Experience with Tonkin bug-eyed frog

by Ilze Dunce, Riga Zoo, Latvia

Approximately 15 species of exotic amphibians have bred in Riga Zoo’s Laboratory of Ecology since 1999. Most of them are bred in zoos quite commonly (Dendrobates, Dyscophus, etc.), but some species are true pearls in our collection, for example Theloderma corticale. We obtained our first specimens of this frog species from the Laboratory of Herpetology of Vsevolozsk Zoo in 1998.

Theloderma frogs are popular with zoo visitors. Because of their colouring and shape they resemble pieces of moss, and it takes some time for visitors to find them. Usually children are more successful, and that is great fun for them.

Our T. corticale laid their first eggs on 15 December 1998, and most of the eggs developed into tadpoles successfully. The two pairs have spawned 99 times since then, and we have reared a total of about 200 froglets.

However, a problem quickly surfaced: all the froglets are males. We undertook many experiments with water temperature and quality to identify the problem in the following two years, but without results. Since frogs of the same stock as ours breed continuously in Vsevolozsk, and the sex ratio of young produced there is close to 1:1, it is doubtful that the cause of our phenomenon is associated with the adults; the explanation must lay in our tadpole rearing methods. This is even more mysterious as according to the literature, the sex is genetically determined for all amphibians species. However, environmentally-dependent sex determination is widely known for fishes and reptiles, which are much better studied animal classes. We continue breeding these frogs, and rearing tadpoles in different conditions and trying to identify any differences in our tadpole rearing techniques and those used in Vsevolozsk. All factors must be carefully considered, as our aim is not only to rear females but also to find the reason for exclusively male offspring.

It would be interesting to learn whether other facilities breeding amphibians have met such problems. Our knowledge of general amphibian biology would be altered should it prove that environmental conditions in the tadpole stage can influence sex.

Prikkebeen, a unique insect exhibition in the Artis Zoo Insectarium

by Ko Veltman, Artis Zoo - Amsterdam, Netherlands

One of the educational activities in the Artis Zoo Insectarium is a special annual insect exhibition called ‘Prikkebeen’. This exhibition is a 4-day activity, during which 30 amateur entomologists explain about their favourite insect.

These volunteers enthusiastically tell the same story – many, many times a day – about that one special beetle or wasp. One entomologist tells about the smallest beetle, only visible under a microscope. This tiny little beetle is able to walk, eat, smell and can even reproduce, just like the biggest beetle on earth. Another entomologist tells the story of caterpillars. She feels that people only know about butterflies, not realizing that they were first beautiful caterpillars. Living nests of ants, wasps, bees and bumblebees can be seen in the exhibition; local and tropical spiders are shown, as well as phasmids, cicadas, katydids, praying mantis and numerous local insects. Behind every insect there is a big story to tell.

In addition to living animals, the volunteers also use specially designed, large scale models of a fly, flea, mosquito, bumblebee and a tick for visitors with a visual handicap. Special guided tours around the exhibition are offered to visual and auditory-disabled visitors. These guided tours are also provided by volunteers. The traditional Prikkebeen exhibition is very popular and well known by zoo visitors. You should really come to visit Artis Zoo on 25-28 July 2002 to see this unique insect exhibition. The Prikkebeen volunteers also have their own website, both in Dutch and English: www.Prikkebeen.net