

**NOTES ON THE JUVENILES OF THE ROCK COD
EPINEPHELUS TAUVINA (FORSSKAL)**

ABSTRACT

The occurrence of the very young juveniles of the rock cod *Epinephelus tauvina* (Forsk.) in Cochin backwater during February-June is reported here with brief notes on the morphometric variations between juveniles and adults and food and feeding habits of juveniles.

THE ROCK COD *Epinephelus tauvina* (Forsk.) is one of the larger sized 'Kalavas' occurring in large numbers along the continental shelf of the south-west coast of India. The fishery potential of the species have been pointed out by Chacko and Sheriff (1949), Menon and Joseph (1969) and Silas (1969). The biological informations on this species is limited to the study of the fecundity and spawning by Selvaraj and Rajagopalan (1973). Recently, the juveniles belonging to *E. tauvina* were collected from Cochin Backwaters and it is thought worthwhile to record the following observations of the same.

Totally 244 young juveniles of *E. tauvina* were obtained from two fixed stations, one at Mulavukad channel and the other at Thoppumpady channel in Cochin Backwaters by operating a try-net for capturing juvenile penaeid prawns at a depth of 7-9 m during the

years 1970 to 1974. The catch details and size of the specimens collected are given in Table 1. Although the 'try-net fishing' was

TABLE 1. Catch details and size range of juveniles of *E. tauvina*

Month	year	No. of specimens	Size range (mm)
April	1970	15	40-56
May	1970	32	32-70
March	1971	10	39-62
April	1971	23	41-80
May	1971	116	38-70
June	1971	10	48-67
No record during 1972			
April	1973	15	49-70
May	1973	2	45-52
June	1973	5	50-58
February	1974	11	39-80
March	1974	5	42-47
May	1974	2*	118-142
June	1974	12*	103-283

* Specimens were obtained from the stake-net operation at Mulavukad channel.

carried out the year around, juveniles of *E. tauvina* were encountered along with prawns and other fishes only from February to June during the years under study. However, there was no catch of this species during 1972. For studying the food and feeding habits of the species, the stomachs were preserved in 5% formalin.

The smallest specimen recorded was 32 mm in total length while the largest juvenile measured 283 mm. Since the meristic and morphometric details of small sized juveniles of this species will be desirable, the following data on the material examined is given.

D. XI. 15-16 ; A. III. 8 ; P. 18 ; V. I. 5 ; Lateral line with 65 to 68 tubules ; G.R. 8-10, each provided with numerous closely set serrations ; maxilla, mandibles, vomer and palatine with closely set minute conical teeth ; vomerine teeth in single patch, the location and shape almost similar to that of giant specimen.

Colour : Juveniles brown with five dark brown ill-defined cross bars ; body and fins with indistinct dark brown spots scattered everywhere ; pelvic fin darker than the other fins.

TABLE 2. *Morphometric details of juveniles of E. tauvina in per cent of total length*

Parameters	Giant specimens (average of 2 specimens)	Juveniles (average of 25 specimens)
Head length	30.3	32.7-34.5
Snout length	6.4	6.7- 8.9
Eye	2.1	6.5- 7.8
Maxillary	16.1	15.0-16.3
Snout to nares	4.7	4.9- 6.5
Predorsal distance	30.0	28.6-33.3
Prepectoral distance	33.3	30.0-33.9
Prepelvic distance	40.4	32.4-37.5
Preanal distance	62.0	54.9-60.9
Depth at caudal	10.9	8.3-10.0
Length of pectoral fin	18.7	20.0-22.6
Length of pelvic fin	12.6	15.3-17.3
Length of caudal fin	13.3	18.7-21.6

Morphometric details are given in Table 2 and it is observed that in the juveniles, eyes and fins are proportionately larger than the adult specimen.

Examination of stomachs of 50 juveniles of *E. tauvina* revealed that their food items consisted of crustaceans (60%), fishes (30%) and polychaetes (10%). The crustacean food items composed of *Metapenaeus* sp., *Caridina* sp., unidentified caridian prawn and *Alpheus* sp., while fish item constituted by *Gobius* sp. From this it is clear that the small sized juveniles are also bottom feeders like the adults.

During the period of study, it is observed that the juveniles of *E. tauvina* of size ranging 32-283 mm appeared in Cochin Backwater during February to June. Mary John (1958) recorded *E. tauvina* in the intermediate zone of the Kayamkulam Lake where the salinity ranged between 9.5‰ to 15‰, but she did not mention whether the specimens were juveniles nor the month of occurrence.

