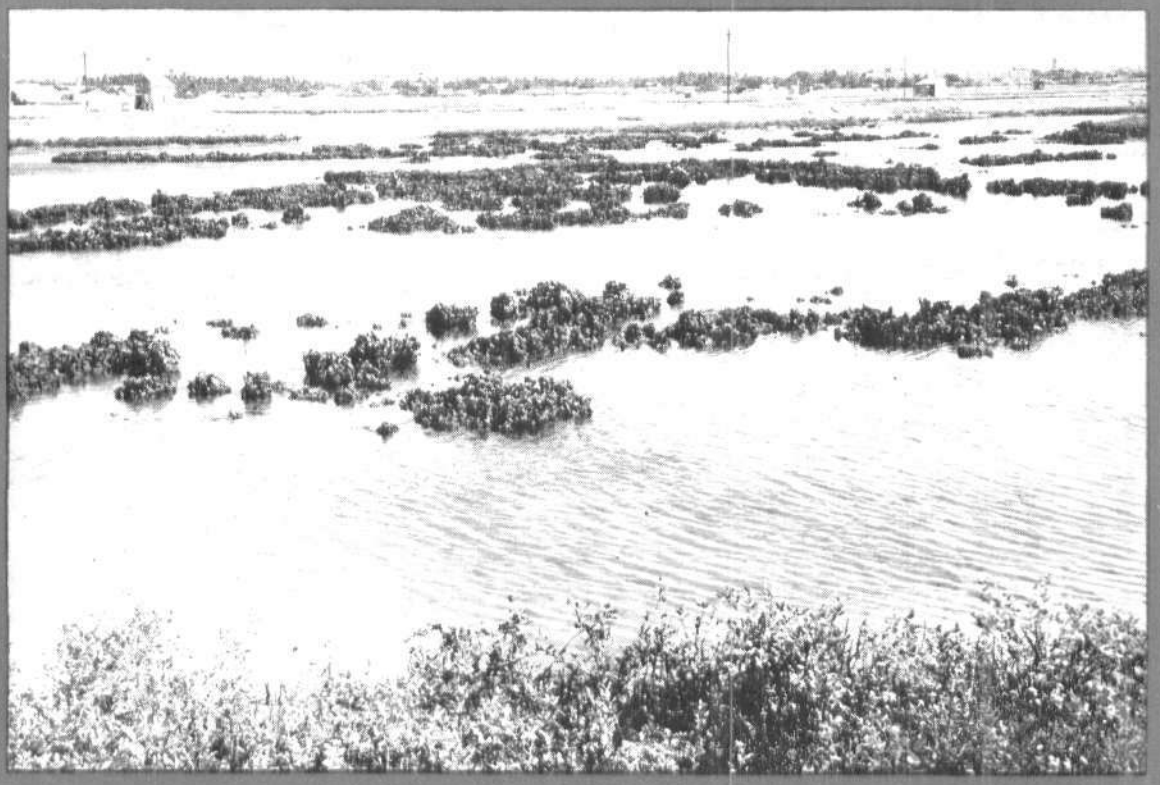
MARINE FISHERIES INFORMATION SERVICE



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THE MARINE FISHERIES INFORMATION SERVICE: Technical and Extension Series envisages the rapid dissemination of information on marine and brackish water fishery resources and allied data available with the National Marine Living Resources Data Centre (NMLRDC) and the Research Divisions of the Institute, results of proven researches for transfer of technology to the fish farmers and industry and of other relevant information needed for Research and Development efforts in the marine fisheries sector.

Abbreviation – *Mar. Fish. Infor. Serv. T & E Ser.*, No. 61: 1985

OCCURRENCE OF *TACHYSURUS DUSSUMIERI* (VALENCIENNES) WITH INCUBATING YOUNG ONES OFF MANGALORE*

During the course of routine observations on the purse-seine landings at Mangalore, a catch of about 21 t of catfish *(Tachysurus dussumieri)* was noticed on 23-3-'82. They were netted in a single haul by a purse seiner off the New Mangalore harbour at a depth of about 10 m. On a random examination of the catch it was found that all were males with fully developed young ones in their mouths. Their sizes ranged from 510 to 670 mm (average length 573.6 mm) with a mode at 589 mm and their weight varied from 1.7 to 4.0 kg with an average weight of 3.038 kg. In a sample of 30 fishes examined, the number of young ones varied from 2 to 101, with an average of 22 per fish. This indicates that the species could hold in their oro-buccal cavities as high as 100 or even more developing eggs ensuring perhaps a high hatching and survival rate. They ranged from 58 to 78 mm in total length with a mode at 67 mm (Fig. 1) and weighed between 2.7 to 4.3 g. Majority of them were fully developed, while in a few, the yolk-sac was not fully absorbed and appeared like long slits on the ventral side through which the yellow coloured unabsorbed yolk-sacs could be seen (Fig. 2).

