

TROPHIC INTERRELATIONSHIPS OF EXOTIC AND INDIGENOUS FISH SPECIES CO-OCCURRING IN SOME RESERVOIRS OF SRI LANKA

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More than 20 fish species have been introduced to Sri Lanka for many purposes including development of inland fisheries, recreation and control of malaria. Some of these species, such as *Oreochromis mossambicus* and *Trichogaster pectoralis* are well established now and significantly contribute to the fish catch of many reservoirs. However, the conservationists' view point is that these exotic species have resulted in a decrease in the abundance of indigenous fish species and therefore have affected the freshwater fish biodiversity of Sri Lanka. Many fishery biologists are of the view that the successful establishment of some of the exotic species was due to filling of a vacant niche in the reservoirs and therefore would not have affected the indigenous fish fauna of the country.

The exotic species may affect the indigenous local populations mainly by predation or competition.

Study of food and feeding habits of two introduced fish species, namely *Oreochromis mossambicus* and *Trichogaster pectoralis* and five indigenous fish species, namely *Etroplus maculatus*, *Rasbora daniconius*, *Puntius filamentosus*, *Anabas testudineus* and *Mystus vittatus* co-occurring in five minor inland reservoirs of Sri Lanka namely Madampe, Mahawewa, Mattegoda, Lunuwila and Boralasgamuwa tanks, carried out over a period of two years indicates that moderate to very high dietary overlap exists among the introduced and indigenous fish species (Table 1).

Therefore, it appears that although there is no predation by introduced fish species on indigenous fish fauna, if food is limiting, some competition for food may occur among them due to high dietary overlap and in such instances the indigenous fish populations may be adversely affected.

Table 1 : Percentage dietary overlap among the introduced and indigenous fish species in the five reservoirs studied.

Mahawewa			Mattegoda			Boralasgamuwa		
	<i>O.m</i>	<i>T.p</i>		<i>O.m.</i>	<i>T.p</i>		<i>O.m.</i>	<i>T.p.</i>
<i>E.m.</i>	91	79	<i>R.d.</i>	91	84	<i>R.d.</i>	86	80.
<i>R.d.</i>	90	69	<i>A.t.</i>	19	18	<i>A.d.</i>	31	28
<i>P.f.</i>	92	82	<i>M.v.</i>	51	49	<i>M.v.</i>	55	53
<i>A.t.</i>	35	32						
Lunuwila			Madampe					
	<i>O. m</i>	<i>T. p</i>		<i>O.m</i>		<i>O.m.-</i>	<i>Oreochromis mossambicus</i>	
<i>E. m.</i>	90	88	<i>E. m.</i>	61		<i>T.p. -</i>	<i>Trichogaster pectoralis</i>	
<i>R. d.</i>	88	92	<i>R. d.</i>	75		<i>E.m. -</i>	<i>Etroplus maculatus</i>	
<i>P. f.</i>	86	94	<i>A. t.</i>	28		<i>R.d. -</i>	<i>Rasbora daniconius</i>	
<i>A. t.</i>	27	29	<i>M. v.</i>	71		<i>P.f. -</i>	<i>Puntius filamentosus</i>	
<i>M. v.</i>	59	61	<i>P. f.</i>	81		<i>A.t. -</i>	<i>Anabas testudineus</i>	
						<i>M.v.-</i>	<i>Mystus vittatus</i>	

Key words : Exotic species; Biodiversity, Indigenous fish.