

Author's Accepted Manuscript

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www.elsevier.com/locate/csr

PII: S0278-4343(18)30211-5
DOI: <https://doi.org/10.1016/j.csr.2018.09.003>
Reference: CSR3810

To appear in: *Continental Shelf Research*

Received date: 1 May 2018
Revised date: 2 August 2018
Accepted date: 10 September 2018

Cite this article as: P. Ezhilarasan, Vishnu Vardhan Kanuri, R. Sivasankar, P. Sathish Kumar, M.V. Ramana Murthy, V. Ranga Rao and K. Ramu, Surface mesozooplankton assemblages in a tropical coastal upwelling ecosystem: Southeastern Arabian Sea, *Continental Shelf Research*, <https://doi.org/10.1016/j.csr.2018.09.003>

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**Surface mesozooplankton assemblages in a tropical coastal upwelling ecosystem:
Southeastern Arabian Sea**

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Abstract

The spatio-temporal variation of mesozooplankton assemblages and the relative environmental variables were assessed in a coastal upwelling system. Remarkable seasonal variations were found in the mesozooplankton community structure and Chl-a concentration due to the seasonal shift in the environmental variables. Copepods were found to be the dominant group during the winter monsoon (WM) and spring inter monsoon (SIM) seasons whereas, cladocerans (*Evadne tergestina* and *Penilia avirostris*) were dominant during the summer monsoon (SM) which may be attributed to the availability of preferential food and favorable environmental conditions (viz., temperature and salinity etc.). Multivariate statistical analysis revealed that the distribution and their possible spatio-temporal pattern of dominant copepods (*Acrocalanus gibber*, *Acartia danae*, *Nanocalanus minor* and *Oncaea venusta*), siphonophores (*Chelophyes appendiculata* and *Diphyes chamissonis*) and pelagic tunicates (*Doliolida* sp.) synchronized with their specific food habits and adaptive mechanism. The present findings emphasize the significance of the trophic relationship between Chl-a concentration and mesozooplankton abundance in the coastal waters of Kochi, southeastern Arabian Sea.

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