

**ZOOPLANKTON ABUNDANCE AND DIVERSITY OF
EAST COAST OF SRI LANKA**

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ABSTRACT

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Zooplankton play a vital role in marine environment by transferring the energy to higher trophic levels through the food web. However, the studies on zooplankton in the coastal water of Sri Lanka, especially in the East coast are deficient. A recent study was conducted to investigate zooplankton abundance in the East coast of Sri Lanka using the Research Vessel: Dr. Fridtjof Nansen from June to July 2018. Twenty five samples were obtained from five transects using Working Party 2 plankton net with 180 μ m mesh size. The samples were collected vertically from 30m, 100m and 200m depths. In the laboratory zooplankton were identified to the lowest possible taxonomic groups using standard keys, and counted. The results revealed that zooplankton are dominated by the Phylum Arthropoda (63.0%), followed by Chordata (20.6%), Sarcomastigophora (7.4%), Chaetohnatha (4.0%), Cnidaria (2.5%), Annelida (1.0%), Echinodermata (0.4%), Mollusca (0.4%) and Ciliophora (0.2%). The highest mean abundance 2562.32 ± 1213.36 was observed near Panama transect and the lowest 1149.66 ± 847.17 was at the transect near Point Petro. The study showed that there was no significant difference ($p > 0.05$) of the abundance of zooplankton among the sampling transects. Abundance of the zooplankton between depths also was not significantly different ($p > 0.05$). At the same time there is no significant differences of the Shannon wiener's index among transect and depths ($p > 0.05$). The diversity index are higher in North East coast of Sri Lanka. This study revealed that there are spatial variations of zooplankton in the East coast of Sri Lanka and it may affect the fish production in the area. Therefore, further comprehensive studies on zooplankton are recommended to find out the possible reasons for such variations which could be useful in managing the marine environment.

Keywords: Zooplankton, East Coast, Abundance, Diversity

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