

**SOME ASPECTS OF BIOLOGY AND POPULATION DYNAMICS OF  
*Rasbora vaterifloris* IN THE KALU RIVER BASIN IN SRI LANKA.**

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*Rasbora vaterifloris* is a threatened endemic freshwater fish that inhabits shallow heavily shaded forest streams in the southwestern region of Sri Lanka. It is heavily exploited from the wild for aquarium industry. The present study was carried out from October 1998 to September 2000 in the Kalu river basin to study population dynamics, abundance and reproductive biology of *Rasbora vaterifloris* with an objective of recommending suitable strategies for its sustainable utilization and conservation management.

The mean size at maturity was estimated to be 3.6 cm and 3.3 cm for females and males respectively. It is a multiple spawner, which spawns throughout the year with two peak spawning seasons. Spawning was found to be significantly correlated with the rainfall. Its fecundity ranged from 22 to 81 and the sex ratio was 1:1.

*R. vaterifloris* exhibited isometric growth. Its condition factor was significantly correlated with rainfall. The asymptotic length was 53 mm and von-Bertalanffy growth coefficient was  $0.89 \text{ year}^{-1}$  with a growth oscillation in January. Potential longevity was 3.4 years. The total and natural mortality coefficients were  $>2.5 \text{ year}^{-1}$ . The  $L_{50}$  was 33 mm and  $E_{\text{max}}$  was 0.5. The optimal  $L_{50}$  was 18 mm. The population size ranged from 11 individuals/100  $\text{m}^2$  to 22 individuals/100  $\text{m}^2$  during the study period.

Studies on population dynamics indicated a high turn over rate. However, their populations may not be able to recover the removal of biomass due to low reproductive potential and low population size. Therefore, harvesting this species from the Kalu river basin cannot be recommended. Conservation management measures such as prohibiting of catching and exporting wild specimens, habitat management, induced breeding and translocation practices have to be carried out to ensure its survival in the natural habitats in the Kalu river basin.

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