A NOTE ON HYPEROSTOSIS IN THE PERCH *POMADASYS HASTA* (BLOCH)

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ABSTRACT

A case of hyperostosis in the skull bones of the perch, *Pomadasys hasta*, is reported. The oval-shaped protuberance of frontal and supraoccipital bones of the skull and also a small depression between the eyes are very prominent. This gives to the skull a hump-like appearance.

During the course of biological investigations on *Pomadasys hasta* at Bombay, the swollen nature of some skull bones, popularly called "stones" was noticed in two male specimens measuring 525 mm and 535 mm. The first specimen was collected from Crawford Market on 15-3-73 and the second, from Sassoon Dock on 13-11-73. The incidence of occurrence of such abnormal specimens were, however, very limited since only two such specimens were noticed out of a total of 3422 examined during the course of study. Both the affected fishes were probably four-year-olds, as was revealed by the otoliths.

In the normal skull, the supraoccipital is situated medially behind the frontal to which it is articulated anteriorly. In the abnormal skull, excessive thickening of the frontal and supraoccipital form two heavy bony masses. The semicircular curvature of the bones of the frontal region becomes swollen more antero-posteriorly than those of the supraocciptal region. The frontal ridges coalesce together forming a frontal crest posteriorly which remains unossified leaving a gap between the two ossified bones, resulting in slight concavity in the nape which is perceptible externally. The enlargement of supraocciptal takes place anterodorsally, the posterior part remaining as a thin transparent blade.

Investigation by earlier workers have drawn much attention to this phenomenon of hyperostosis in fishes and various explanations were given for their formation. Johnstone (1924) in his study of malignant tumours of fishes noted that some parasites can induce the disease — cancer. Ebina (1936) as cited by James (1960) stated extraordinary bone formation in the supraocciptal bone of *Evynnis cardinalis*. Barnard (1948) referred to this condition in *Chrysoblephus gibbiceps* and *Caranx equala* and termed it as hyperostosis. Gopinath (1951) attributed the extraordinary development and secondary ossification of supraocciptal crest in *Caranx sexfasciatus* and *Alectis indica* to a

demand for hydrostatic balance and stability. James (1960) stated that in *Trichiurus lepturus* Linnaeus, the enlargement of various bones may either be a peculiarity of the species or could be a disease. Bhatt and Murti (1960) have revealed this condition in *Trichiurus haumela* (Forskal) as a case of Osteoma—

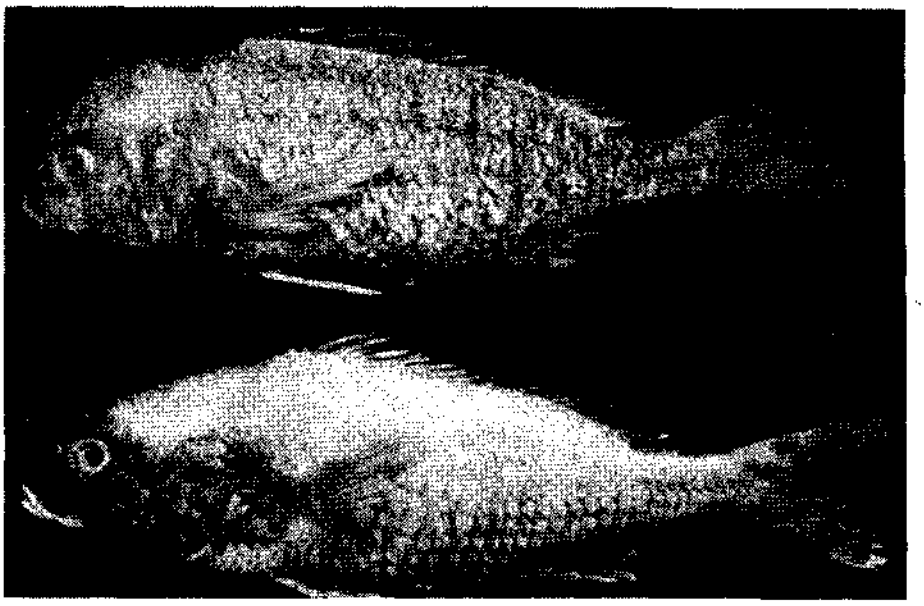

FIG. 1. *Pomadasys hasta* (Bloch), a specimen with hyperostosis (above) with a normal one (below).

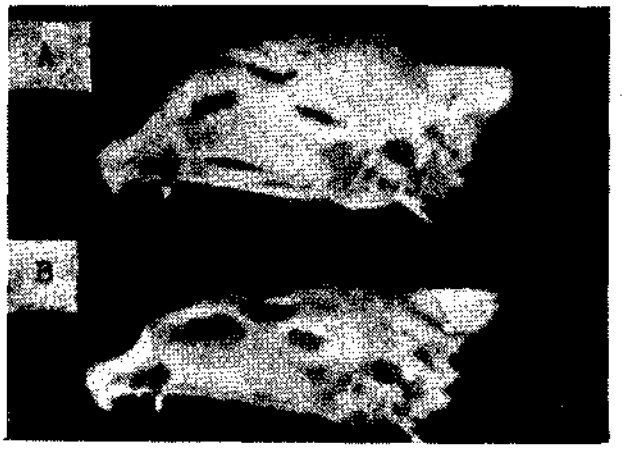

FIG. 2. The skull with hyperostosis of *P. hasta* (A) with that of normal one (B).

a neoplastic disease. Murty (1967) observed this phenomenon in *Drepane punctata* (Linnaeus). Experiments on Rainbow Trout, *Salmo gairdneri*, by Aulstad and Kittelsen (1971) proved that the abnormal body curvatures are partly heritable.

So far no satisfactory explanation has been given as to the exact nature of these bony outgrowths in fishes. However, it is assumed from the present study that the causative factor leading to this peculiar formation of the bones of the skull in *Pomadasys hasta* (Bloch) may be attributed to an inherited disease. Furthermore, this phenomena is very rarely met within this species.

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ON THE OCCURRENCE OF OILSARDINE IN THE SPAWNING STAGE OFF VIZHINJAM

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ABSTRACT

The occurrence of ripe and spawning oilsardine, *Sardinella longiceps* Val. off Vizhinjam is reported for the first time. Ova-diameter studies reveal a bi-modal distribution of ova and fecundity estimates of the primary and secondary modes were about 46.000 and 88,000 ova respectively.

Records of oozing specimens and|or planktonic eggs of *Sardinella longiceps* are found in the reports of Devanesan (1943), Nair (1953 and 1959) and Antony Raja (1967). As all these reports relate to the area off Calicut, it would be of interest to report the occurrence of ripe and running specimens