

Abundance and distribution of macro-benthos in surface sediments along the North Eastern coast of Sri Lanka

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Benthos are the assemblage of the creatures that live upon, within, or near the bottom sediments and they are generally considered as environmental indicators for aquatic ecosystems. Present study was undertaken to investigate the spatial variations of macrobenthic diversity, abundance and distribution in the North Eastern coastal region of Sri Lanka. Surface sediment samples were collected from nine sampling stations in North Eastern region during the ecosystem survey in Sri Lankan coastal waters by RV Dr Fridtjof Nansen in June-July, 2018. Stainless steel cylinders which were mounted on the foot rope of the bottom trawl to collect sediment samples at nine trawl stations with the depth range of 20 m – 250 m. The benthic samples were subjected to wet sieve and separated the benthic fauna from the substrate. They were identified into possible lowest taxonomic level using literature and percentage abundances of each species were recorded. Also, the Shannon-Wiener diversity index was calculated to each station. A total of 3724 benthic invertebrates belonging to 54 families were recorded during the study and Globothalamea was the highest abundance, contributing 90.77% of the identified specimens followed by Bivalvia (4.91%), Hydrozoa (1.37%), Gastropoda (0.72%) and Anthozoa (0.32%). Results disclosed that total abundance of benthos in each station was not significantly different from each other ($p=0.171$, $p>0.05$) however, the diversity of benthos in each station were significantly different ($p=0.000$, $p<0.05$) probably due to changes in environmental conditions. Also, the abundance of benthos between shallow and deep regions were not significantly different ($p=0.5403$, $p>0.05$). This preprimary study provided an account on benthos abundance and diversity in North East region and showed spatial differences in benthic communities. Further investigations are needed to find out reasons for such variations in species diversity in spatial and temporal scales.

Keywords: RV Dr. Fridtjof Nansen Ecosystem Survey, macrobenthos diversity, spatial variation

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