

RESEARCH PAPER:

Diversity of copepoda at sodalaipuri estuary, Puducherry (U.T.) India

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SUMMARY

Seasonal qualitative and quantitative study of zooplankton copepoda in the Sodalaipuri estuary, U.T of Puducherry was undertaken from September 2006 to August 2007. The Copepod population consisted of 13 species revealing two peaks one in summer and other in pre-monsoon season

Key words :

Diversity,
Copepoda,
Zooplankton,
Sodalaipuri,
Estuary

Ketchum (1951) defined an estuary as a body of water in which the river water mixes with and measurably dilutes sea water. The estuaries are areas of great natural variations in environmental conditions and their flora and fauna are selected and restricted in its variety by the need to tolerate or regulate variable conditions. The estuarine circulation not only supplies nutrients to the euphotic layer but also transports plankton between the straits, causing a symmetrical distribution of plankton biomass in the estuary (Li *et al.*, 2000). The ebb and flow of the tides in an estuary affect not only the hydrographical conditions but also to marked extent in the abundance of zooplankton population (Satyanarayana Rao, 1972). In India, notable contributions on the fluctuations of planktonic organisms, their ecology and behaviour were made by Ganapati (1943). Zooplankters are small heterotrophic animals inhabiting the oceans at all depths and occupy almost every type of ecological environments. A bibliography of plankton of the Indian Ocean was prepared by Prasad (1964). Studies on the ecology of secondary producers from the east coast were made by Subramanian (1987). Copepods occupy a strategic position in the pelagic food web because of their sheer abundance and diversity. Moreover, they play a major role in the energy transfer of any aquatic ecosystem. Much work has been done relating to the systematic and ecology of

copepods in estuaries of India (Godhantaraman, 2001). In the Cooum and Adyar estuarine waters, the total abundance of copepod was highest in summer, and southwest monsoon (pre-monsoon) than the other seasons, as commonly observed in many marine coastal and estuarine waters (Padmavati and Goswami, 1996). Raguprasad (1956) observed the distribution of crustacean naupli round the year with two peaks, one during January and February and another in October and December at Gulf of Mannar and June and December at Palk Bay. The present study was made to evaluate the characteristics indicator species among the plankton to determine the tropic nature of the estuary.

MATERIALS AND METHODS

The study area Sodalaipuri estuary is located between latitude 11°49' 60N, and longitude 79°49' 0E southern region of Puducherry and 175 km south from Chennai (Fig.1) form a long narrow estuary. The estuary flows eastwards and empties into the Bay of Bengal at Nallavadu, south east coast of India The study was carried out from September 2006 to August 2007. In the present investigation, plankton was collected by towing through a standard plankton net made up of bottling silk (Number 10 ie., mesh size 158 µm). The whole material was preserved in 4% formalin for long time preservation.

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