THE BIOLOGY OF SOME FRESH WATER CATFISHES, NAMELY MYSTUS SEENGHALA (SYKES), MYSTUS VITATTUS, (BLOCH) MYSTUS CAVASIUS (HAM.) AND HETEROPNEUSTES FOSSILIS (BLOCH)

BY

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ABSTRACT

The chief findings reported in this thesis are as follows:

Length frequency distribution of four different cat-fishes, namely *Mystus scenchale* (Sykes), *Mystus vittatus* (Bloch), *Mystus cavatus* (Heem.) and *Heteromyctes fossilis* (Bloch) gave only an indication of few modes in the earlier year classes.

Breeding season in all the species under investigation was found to be short and confined to about two months, August and September except in *Mystus scenchale* where breeding occur during May and June. *Mystus scenchale* attained first maturity after two years, whereas the other three species mature after the end of first year. Seasonal changes in gonad weight of all the species were found to be regular, recording their maximum at the time of peak maturity and minimum in spent fishes. In each individual was only one group of ova in the maturing ovaries which gave an indication that each individual spawns once only. The cycle in condition factor 'K' was not well marked. The rise and falls, however, in 'K' values could be better explained on the basis of feeding rhythm than by the increase or decrease in the gonad weight. In none of the species the 'K' values of various length groups gave the size of the fish at first maturity.

*Mystus scenchale* chiefly fed on fish and larger crustaceans. The food of the other three cat-fishes included a variety of aquatic fauna and flora which pointed to an omnivorous habit. The intake of food in all fishes was high during monsoon and post-monsoon months and low during summer. Feeding intensity was governed more by the environmental factors.
such as the availability of food rather than the gonad saturation.

The fecundity of all cat-fishes was rather low. It generally varied with the square of the length.

Opercular bones and scales in *Ophicephalus punctatus* gave a clear evidence of age. These were used for studying the growth rate of the fish. In *Ophicephalus striatus* growth studies were made from scales alone.

The pharyngeal region of *Ophicephalus punctatus* was found to be infested with protozoan parasites of the order *Myxosporidia*. These represented four new species, namely *Myxobolus aligachensis*, *Myxobolus punctati*, *Epibionta basiri* and *Hemocysta saheari*.

During the course of present investigation a loach belonging to family Cobitidae, genus *Botia* was collected. On examination this was found to be a new species. This has been named as *Botia panikkari*. 