

An Anthology of Vellar Estuary

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The Vellar estuary has been thoroughly investigated for the past four decades in terms of physio-chemical and biological aspects and comparable to the best studied estuaries of the world. The river Vellar flowing on the southeast coast of India originates in the Shervaryan Hills of Salem District. After meandering through a distance of 480 kms, it forms the estuarine system at Parangipettai, before it joins the Bay of Bengal. The Vellar estuary is always open with the Bay of Bengal and it said to be a “true estuary” as there is no complete closure of the mouth. The estuary is subjected to semi-diurnal tides with maximum tidal amplitude of about 1 metre. The influence of neritic water with estuarine environment promotes perfect exchange of both biotic and abiotic variations and the tidal influence is extending over the distance of 16 km upstream of the estuary. Average depth of the estuary is 2.5 meter and the maximum depth at high tide is 5.3 metre. The estuary is about 600 meters wide at its mouth and is prone for both diel and short-term oscillations, especially in the northeast monsoon. The classical investigation was by Dyer and Ramamoorthy (1969). Heterotrophic bacterial population was found to be the highest in the marine zone followed by gradient, freshwater, and tidal zones of this estuary. *Vibrio*, *Pseudomonas*, *Micrococcus*, *Bacillus* and *Alcaligenes* were recorded as the most common bacterial general of the estuary. The fungi *Corollispora intermeddia* and *Cirrenalia tropicalis*, are new records from India. The total zooplankton biomass in the estuary varies between 1,950 and 7,39,190 ind m⁻³ in the estuary. The contribution of invertebrate larvae is higher than the nearshore water. Eleven species of tintinids were found which produce ‘swarms’ in the neritic, estuarine, backwater and mangrove biotopes. Among the 47 species of benthic organism reported 4 to gastropods, 7 to bivalves, 9 to crustaceans, 6 other groups and 123 species of polychaetes coming under 94 genera and 44 families have been identified. Vellar estuary is used as the nursery ground for fish fry and fingerlings of the principal cultivable finfishes viz. *Mugil cephalus*, *Liza dussumieri* and *L. macrolepis* and *Chanos chanos*.