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Research Article

Seasonal veriation and diversity of zooplankton in the Coringa mangrove area and Kakinada Bay, East Godavari District, Andhra Pradesh, India

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Abstract

The Corangi mangrove area and Kakinada Bay, located in the East Godavari District, Andhra Pradesh, India. The seasonal diversity and variations in zooplankton of the Corangi mangrove and Kakinada Bay wasinvestigated during July 2013 to June 2014. Amid the present examination an aggregate of 113 types of zooplanktons were recognized amid the present review from the four stations of Coringa mangrove area and Kakinada Bay. Were recorded and Foraminifera,Coelentrata, Rotifera, Cladocera, Calanoida, Cyclopoida, Harpacticoidea, 2species of Doliolida, Appendicularia, Sagittoida, Pteropoda, Decapoda and 17 types of larval structures. The highest plankton concentration was found between premonsoonand monsoon while lowest concentration of plankton was recorded during the post monsoon andwinter.

INTRODUCTION

The zooplankton are each one of these animals that buoy inactively in the ocean and they are a sweeping social event of contrasting maritime life types of the marine condition . They are considered as the most basic moderate eaters of the phytoplankton and of basic importance in the economy of the basic creation. The term zooplankton consolidates an accumulation of little animals of pelagic inclinations and with confined mortality. They are generally prepared to keep up a favoured significance, or now and again to perform vertical development from a nearby surface position of night to further water in the day time. They are the little heterotrophic animals having the oceans of all profundities and include basically every sort of organic condition. The rate of zooplankton era can be used to evaluate the exploitable fish supply of a range (Tiwari and Nair, 1991). In any case, zooplankton is a basic transitional fragment in maritime sustenance systems, going about as a tropic association between little particles (eg: flotsam and jetsam and little scale living things) and plankivorous points. These conditions have a remarkable direct monetary criticalness for some tropical ocean side territories (Aksornkoae *et al.*, 1993).

MATERIALS AND METHODS

Zooplankton tests were gathered at month to month interims from the surface waters of all the four stations of Coringa mangrove area (N 16˚ 51' 52.6" and long E82˚ 14' 34.4") and Kakinada Bay (N 17˚ 04' 19.1" and long E 82˚ 19' 53.8") by level towing of a tiny fish net (0.35m mouth breadth; work estimate 158µm) for twenty minutes. These specimens were safeguarded in 5% killed formalin and utilized for the quantitative examination of zooplankton was separated through a pack net of 158 um work measure and the numerical tiny fish investigation was completed by utilizing a binocular magnifying lens.

The zooplankton was recognized by utilizing the standard references of Davis (1955), Kasthuriangan (1963), Newell and Newell (1977), Deboyed smith (1977), Todd and Lawrance (1991) and Perumal et al., (1998). Zooplankton collected were isolated into 16 bunches in particular Protozoa, Foraminifera, Ciliata, Metazoa, Hydrozoa, Cheatonatha, Pteropoda, Rotifera, Cladocera, Copepoda, Amphipoda, Decapoda, Mysidaceae, Appendicularia, Larval structures and Icthyoplankton. Zooplankton species assorted qualities; wealth, equity and the predominance were computed utilizing the formulae of Shannon and Weaner's (1949); Simpson record, and Pielou's (1966) individually.

RESULTS AND DISCUSSION

Species composition

Zooplankton recorded amid the present review is incorporates the individuals from Foraminifera, Coelentrata, Rotifera, Cladocera, Calanoida, Cyclopoida, Harpacticoidea, Doliolida, Appendicularia, Sagittoida, Pteropoda, Decapoda and Larval structures. Species creation of zooplankton recorded at stations 1, 2 and 3.

Amid the present examination an aggregate of 113 types of zooplanktons were recognized amid the present review from the four stations of Coringa mangrove area and Kakinada Bay. At station Kakinada Bay, 89 types of zooplanktons were distinguished which incorporate 13species of Foraminifera, 5species of Coelentrata, 6 types of Rotifera, 4 types of Cladocera, 21 types of Calanoida, 9 types of Cyclopoida, 5species of Harpacticoidea, 2species of Doliolida, 3species of Appendicularia, 2 types of Sagittoida, 1species of Pteropoda, 1species of Decapoda and 17 types of larval structures.

