Geophysical Research Abstracts
Vol. 13, EGU2011-10536, 2011
EGU General Assembly 2011

Key copepod species of upwelling reflecting environmental changes in the eastern Arabian sea : a multi-decadal study

Rosamma Stephen
Scientist(Retired),National Institute of oceanography (regional centre),kochi, india (rosamma.stephen@gmail.com)

Response of key copepod species to the environmental changes along the coastal upwelling areas of Eastern Arabian Sea (EAS) has not been attempted so far. Copepod data obtained from EAS during the past 50 years beginning with the International Indian Ocean Expedition(IIOE,1962 – 65), and from subsequent cruises undertaken by FAO/ pelagic fisheries project and the National Institute of Oceanography including the recent Marine Research on Living Resources (MR-LR,1998-2005) are utilized. The beckons to significant changes in copepod community structure in the last decade. Copepods being the main herbivores followed a set pattern during different seasons. During summer monsoon herbivorous copepod Temora turbinata flourished in swarms following pulses of diatom blooms in the peak upwelling phase along the coastal belt. This is followed by large herbivore species namely Subeucalanus subcrassus, S.pileatus , S.subtenuis and S. mucronatus . During the receding phase of upwelling species of Oncaeidae and Corycaeidae dominated. The study of copepods during the monsoon period since 1998 showed a glaring decline in Temora turbinata population as well as increase in both the carnivores Euchaetiidae and Oithoniidae and detritivorous harpacticoids. The results are discussed in relation to the hydrographical properties. Temora turbinata is well recognized as a typical upwelling species in the Indo pacific with its maximum density in the epipelagic realm. The disappearance of the species in recent years is intriguing. Calanoides carinatus, its counterpart along the western Arabian Sea exihibits diapuse by sinking to cooler deeper waters after the monsoons. Such a behavior is not shown by T. turbinata as the species is not encountered in simultaneous deeper collections. The area comes in the Oxygen Minimum Zone reported from AS and its impact on copepod species cannot be ruled out.

Key Words, Arabian Sea, monsoon, copepod, upwelling