D-17: Some aspects of the reproductive ecology of *Ramanella obscura*, an endemic anuran of Sri Lanka

M P B Meegaskumbura
(Dept of Zoology, University of Peradeniya)

Ramanella obscura Gunther, 1864, is an endemic, threatened microphylid (Family Microphylidae) of Sri Lanka, which is distributed in the leaf litter in heavy forests and semi-wooded home gardens in the wet zone of the island. This study shows the importance of human modified ecosystems such as home gardens in the conservation of this species.

The study was carried out for 15 months in a semi-wooded home garden in Peradeniya. Twelve breeding pairs were observed in four breeding pools, of which two were man-made. The breeding behaviour, seasonality, breeding habitat selection, fecundity and other sympatric amphibian species were observed.

These frogs commenced their breeding activity with the onset of rain. The adult males first moved into the pools filled with rain water within short distances of less than 20m. The breeding pools, which were situated in shady places had an average depth ranging from 2.8-4.3 cm and an average area ranging

from 0.38-0.5 m^2. The bottom of the pools had leaf litter and decaying animal remains. The temperature in the pools ranged from 23-27°C and had a pH of 6.5. Three of hese pools were surrounded by shady bushes which provided the breeding amphibians with a daytime refuge.

Bufo melanostiscus, Limnonectes limnocharis and *Polypedates cruciger* were observed to co-occur with *Ramanella obscura*. Tubificid worms, chironomid larvae, mosquito larvae, ostracods and many protozoans were present in the breeding ponds.

The vocalization started as the light level decreased (from 1845-1920 h) and went on until the increasing of light levels the next day (from 063DDD0–0915h). Only the males made calls. The laying of eggs commenced at least 2 days after the first rains. A female could lay about 4-8 clutches of eggs per breeding season. The first clutch of eggs was the largest (285-338) and the clutch size decreased with progression of the season. The minimum number of eggs, observed per clutch was 38. These frogs never laid eggs during heavy rain.

This study shows that it is possible to conserve threatened species even outside the protected areas in our country, by being aware of the needs of these animals.