

A PRELIMINARY STUDY OF PLANKTON IN NEGOMBO LAGOON, SRI LANKA

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Negombo lagoon is characteristic in having islands covered with mangroves at the mouth and an associated major river, Dandugam Oya, at the distal end to the south. A qualitative analysis of plankton was carried out over a period of 12 months by monthly sampling. The diversity and distribution of phytoplankton and zooplankton were studied with special reference to the influence of selected physicochemical parameters, namely, salinity, rainfall in the surrounding area, temperature and depth.

During the sampling period, salinity ranged between 0.1 ‰ and 20.4 ‰, water temperature between 26.2°C and 31.8°C and depth between 1.02m and 2.70m. Fifty-four taxa of plankton were identified belonging to various groups, such as, green algae, blue green algae, desmids, diatoms, copepods, ostracods, and cladocerans. Larval forms of estuarine taxa were also common. These species consisted of both marine and freshwater forms. Variations were found in the species composition in the five stations studied.

Occurrence and distribution of plankton were found to be mainly influenced by the salinity gradient along the long axis of the lagoon, which in turn was influenced by the tides and the rainfall. The salinity gradient along the longitudinal axis of the lagoon was established because of the tidal influence at the mouth (proximal end) and the river flow at the distal end. Higher salinities in the lagoon mouth were preferred by most of marine species whereas lower salinities at the distal end of the lagoon were preferred by freshwater species. A positive relationship is observed between the number of species recorded and the salinity of the lagoon. A higher number of species were recorded near the lagoon mouth than at the river mouth. The number of species recorded was low during the rainy months.