to clump with each other), then I pull them into a stopper and squirt them into their destination.

I make 24 liters at a time and store it in a 30 liter carboy I keep another 30 liter Carboy where I mix 1 liter of the above stock solution to 12 liters of water. I used to use a 1:6 ratio of stock to water, but I have found that 1:12 works just as well, and I don't have to mix up the stock solution as often.