At station Matlapalem, an aggregate of 97 types of zooplanktons were distinguished which incorporate 14 types of Foraminifera, 3 types of Coelentrata, 8 types of Rotifera, 4 types of Cladocera, 30 types of Calanoida, 10 types of Cyclopoida, 6 types of Harpacticoidea, 2 types of Doliolida, 2 types of Appendicularia, 2 types of Sagittoida, 1 types of Pteropoda, 1 types of Decapoda and 14 types of larval structures.

At station Coringa, an aggregate 61 types of zooplanktons were recognized which incorporate 11 types of Foraminifera, 1 types of Coelentrata, 4 types of Rotifera, 3 types of Cladocera, 19 types of Calanoida, 7 types of Cyclopoida, 3 types of Harpacticoidea, 1 types of Sagittoida, 1 types of Pteropoda and 11 types of larval structures.

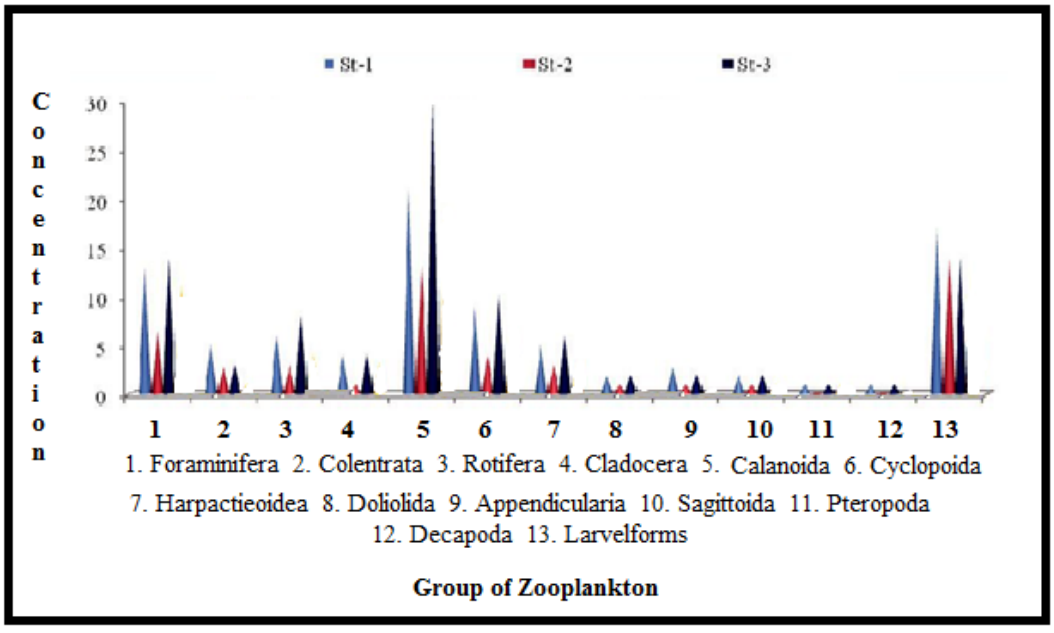

Fig. 1: Variations in species composition of zooplankton from four stations of Coringa mangrove area and Kakinada Bay Percentage composition.

Station Kakinada Bay, Calanoida framed the overwhelming gathering (24 %) trailed by Foraminifera (15%), Coelentrata (6%), Rotifera (7%), Cladocera (4%), Cyclopoida (10%), Harpacticoidea (6%), Doliolida (2%), Appendicularia (3%), Sagittoida (2%), Pteropoda (1%), Decapoda (1%) and larval structures (19%). At station Matlapalam, Calanoida formed the dominant group (31 %) that followed by Foraminifera (15%), Coelentrata (3%), Rotifera (8%), Cladocera (4%), Cyclopoida (10%), Harpacticoidea (6%), Doliolida (2%), Appendicularia (3%), Sagittoida (2%), Pteropoda (1%), Decapoda (1%) and larval forms (15%). At station Corangi, Calanoida formed the dominant group (31%) that followed by Foraminifera (14%), Coelentrata (2%), Rotifera (6%), Cladocera (5%), Cyclopoida (11%), Harpacticoidea (5%), Sagittoida (2%), Pteropoda (2%) and larval forms (18%).

