Zooplankton Studies in East Coast of Sri Lanka

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Zooplankton plays 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. The present study was conducted to investigate zooplankton abundance in East coast of Sri Lanka in marine resources survey using the Research Vessel: Dr. Fridtjof Nansen during June to July 2018. Twenty-five samples were obtained from five transects using WP2 plankton net with 180µm mesh size. The samples were collected vertically from 30 m, 100 m and 200 m depths. In the laboratory; zooplankton was identified to the lowest possible taxonomic groups using standard keys and counted. The results revealed that zooplankton are dominated by the Phylum Arthropoda (63%), followed by Chordata (20.6%), Sarcomastigophora (7.4%), Chaetohnatha (4%), Cnidaria (2.5%), Annelida (1%), Echinodermata (0.4%), Mollusca (0.4%) and Ciliophora (0.2%). The highest (13053.57 m^{-3}) and lowest (5747.43 m^{-3}) abundance were recorded at transects near Mullaitivu and Batticaloa respectively. The study showed that there was no significant difference ($p>0.05$) of the abundance of zooplankton among the sampling stations. However, abundance of the zooplankton between shallow and offshore sampling stations were significantly different ($p <0.05$). The abundance of zooplankton at the depth of 100 m indicated an increasing trend towards Batticaloa. Offshore (100 m and 200 m) zooplankton abundance (2697 m^{-3}) at 30 m depth was higher than the abundance of nearshore samples (1298 m^{-3}). This study revealed that there are spatial variations of zooplankton in 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

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