

SPATIAL VARIATION IN THE DIVERSITY OF MACROBENTHOS IN THE NEGOMBO ESTUARY.

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Benthic animals have been identified as good indicators of environmental conditions of aquatic ecosystems. Therefore, the present study was undertaken to study the spatial variation of macrobenthic community in Negombo estuary, which is subjected to variety of anthropogenic activities. Benthic samples from 25 sampling sites to cover the entire lagoon was obtained in March 2003 and the macrobenthos were separated by wet sieving and identified as much as possible.

Seventy-six species of benthic invertebrates belonging to 41 families were recorded during the present study. Of these, only 11 species could be identified to the genus level and of the rest 47 species were identified to the family level. 18 species could not be identified even to the family level due to unavailability of suitable keys. There were 23 species of polychaetes, 24 species of gastropods, 16 species of bivalves, 6 species of amphipods, 1 species of isopod and 6 species of other crustaceans. The gastropods belonging to families Assimineidae, Cerithiidae and Hydrobiidae were the most abundant. The most abundant polychaete families were Pilargidiidae and Heterospionidae. Among amphipods, Aorids were recorded in most of the sampling sites.

The results indicated that there is a need to carry out a detail taxonomic study on benthic invertebrates in brackish water environments in Sri Lanka. Such a study will significantly contribute to enhance the existing knowledge on biological diversity in aquatic ecosystems in Sri Lanka. Non-metric Multi Dimensional Scaling based on Bray Curtis similarity of abundance of different species of macrobenthos indicated the separation of sampling sites in to 13 clusters at the 55% level of similarity. Sample sites located at the sea mouth, inlet of Dandugam Oya, in the basin segment of the estuary closer to human dwellings and those closer to effluent discharge points of a fibre mill and a shrimp farm were separated.

In the sample sites which are closer to the human dwellings, a gammarid species was the most abundant. This species was less abundant in other areas of the estuary. Further, the gastropod species other than *Cerithidea cingulata*, which were abundant in other areas, were not found at these sites. In the sample site closer to the fibre mill, the abundance of Mytilids was high. In the sample site closer to the effluent discharge point of the shrimp farm, the species richness as well as the abundance of polychaetes, gastropods and bivalves were low. Further the amphipods and isopods, which were abundant in other regions of the estuary were absent at this site.