

RESOURCE PARTITIONING OF TWO COMMERCIAL-
LY IMPORTANT CICHLID SPECIES IN THREE
MINOR PERENNIAL RESERVOIRS IN THE NORTH-
WESTERN PROVINCE OF SRI LANKA

M.J.S. WIJEYARATNE and H.H. COSTA

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

ABSTRACT

The degree of food niche overlap of two commercially important cichlid species, *Oreochromis mossambicus* and *Etilopius suratensis*, with other co-occurring fish species was studied in three small-scale perennial reservoirs in the Northwestern province of Sri Lanka. High dietary overlap above 67% was observed between them and some fish species which are not consumed by the people. If these reservoirs are stocked with these two cichlid species, competition for food may occur at least during the periods when food is less abundant. If the edible cichlids are not able to overcome this competition their numbers will decrease, resulting in a low fish yield.

The high diversity of some tropical communities of freshwater fishes and the reasons for such diversity have been documented by many authors (Fryer and Iles, 1972; Lowe-McConnell, 1975; Welcomme, 1976; Goulding, 1980; Moyle and Senanayake, 1984). Some studies on these fish assemblages have exposed a great ecological overlap among the species in the use of space and food (Bishop, 1973; Costa and Fernando, 1967), while a recent study by Moyle and Senanayake (1984) has shown a low overlap among tropical stream fishes in either diet or relative depth in which they live, or both.

Although resource partitioning among fishes in some streams has been studied in Sri Lanka (Cost and Fernando, 1967; Moyle and Senanayake, 1984), no work of similar nature has been carried out on the niche overlap of fish living in man-made reservoirs, which constitute about 140,000 ha.

The present study deals with diet and feeding habits of fish living in three small-scale perennial reservoirs in Sri Lanka which are less than 20 ha in surface area, with an attempt to evaluate the degree of food niche overlap of two commercially important cichlid species—the recently introduced *Oreochromis mossambicus*, an exotic species, and *Etilopius suratensis*, an indigenous fish species introduced from brackishwater habitats—with other co-occurring fish species.