

ABSTRACT

The present study was carried out in order to understand the composition of zooplankton and their potentiality as bio indicators in Sri Lankan coastal waters. The study was carried out during the day time in a six months period in 2012 where sampling locations were selected along the coastline covering Galle, Hambanthota and Trincomalee major ports, fishery harbors and certain important native habitats.

A total of 79 zooplankton species represented nine major phyla; Protozoa, Cnidaria, Rotifera, Mollusca, Annelida, Arthropoda, Echinodermata, Chaetognatha and Chordata were identified in the study. Out of these, thirty seven species were Copepods belonging to four major orders; Calanoida, Cyclopoida, Poecilostomatoida and Harpacticoida which were more than 50% of the total species identified. The presence of higher densities in small size Poecilostomatoids only in the presence of low number of large sized Calanoids and Harpacticoids may indicate the prey- predator relationship among these orders.

Zooplankton diversity indices in all the studied locations were below 3.00. Water quality parameters of higher BOD values in majority of habitats, few habitats with high amounts of Ammonia and low dissolved oxygen, also confirmed that these habitats were moderately or highly polluted. Further, presence of few number of Calanoid species with minimum of their densities can be consider as an indicator of water pollution.

The risk of bio invasion via ballast water in the ports of Galle, Hambanthota and Trincomalee was appeared to be in the minimum level due to lower rates of de-ballasting. However comparatively there is a higher probability of bio invasions of copepods than the other zooplankton varieties via ballast water.