

## FOOD RESOURCE PARTITIONING AND DIEL FEEDING PATTERN OF TWO HERBIVOROUS FISH SPECIES IN UDAWALAWE RESERVOIR, SRI LANKA

W.S. Weliange and U.S. Amarasinghe

Department of Zoology, University of Kelaniya, Kelaniya, Sri Lanka

Food resource partitioning is an important phenomenon taking place in the aquatic environments which helps co-occurrence of various fish species particularly in reservoirs where available food types are limited. *Etroplus suratensis* and *Puntius filamentosus* which co-exist in Udawalawe reservoir feed mainly on semi-aquatic macrophytes. Food resource partitioning among these two species were determined by Schoener's Index which indicates a high degree of food overlap.

Diel feeding patterns of the two species were determined by 'MAXIMS' software package. For this analysis, stomach content weight in three-hourly intervals in two size groups of the two species (for *E. suratensis*, 3-6cm and 9-12 cm; for *P. filamentosus*, 6-9 cm and 9-12 cm) were used. Both species had two feeding periods during the 24 hour cycle.

In small *P. filamentosus* (6-9 cm), the two feeding periods lasted from 0220 hours to 0930 hours and from 1500 hours to 1905 hours, whereas for large *P. filamentosus* (9-12 cm), first and second feeding periods were 0120-0400 hours and 1230-1810 hours respectively. For small *E. suratensis* (3-6 cm), first feeding period lasted from 0420 hours to 0620 hours and the second feeding period from 1020 hours to 1330 hours. Large *E. suratensis* (9-12 cm) also had a more or less similar feeding periods which lasted from 0410 hours to 0730 hours and from 0945 hours to 1420 hours. Due to the differences in feeding periods between the two species, in spite of the significant food overlap, inter-specific competition for food resources is relaxed. Daily food rations (DFR) estimated for small (3-6 cm) and large (9-12 cm) *E. suratensis* were 0.2672 g and 0.9442 g respectively. DFR for *P. filamentosus* was 0.4761 g for 6-9 cm size class and 0.8725 g for 9-12 cm size class. Food consumption per biomass (Q/B ratio) for *E. suratensis* and *P. filamentosus* was estimated to be 19.85 and 24.87 respectively. This indicates that *P. filamentosus* plays a more significant role in trophic dynamics than *E. suratensis* in Udawalawe reservoir.

This study was carried out as part of the project (Project number: IC18-CT97-0190) funded by European Union INCO-DC programme.