

**MIGRATION OF THE JEW FISH, *DENDROPHYSA RUSSELLI*  
(CUVIER) FROM SEA TO ESTUARIES IN THE GULF OF MANNAR**

**ABSTRACT**

The note records the occurrence of fully mature specimens of the jew fish, *Dendrophysa russelli* and its spawning periodicities and fecundity based on the collections from some of the estuaries along Tirunelveli coast of the Gulf of Mannar.

APART from a few species such as *Pama pama* (Hamilton) and *Pseudosciaena coibar* (Hamilton) found in both the sea and the estuaries, most species of the Indian sciaenidae are marine. *Dendrophysa russelli*, one of the good quality table fish occurring in the seas around India is believed to be one such species, as may be seen from a perusal of the literature on its distribution and habitat (Day, 1878 ; Weber and de Beaufort, 1936). In the Gulf of Mannar *D. russelli* occurs in small numbers in the catches of the indigenous crafts and trawlers. The specimens caught from the sea examined during 1965-1969 at Tuticorin, were all indeterminate or immature, upto stage II of gonadal maturity, the gonads occupying not more than 1/6 of the body cavity. Hence, the collection of four specimens, all females with fully mature gonads (Stage IV) completely occupying the body cavity, from the fish catch of a few estuaries along the Tirunelveli coast of the Gulf of Mannar, during a restricted part of the year in the course of 1967 to 1969, may be of interest.

The specimens were collected during January-April period from hooks and lines and cast net gear operated in the Chinnaru estuary, Vaipar River, Pazhayakayal estuary and Pinnakayal estuary at localities ranging from two to four km from the coast. They ranged in length from 14.1 cm to 15.4 cm and in

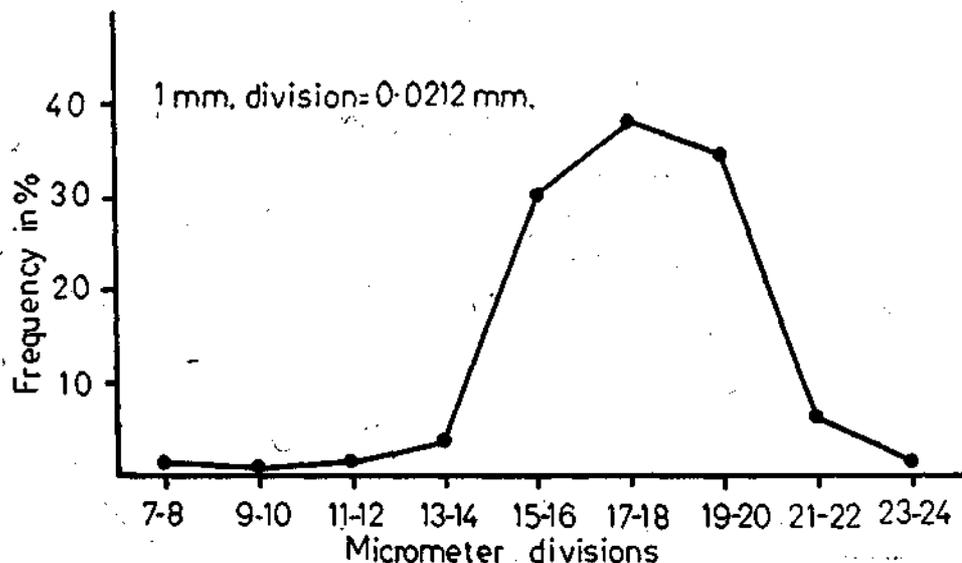


Fig. 1. Ova diameter frequency percentages of *S. russelli* in stage V.

weight from 32 gm to 57 gm. The stomachs of these specimens were empty and shrunken, probably as the fish were not feeding during advanced mature phase. In order to find out the maturity conditions of the species all the year round, attempts were made to obtain specimens from estuaries as well as the sea during 1957-1969. All specimens examined from the sea catches, were either indeterminate or immature all the year round ; and no specimens were available in the catches from the estuaries made between May and December.

The fully mature ovaries of *D. russelli* from the estuaries were slightly asymmetrical in that the right ovary is a little larger than the left. The ovaries of the specimen of 15.1 cm total length and 57 gm weight collected from Pazhayakayal estuary were studied for fecundity and ova-diameter frequency. The number of ova comprising the mature groups from the anterior, middle and posterior regions were counted and the fecundity of the fish was estimated to be 1,07,400. The ova ranged in sizes from 0.15 to 0.51 mm with the majority of them between 0.32 and 0.42 mm and the dominant mode at 0.37 mm. The ova-diameter frequency percentages show (Fig. 1) that there is only one dominant group of mature ova to be shed. Based on the spawning periodicities of some fishes dealt with by Hickling and Rutenberg (1936), it appears that in *D. russelli* only one batch of ova will be shed during the spawning process.

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