

ABSTRACT

Minor cyprinids are a term loosely used to describe those members of the family Cyprinidae which do not grow to a large size.

In this study the biology of minor cyprinid species of five reservoirs were investigated. The minor cyprinid species encountered in the reservoirs were Amblypharyngodon melettinus (Valenciennes), Barbus chola (Hamilton-Buchanan), B.dorsalis (Jerdon), B.filamentosus (Valenciennes), B.sarana (Hamilton-Buchanan) and Rasbora daniconius (Hamilton-Buchanan).

The study was undertaken to provide information that would be hopefully useful for initiation and sustenance of a fishery for these small cyprinid species in reservoirs in Sri Lanka.

The aspects studied were species composition and aspects of the biology of individual populations viz. length composition, length-weight relationship, sex ratio, size at maturity, distribution of eggs in mature gonads, fecundity, seasonal variations in gonadal stages and GSI, relative gut length and diurnal activity and feeding.

Differences in the minor cyprinid fauna were encountered. The most significant being the absence of B.filamentosus from all the reservoirs except Murutawela which is deep and mesotrophic, and have flow characteristics similar to a river. Also A.melettinus was very rare in Murutawela and B.chola was not recorded in Ridiyagama where the water level fluctuations are minimal.

The overall sex ratio of the different species differed between reservoirs. Such as for example the overall male to female sex ratio varied from 1:1.05 to 1:2.13 in B.chola and from 1:0.77 to 1:1.31 in B.sarana. In general in A.melettinus, R.daniconius and B.chola the percentage of males decreased with increasing size whereas in B.filamentosus it increased with increasing size.

The mean size at maturity of the minor cyprinids also differed between reservoirs. For example the L_{mat} of B.dorsalis varied from 82 to 115 mm and of B.sarana from 126 to 145 mm.

The main probable spawning season for each minor cyprinid species in each reservoir was deduced from studies of gonadal maturation and changes in GSI. In general the main spawning season of most of the species coincided with the rainy season such as for example in B.chola, B.filamentosus and R.daniconius. In A.melettinus it coincided with rainy season as well as with reservoir water levels and in B.dorsalis with reservoir water level but not with the rain.

There is no evidence to believe that the minor cyprinids spawn in the reservoirs. Perhaps they undertake extensive migration to streams and rivers for this purpose.

In minor cyprinids the length of the gut varied between the species. In most of them the mRGL tended to increase with increasing body size. In general the diel activity pattern of most of the minor cyprinids tended to increase with the onset of darkness which did not appear to be in agreement with their feeding rhythm.