

**OCCURRENCE OF MULLET EGGS IN THE GUT CONTENTS OF
AMBASSIS GYMNOCEPHALUS (LACEP.)**

DURING one of our visits to lake-mouth of Chilka lake for general fishery biological and hydrographic observations, we chanced to examine the gut contents of *Ambassis gymnocephalus* and to our surprise the stomach was packed with fish eggs. Since this came in the wake of our observations on the eggs and larval development of the Chilka mullet, *Liza macrolepis*, which forms a separate paper (unpublished) we were in no difficulty in placing the eggs observed in gut contents of *A. gymnocephalus* as belonging to mullet eggs. The lots observed contained eggs of *L. macrolepis* as well as those belonging to other species of mullets.

The gut contents of *A. gymnocephalus* consisted, in addition to mullet eggs, copepods and diatoms, the last insignificantly (Table). The mullet eggs occurred in the gut contents in November, December and January (1964-65) but in other months only copepods dominated. These three months also coincide with breeding period of *Mugil cephalus*, *L. macrolepis* and other mullets. The mullet eggs formed in the gut contents 42.56% by volume and 66% by occurrence in November 1964, 52.50% by volume and 100% by occurrence in December 1964 and 56.65% by volume and 100% by occurrence in January 1965. The feeding intensity for above months is represented by average volume of food of fish and is shown in Table.

Since *A. gymnocephalus* occurs in large shoals around the lake mouth the depredation it may cause on mullet eggs in winter months assumes ominous biological overtones with its possible impact on the fishery itself. Fluctuations in egg production could arise from variations in the numbers and age of adult spawners as well as one or more environmental influences (Graham, 1956). Egg-predation could prove one of important factors that may leave its impact upon recruits. In Chilka lake detailed studies carried out on *M. cephalus* and *L. macrolepis* have indicated that these two species display marked recruitment vagaries (Jhingran and Natarajan, 1966). The present observations on mullet egg-predation by *A. gymnocephalus* thus assumes especial importance.

Excepting for a brief account on its breeding and development by Nair (1957) details of biology of this fish is not available. Its predatory habits warrant such a study and a brief account of certain biological aspects of this fish is presented here. During November-January period (1964-65) sizes in the range 31-69 mm. have been met with in samples obtained in lake mouth. The modal size value in all the three months was 54 mm. Shoaling habits in this fish render age determination difficult. The sex ratio in the catch, male : female, was 2 : 1 in November, 1 : 3 in December and 1 : 1 in January (1964-65). The stages of maturity were IV to V in November-January months. But mature specimens were also observed in other months upto August indicating prolonged breeding. Ova diameter studies indicate that spawning is likely to be more than once. The fecundity was estimated at 7000 to 12,000 mature eggs in fishes of size range 57-68 mm. It merits mention that mullet eggs were found in gut contents of fishes of sizes 40 mm. and above but they were absent in sizes less than this.

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TABLE
Showing Volume of Feed and Percentage Composition of Food Items in *Ambassis gymnocephalus*

| | Average volume of feed (cc.) | Mullet eggs | | Copepods | | Diatoms | | Nos. examined |
|---------------|---------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|
| | | Volumetric % | Occurrence % | Volumetric % | Occurrence % | Volumetric % | Occurrence % | |
| November 1964 | 0.35 | 42.56 | 66.00 | 55.34 | 89.00 | 2.10 | 9.00 | 100 |
| December 1964 | 0.10 | 52.50 | 100.00 | 47.50 | 100.00 | .. | .. | 8 |
| January 1965 | 0.10 | 56.65 | 100.00 | 43.35 | 100.00 | .. | .. | 3 |

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