Axolotl Housing and Care at St. Mary's College of Maryland and What is an Axo-condo?

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Our Colony

At St. Mary's College of Maryland we routinely maintain a breeding group of about 10 adults around 2 years old, 12-15 animals around a year old and anywhere from 100–300 larvae. Animal care is performed by research students working in my lab or, when funding is available, an animal caretaker. Holiday times, exam times, odd times, we all (family members included) pitch in to feed and clean.

Food and Water

All animals are fed three times a week, and their Holtfreter's solution is changed within 3 but not more than 6 hours after feeding. To prevent cannibalization, young larvae are reared individually, in 8 oz. SweetheartÆ ice cream and food cups, S308, (approximately $50.00/1000) in 25% Holtfreter's solution. Larvae are fed fresh-hatched brine shrimp and then switched to frozen brine shrimp as soon as they will self feed. Larger larvae are maintained on frozen brine shrimp and adults are fed small cubes of fresh thawed beef liver. Larger animals are housed in 64 oz. polyethylene disposable FisherbrandÆ multi-purpose containers (11-840E) or larger polystyrene mammal animal boxes. Matings are set up and newly fertilized embryos are maintained in 10% Holtfreter's solution to minimize exogastrulae in the developing embryos. We make up 20 liters of 100% Holtfreter's solution at a time and then dilute it as needed with house distilled water. Because of temperature fluctuations in our science building, a cold room set at 18°C is used to house the animals.

Anesthetic

To anesthetize animals for amputation or treatment we immerse the animals in a 0.007% solution of Benzocaine, Ethyl p-amino-benzoate (SigmaÆ), dissolved in 25% Holtfreter's solution. For convenience, a 0.07% stock solution can be made and stored on the shelf at room temperature. To make this stock solution, Benzocaine must first be dissolved in a small amount of 100% Ethanol before being added to the Holtfreter's solution. Benzocaine also works well for fish and worms, however the concentrations may need to be modified.

The *Axo-condo*

To minimize the amount of space required for my colony in the lab and cold room, I have designed a special rack to house trays of larvae. The standard lunch trays found in most cafeterias accommodate 12 of the waxed paper cups we use to hold larvae. These trays are handy to use when organizing experimental groups or transporting animals and are easy to clean. To acquire a rack designed to hold lunch trays, I went through the company which provides our college with racks. Working over the phone, I was able to design a rack specific to my needs. The "Axo-condo" rack stands 65 inches tall and is 22.5 inches wide and 29 inches deep. It moves easily on wheels and has 11 shelves spaced 5 inches apart. Each shelf holds two trays of 12 animals. In this way we are able to move or store 264 larvae in the floor space of little more than two lunch trays. To discourage animals from hopping out of their cups, plastic ceiling light "egg crate" panels are cut to size with heavy shears and placed over the top of each 12 cups/tray. These covers minimize animal loss and are easily cleaned. The initial cost of the rack in 1991 was about $150 with shipping a surprisingly high additional $150. Regardless and despite the cost, I cannot imagine functioning without this useful cart and could easily use another.