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I have only recently come into the world of axolotl fanciers so my colony is a small one. My breeding stock consists of a pair of completely wild type adults from London Zoo who have twice bred successfully for me, and two grey ones from Dr. J.R. Slack. I also have 18 white juveniles reared from a batch of eggs supplied by Dr. Slack, 31 wild type (home produced) juveniles and nearly 100 white larvae reared from eggs supplied by Hugh Wallace of Genetics, plus more eggs in the pipeline.

Because of lack of space and facilities in the department I have developed a 'bookshelf' system for axolotls which requires minimum care i.e. I can happily leave them for two weeks at a time if someone will feed them. The set-up can be seen in the photograph opposite. Each shelf is 3.1m long x 23cm deep and will hold twenty two 22.5 x 11.5cm polystyrene tanks (sandwich boxes) suitable for 2 axolotls up to about 10 cm long or 4 up to 6 cm'ish long. Each box has a hole drilled at one end about 1.5 cm from the top to hold a 5 mm internal diameter polythene outflow tube sealed into place with Silastic (Dow Corning Ltd). As can be seen in the photograph all the tanks on one shelf drain into a length of guttering (standard 3" house guttering) & thence via a downpipe into the sink. Water is fed to the tanks via an Armitage Shanks reducer valve fitted directly to the tap. This provides a constant water flow to the system against large changes in mains water pressure which would otherwise blow the system apart at night. Each tank is fed from an aquarium air valve, the valves being screwed to a length of wood supported on shelf brackets above the tanks, and connected by polythene tubing. At present I am using two types of valve - Hykro plastic valves at 15 pence each and brass valves at 37 pence each. The brass valves are better in every way than the plastic ones - they do not add resistance to the water flow, they do not have to 'wet' before they function properly, they do not split etc. At the end of each line of valves the tube drains 'open' into the gutter so that pressure does not build up in the line. Leaching of plasticizers etc is not a problem in this system due to the constant turnover of the water in the tanks. Most of the debris produced is washed out of the tanks although the flow is slow so they need cleaning only every one to two weeks. The adults tanks, seen on the bench below, are fed on the same principle - each tank has a separate inflow and outflow and no cross or back contamination can occur.

Tubifex is the main cause of slime etc in the tanks and has in fact been the main cause of all my problems. All tubifex coming into the lab is treated twice with 'Diseasolve' (Scanstock Ltd, packed and distributed in the U.K. by Cagex Accessories Ltd.) and rinsed very thoroughly before feeding. I was losing white axolotls regularly from red-leg caused by tubifex - now they are large enough to feed with locust hoppers and mealworms the problem has disappeared. The wild type larvae seem to have much more resistance and I have not yet encountered red-leg in them. A diet solely of tubifex also seems to cause bowel problems, probably due to lack of roughage. Symptoms are diarrhoea and swelling around the vent, twice

followed by a prolapse of the bowel. Again, feeding on locusts very quickly cured the problem and for the smaller larvae feeding daphnia and mosquito larvae seems to have averted the problem.

The small tanks are lidded with a hole under the valve for the drip to prevent the animals jumping out and are also supplied with a short length of opaque tubing for them to hide in or shelter under to reduce fighting. In the large tanks however cannibalism has been rife amongst juveniles despite good feeding, hiding places and plenty of room. Adults are kept singly so that they will breed when placed together.

Droppings are netted out of the large tanks as they come in pellets - small tanks are scrubbed in a solution of chlorox (sodium hypochlorite) and rinsed well before replacing their occupants. Tools, nets etc. are sterilised in chlorox as well. The only clear cut disease I have encountered has been Red-leg as described by Boyer et al. No treatment really worked - only one animal has survived once symptoms appeared and it was left for about 8 weeks in the fridge.

I work on small axolotls 2 - 4 cm in length and keep them 4 to a tank since they regenerate before they become too big to coexist. Each is marked by removal of a different leg, which operation must be repeated every 2 - 3 weeks. I am working on the distribution and orientation of regenerating lateral line sense organs without a nerve supply and I would be very interested in hearing from anyone with similar interests.

