OCCURRENCE OF HERMAPHRODITISM IN *POLYNEMUS HEPTADACTYLUS* CUV. & VAL.

Hermaphroditism which is very common among the invertebrates occurs as an anomaly in fishes. While in *Serranus* spp. this phenomenon prevails as a normal condition, it is observed as an abnormal feature of variable frequency in teleosts like Herring, Cod, Mackerel and some of the Pleuronectidae.

During the biological investigations of *Polynemus heptadactylus*, it was noticed that hermaphroditism is of somewhat common occurrence in this species. From October 1958 to January 1959, 385 specimens were examined from the local and trawler landings at Bombay. It was very interesting to note that nearly 10% of them were hermaphrodites and their percentages in the samples varied from 2 to 18 in the four different months.

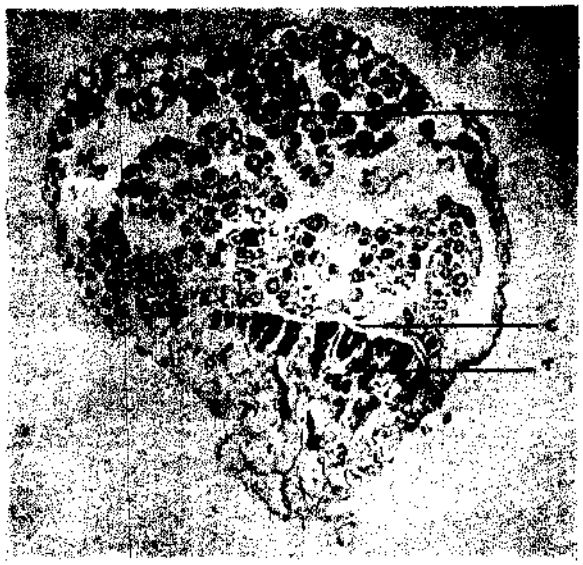

FIG. 1. T. S. of an ovotestis of *Polynemus heptadactylus* (O-ovary ; C-connective tissue ; T-testis). × 110.

Hermaphroditism in *P. heptadactylus* is found in the form of a pair of ovotestes. In fresh specimens, the two portions of an ovotestis are quite distinct from each other. The male portions of the two ovotestes face each other on the inner side while the female portions lie away from each other on the body wall. Further, the testis extends from end to end of an ovotestis and is milky white in colour whereas the ovary is either transparent as in the immature stage or yellow as in the maturing or mature stage.

FIG. 2. T. S. of an ovotestis of *Polynemus heptadactylus* (Details of lettering same as above). × 550.

The hermaphrodite nature of the gonads in this species has been verified by studying the micro-sections stained with Delafield's hematoxylin and counter-stained with eosin. The photomicrographs (Figs. 1 & 2) of transverse sections of an immature ovotestis show that testis occupies comparatively a very narrow space. A connective tissue layer distinctly separates the two regions of an ovotestis. The lobules in the testis are smaller and in it are lodged a number of spermatocytes whose nuclei are stained deep. The more spreading ovary has larger ovigerous lamellae with a number of oocytes in it.

Hermaphroditism in *P. heptadactylus* has been noticed even in the advanced and spent conditions of the gonads. So it is doubtful whether there is any sex reversal in this species.

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