

Manipulation of the Sex Life of the Mexican Axolotl
or

How to obtain a continuous supply of urodele eggs.

Author: SØREN LØVTRUP, Department of Zoophysiology, S-901 87 UMEA SWEDEN

To all students of amphibian developmental biology the seasonal spawning is a serious drawback. It is for this reason, I suppose, that Xenopus has become such a popular object of study, since it is so easy to provoke spawning by hormonal injections.

This method seems to have been used successfully even with urodeles, but in our department it has never worked. During the last few years we nevertheless have had an almost constant supply of axolotl eggs, fertilized and ready for experimental work.

This result has been obtained in the following way: Young animals are reared in the laboratory, being fed with living food for 2-3 months, subsequently with ground heart or liver. When they are 5-7 cm long they are transferred to our aquarium room, where they are placed in aquaria supplied with running water (-15° C), filtered continually in a biological sand filter. The number of animals in each aquarium is reduced as the animals grow larger. When they are sexually mature, 2-3 pairs are kept in an aquarium containing about 40 l of water.

There are no windows in the room, and the light is regulated at 12 hour periods all year round.

It appears that as a consequence of the complete constancy of their environment the animals never acquire any seasonal rhythm, and when they start spawning it may therefore occur at any time of the year. With a number of animals exceeding 200, it seldom happens that we do not get eggs once or twice a week.