

AN APPEAL TO REDEFINE STUNTING IN *Oreochromis mossambicus* (CICHLIDAE)

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Stunting in tilapiine fish is considered to be a result of dense overcrowding of fish which breed at a smaller size than their counterparts from natural habitats. *Oreochromis mossambicus* (Peters) is an important constituent in the Sri Lankan inland fishery due to its high yield of about 300 kg/ha, yr. There is evidence that in some inland reservoirs of Sri Lanka, *O. mossambicus* has become stunted so that it produces lower yields than before. Stunting in *O. mossambicus* is often described as a phenomenon taking place due to intra-specific competition caused by overcrowding. This definition, in other words, echoes the opinion that stunting is due to malnutrition. As a result it is often advocated that in tilapia aquaculture systems, a carnivorous fish species be introduced in order to reduce overcrowding, hence for preventing stunting. However according to Sri Lankan experience, stunted *O. mossambicus* which attained maturity at smaller sizes were found in reservoirs with high allochthonous input of nutrients. Also in such stunted populations, growth curves with lower asymptotic length and higher growth constant were evident than in non-stunted reservoir populations. As such introduction of a carnivorous fish species to reduce overcrowding in stunted populations of *O. mossambicus* would worsen the problem. *O. mossambicus* populations with accelerated growth and life cycles which conform to 'r-selected' life strategies can therefore be regarded as stunted populations. This phenomenon also conforms to the 'bet-hedging' hypothesis that if in a variable environment, adult mortality is high and juvenile mortality is low, then selection should favour early maturity, larger reproductive effort, and more young.

KEYWORDS: Cichlidae; Stunting; Reservoir fisheries; Life history patterns