Majority of the catfish landed had spewed out most of their young ones consequent upon their encirclement and subsequent struggle when thrown on the deck. Based on an average of 22 young ones per fish, a rough estimate of young ones destroyed amounted to 1.65 lakh in a single seining operation.

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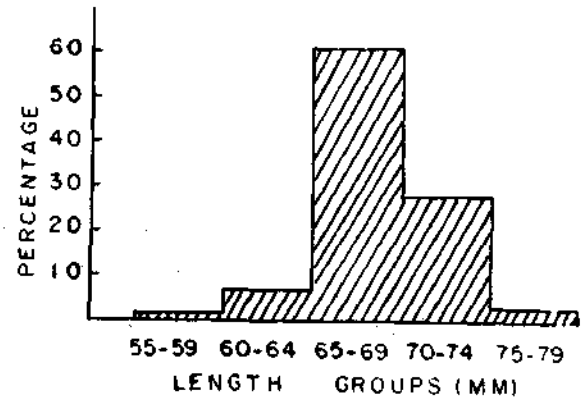

Fig. 1. Length-frequency of young ones of *T. dussumieri.*

Fig. 2. Unabsorbed yolk-sac on the ventral side of young ones of *T. dussumieri.*

Since majority (79%) of the young ones were in the 65–70 mm size group, it appears that all belong to the same spawning batch. The ova-diameter studies of ovaries in stage V maturity condition (Fig. 3), made during January, 1982 and the bimodal nature of development of eggs lend confirmatory evidence to such a view. The mode *a* at 4 mm representing immature group is clearly separated from the maturing group *b* with a mode at 14 mm destined to spawn in February.

Earlier observations along the Mangalore coast show that this species spawns only once a year during the period from December to March with peak in February. Juveniles measuring from 56 to 68 mm in total length in the oro-buccal cavities of *T. dussumieri* caught in a bag net operated in 15 to 40 m depths off Malpe and Gangulli have been recorded. Experiments conducted by the authors on the rearing of eggs of a much smaller catfish, *T. tenuispinis* (the ripe eggs of both the species have more or less the same dimensions) have shown that the embryos (8 mm in length) attained 30 mm in a period of 17 days at the time of hatching. Under natural conditions this period would be still shorter. As such it could be assumed that the young ones (58–78 mm) of *T. dussumieri* might be the product of spawning of February.

Fecundity studies of eight ovaries in maturity stages IV and V carried out in January, 1982, revealed the number of eggs varying from 176 to 207 with an average of

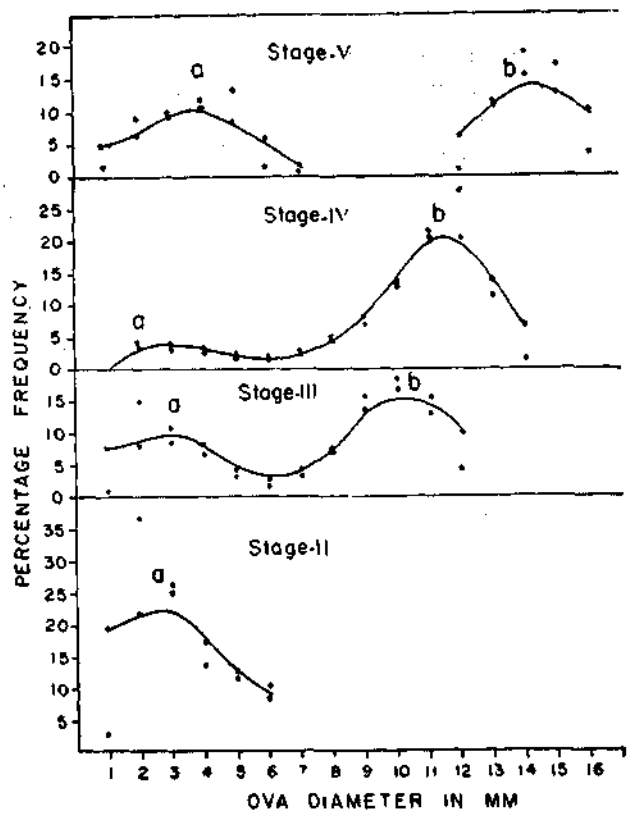

Fig. 3. Ova diameter-frequency of *T. dussumieri.*

190. In the light of the fact that a fish can hold 101 young ones in its buccal chamber as stated earlier, the survival rate for an average of 190 eggs works out to about 53%.

Mojumder *(Indian J. Fish;* **25**: 109-121, 1978) collected larvae measuring 20–30 mm of *T. thalassinus* with yolk-sac attached, from inshore waters of Lawson's Bay, Waltair. This indicates that *T. thalassinus* releases the young ones from its mouth when they are smaller in size as compared to *T. dussumieri* which retains the young ones measuring upto 78 mm in their mouth as evidenced from the present observations.

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