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Ecology and distribution of zooplankton composition at Coringa Mangrove Area, East Godavari Deistic, Andhra Pradesh, India

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Abstract

This study was aimed to current diversity status of zooplankton of Coringa Mangrove river area East Godavari Deistic, Andhra Pradesh, India. The present study area 10 groups of zooplankton species was recorded in the Coringa Mangrove river area during the period of July 2013 to June 2014. The zooplankton percentage composition of each group in Coringa Mangrove river water was record in decreasing order Copepods 37%, Miscellaneous groups 21%, Coelenterates 11%, Mysidacea 9%, Decapods larva 9%, Chaetogatha 7%, Rhizostomids 5%, Rotifer 4%, Ostracods 4% and Bivalve veligers 2%. The zooplankton composition was very high in the pre-monsoon and monsoon. The lowest zooplankton concentration was recorded during the post Mon soon and winter. The zooplankton percentage composition exhibited very high in mangrove water because of the high productivity due to mangrove litter fall that supports host of dexterous feeding of aquatic animals.

Keywords: Coringa mangrove area, Diversity of zooplankton, composition and distribution

Introduction

The rate of zooplankton production can be used to estimate the exploitable fish stock of an area. The aquatic ecosystems are the most productive area in zooplankton. High zooplankton biomass productivity may be related to the input of energy and organic matter from mangrove areas. Therefore, plankton population observation may be used as a reliable too for biomonitoring studies got asses the population status of aquatic bodies. Studies on zooplankton communities especially copepods are very important in assessing the health of Costas ecosystems. Information on species diversity, richness evenness and dominance evaluation the biological components of the ecosystem in essential to understand deterrental changes in environments. However importance of investigations and monitoring been well recognized inference to the role of zooplankton in aquatic ecosystems and global biogeochemical ares. The pottern of interactions amongs the different water parameters with the zooplankton convert light energy to chemical energy through primary production which makes them hand, zooplanktons play an impotent role at. The consumer level and overall fish production in water bodies. Several workers have been studied on limnology and planktonic diversity in different region (Jakher *et al* 1981)^[8] Temperature, salinity, and food supply are some of the important factors that are known to canse special changes in zooplankton. Populations. These environmental parameters have an impact on breeding and hence affect the density and composition of zooplankton.

Material and Methods

Zooplankton samples were collected at monthly intervals from the surfase waters of the study area by using conical plakton net (80 μ bolting nylon). The entire study period were classified into four seasons representing pre-monsoon (mar-may) monsoon (jun-agu) post monsoon (sept-nov) and winter (dec-feb) planktonams.

Result & Discussion

A total number of 56 species of zooplankton were encountered in the Gowthami Godavari rever and copepod group was found to be highest species with 21 (37%). miscellaneous groups representing 7 species (12%), coelenterates 6 species, mysidacea

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5 species, decapods larva 5species, cheatoghatha species 4, rhizosomids 3 species, Rofer 2 species, Ostracods 2 species, and Bilvalue veligers representing one species, The dominant group of zooplankton was copepods 37% followed by Miscellaneous groups 21%, Coelenterates 11%, Mysidacea 9%, Decapods larva 9%, Chaetoghatha 7%, Rhizostomids 5%, Rotifer 4%, Ostracods 4% and Bivalve veligers 2%.

Table 1: Zooplankton diversity in Coringa mangrove area

S.No	Name	Percentage
1	Coelenterates	11%
2	Copepodes	37%
3	Mysidasea	9%
4	Chaetoghatha	7%
5	Decapodes larva	9%
6	Bivalve Valgares	2%
7	Rotifer	4%
8	Rhizostomids	5%
9	Ostracods	4%
10	Miscellaneous groups	12%

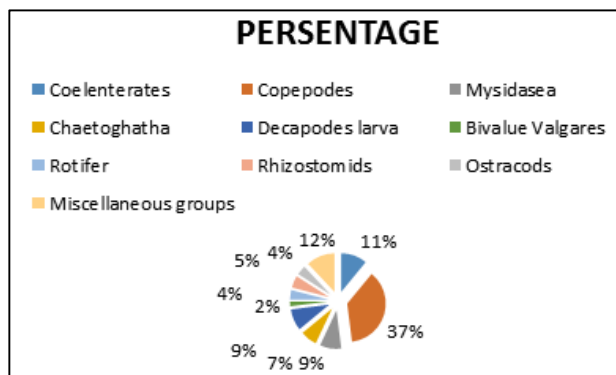


Fig 1: Percentage composition of zooplankton groups in Coringa mangrove area

The highest plankton concentration was observed between July and March with peak values in pre monsoon and monsoon. The lowest concentration of plankton was recorded during the post monsoon and winter. Similar observation was made by several workers, in different representative areas From the above results shows that zooplankton assembles are not stable at all. There was a slight seasonal variation among them. Assemblance of plankton is depending on environmental factors including available nutrients. The influence of environmental factors on the seasonal abundance and diversity of plankton biotypes varies significantly, with physical factors like temperature and light intensity being the most important and physico-chemical parameters. In the present study copepods was dominant and most commonly available throughout the year than miscellaneous groups and coelenterates. In overall, the Coringa mangrove area is diverse and rich in zooplankton.

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