

MARINE CRUSTACEANS BIODIVERSITY IN THE TRAWLING GROUNDS OFF MANGALORE COAST, SOUTH-WEST COAST OF INDIA

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ABSTRACT : The data for the study was collected from the multiday trawlers operating from Mangaluru fishing harbour over a period from September-2016 to April-2017 once in fortnight. A total of 26 species belonging to 12 genera, 7 families and 2 orders were recorded during the study period. The value of Shannon-Wiener index (H') was recorded range from 1.148 to 1.326. There is less variability among H' . Diversity and evenness are highly correlated (0.93) and showed variation with each other. Average value of Simpson index was found to be 0.38 and the value of Simpson index increased with decrease in diversity. The value of H' showed positive correlation with all diversity indices except λ . K-dominance curve showed that density of crustacean species was high in the month of October and proved the number of species (richness) more in the month of October compared to other months. Bray-Curtis similarity (hierarchical clustering) from the overall cluster analysis, it was observed that the maximum similarity (90.97%) was observed between November and December months.

Key words : Crustacean biodiversity, trawling, Mangaluru coast.

INTRODUCTION

Among benthic communities, crustaceans are important members because more number of species present for human consumption and a tremendous variety of small species contribute to the complexity and functioning of tropical ecosystems (Hendrickx, 1995). Brachyuran crabs are more diverse group of crustaceans alive today. The rich continental shelf area, a good habitat for demersal fishes as well as crustaceans such as penaeid prawns, non-penaeid prawns, crabs, lobsters and stomatopods. Mechanised trawler is the main gear operated in the continental area targeting crustacean resources. Though trawl net is operated for penaeid prawn, non penaeid prawns, crabs and stomatopods will be formed as by catch because all these resources habituate in the same fishing ground. Mechanised trawler is the main gear operated in the continental area targeting crustacean resources. Though, trawl net is operated for penaeid prawn, non penaeid prawns, crabs and stomatopods will be formed as by catch because all these resources habituate in the same fishing ground. Trawl

fisheries accounts 60% of the total marine fish production of India (CMFRI, 2017-18). The state of Karnataka has a coastline 320 km and constitutes nearly 15% of the coastline with numerous river mouths, lagoons, bays, creeks and a few islands. Mangalore fishing harbour is one of the important landing centres of Karnataka coast, contributing more than 40 percent of the total catch of Karnataka. Mangalore and Malpe in South Karnataka and Karwar in the North are main landing centers. The main types of fishing include are by purse-seine, trawling and gill netting (Anonymous, 2014a).

MATERIALS AND METHODS

Mangalore fishing harbour (Lat. 12°50'54"N; Long. 74°50'11"E) (Fig. 1) is one of the important landing centres along Karnataka coast. The sampling station was selected to represent variability in fishing grounds, species diversity and fishing methods. The data for the present study were collected from the multiday trawlers (n=160) operating from Mangalore fishing harbour during the period from September-2016 to April-2017. For collection of data trawlers were selected employing the stratified