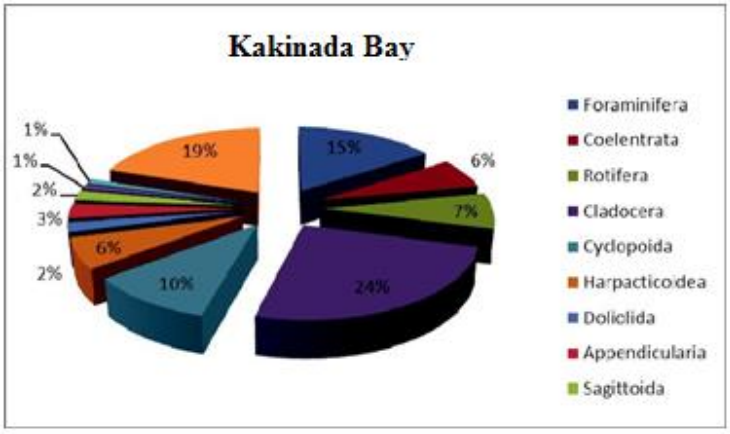

Fig.2: Variations in percentage composition of zooplankton at station Kakinada Bay

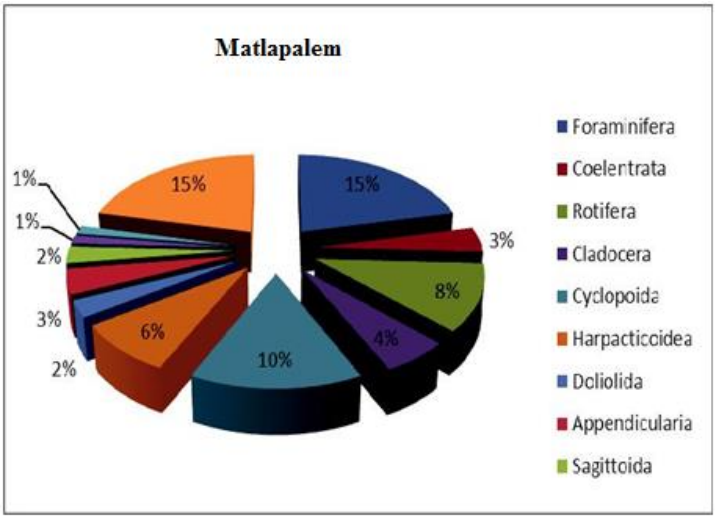

Fig. 3Variations in percentage composition of zooplankton at station Matlapalem

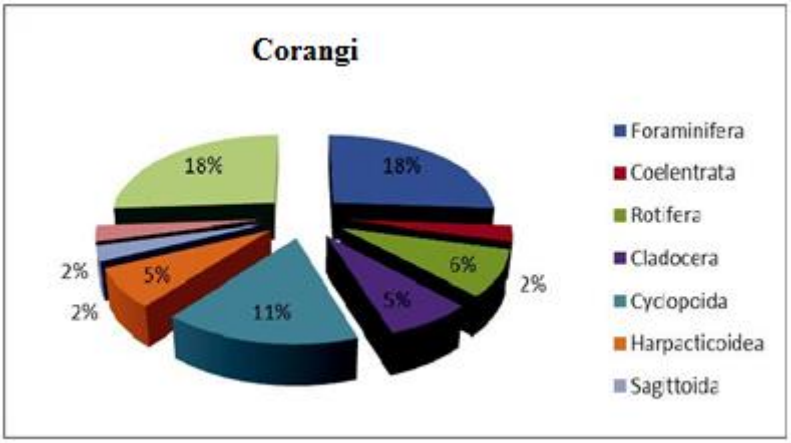

Fig .4 Variations in percentage composition of zooplankton at station Corangi.

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