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SHORT COMMUNICATION

FISHERY OF *OTOLITHOIDES PAMA* (HAMILTON, 1822) IN NARMADA ESTUARY

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Total estuarine area under Gujarat state is reported to be 0.21 lakh ha. Narmada estuary is a freshwater estuary under the tidal effect, which mainly influences the salinity regimes. The actual estuarine region starts from Bharuch (situated 22° 25' 78" N, 73° 05' 91" E) and joins Arabian Sea at Ambetha (21° 40' 81" N, 72° 35' 70" E) in Bharuch district, Gujarat. The funnel-shaped 72 km-long estuarine occupies an area of 6,346 km² (Kumar *et al.*, 2014). The southwest monsoon brings rainfall, and about 70% of the rainfall occurs during the period from June to September. The development of sand bars at the mouth of the estuary reduces the tidal ingress into the system. Narmada estuary is influenced by semi-diurnal tides with unequal variability. The estuarine production reduced drastically from 15889 t (2006-2007) to 1618 t (2014-15). Habitat shifting of species due to salinity industrial effluents and formation of sand bar in the mouth of the estuary indicates restricted fish migration may be the cause.

Sciaenids contributed 4.50% of total marine fish production and Gujarat state contributed 34% of them (CMFRI, 2015). The family Sciaenidae is represented by, 17 genera and 34 species in the Indian waters. The sciaenids have restricted distribution and are confined mainly to the inshore waters up to 50 m depth. The dominant species found in Gujarat are *Otolithoides cuvieri*, *O. biauritus*, *Johnius glaucus*, *Protonibea diacanthus* *etc.* (Joseph *et al.*, 2003).

Water temperature varies from 22.0 to 32.5 °C, transparency ranges from 2.5 to 60.0 cm. Dissolved oxygen is adequate with ranges from 5.7-8.0 mg l⁻¹, pH is slightly higher and ranges from 7.6-8.6. The salinity of the estuary varies between 0.4-32.5 ppt. Low rate of gross (36.34-88.39 mg C m⁻³ h⁻¹) and net (6.24-60.4 mg C m⁻³ h⁻¹) primary production were recorded. The average plankton density of the system varies from 63-1161 nos.l⁻¹. Chlorophyceae, Bacillariophyceae and Myxophyceae were major groups of phytoplankton; zooplankton was mostly shared by Protozoans, Copepods, Rotifers, Ostracods and Cladocerans, Ayyappan *et al.* (2011).

Narmada estuary system is very rich in fishery resources. The estimated annual yield of the estuary was recorded 15889 t during 2006-07, which declined to 1618 t during 2014-15. A total of 95 species was reported from Narmada river. (Ayyappan *et al.*, 2011).

The dominant species of the estuarine region are, *T. ilisha*, *Mugil cephalus*, *Liza macrolepis*, *L. parsia*, *Lates calcarifer*, *Harpodon neherius*, *Eleutheronema tetradactylum*, *Arius arius*, *Etroplus suratensis*, *Chanos chanos*, *Polynemus indicus*, *Cynoglossus cynoglossus* *etc.* and prawn species comprised mainly of *Macrobrachium rosenbergii* and *Penaeus indicus*. *M. rosenbergii* also formed a prime fishery of the estuary along with hilsa, mullets and sciaenids.