

## STUDIES ON THE FEASIBILITY OF USING INDIGENOUS FISHES FOR CONTROLLING AQUATIC MACROPHYTES IN SRI LANKA

M.J.S. WIJEYARATNE and W.M.D.S.K. PERERA

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

### ABSTRACT

Aquatic weeds have adversely affected water resources in many parts of the world. In Sri Lanka many inland reservoirs have been extensively covered with the aquatic weed *Salvinia molesta*. In the late 1980s this aquatic weed was biologically controlled in many reservoirs using an exotic weevil *Cyrtobagous salviniae*. However, the control of *S. molesta* has resulted in an unexpected growth of aquatic macrophytes such as *Hydrilla verticillata*, *Azolla pinnata*, *Eichhornea crassipes*, *Nymphoides hydrophylla*, *Nymphaea nauchali*, *Utricularia flexuosa* and *Brachiaria ramota*. Studies on the food and feeding habits of five indigenous fish species namely *Etroplus maculatus*, *Rasbora daniconius*, *Puntius filamentosus*, *Anabas testudineus* and *Mystus vittatus* co-occurring in minor irrigation reservoirs in Sri Lanka where aquatic macrophytes are abundant indicate that *E. maculatus*, *P. filamentosus* and *R. daniconius* mainly feed on aquatic macrophytes and decaying plant matter. Larger individuals of these three species are used as food fish and smaller ones have a high demand in the ornamental fish industry and are popular export fish. Therefore, minor irrigation reservoirs where aquatic macrophytes are abundant can be utilized to grow these fish species which will not only increase the inland fish production but also enhance foreign exchange earnings from the ornamental fish industry.

Key words: Aquatic macrophytes, indigenous fish, control.

In most parts of the world, aquatic macrophytes have adversely affected water resources in many ways. This problem has been found to be severe in tropical regions where large reservoirs have been constructed for irrigation and hydroelectric purposes. Heavy growth of aquatic macrophytes such as *Salvinia* and *Eichhornea* have been reported to block irrigation channels in many parts of the world including Sri Lanka (Fernando, 1996; Kotalawala, 1976; Anon., 1977). Blocking of drainage rivers and canals due to aquatic macrophytes has caused flooding of many low land areas after heavy rains. Further, these aquatic macrophytes have interfered with hydroelectric power generation by blocking inlet waterways (Anon., 1977). Aquatic macrophytes have also caused