The presence of very young fish gives a fairly good prediction of the spawning season of this rock cod. Selvaraj and Rajagopalan (1973) have recorded fully matured males and females of the large-sized *E. tauvina* during November from the inshore waters of Cochin area at a depth of 35-45 m. The regular occurrence of the very young juveniles of the species in this backwater environment from February to June suggests that the spawning might have taken place between October and December in the inshore waters of Cochin area which may be the possible spawning ground for the adults of the species. It is presumed that the backwaters adjoining to the inshore waters may serve as a nursery area for the juveniles of *E. tauvina* which feed voraciously on prawns, shrimps and gobiid fishes that are abundant at the bottom of the estuary. Silas (1969) observed that decapod crustaceans and fishes were the main food of the adult

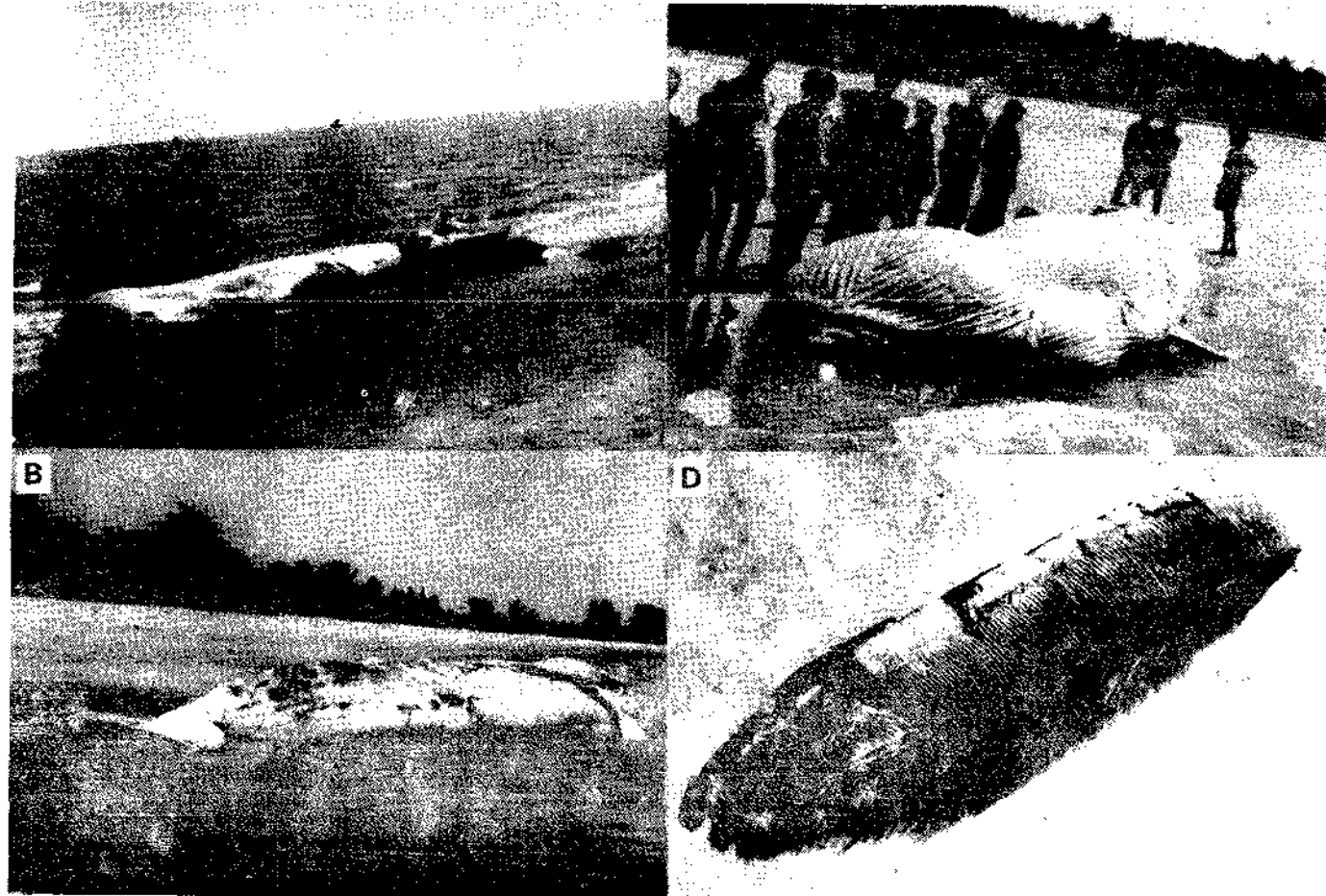


PLATE I. *Balaenoptera borealis* Less. A. Ventral view of the whales; B. Ventral view of the whale showing the caudal flukes; C. Ventral view of the whale showing the pleats and flipper on the side and D. Top view of part of the whalebone showing baleen plates.

rock cods. From the present observation on there is no much variation in preference of the food of the juveniles too, it is clear that food between juveniles and adults.

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