

## **Meiobenthic Diversity off Pudimadaka, Bay of Bengal, East Coast of India with Special Reference to Free-Living Marine Nematodes**

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**Abstract :** A study on the community structure of meiobenthic fauna was undertaken during three cruises (June 2008, October 2008 and March 2009). Ten stations at depth between 10 and 40 m off Pudimadaka in Visakhapatnam (Lat.17°29'12"N and Long. 83°00'09"), East coast of India were investigated. Ninety species representing 3 major (meiofaunal) taxa namely foraminifera (2), copepoda (9), nematoda (58) and polychaeta (21) were encountered. Overall, meiofaunal (mean) abundance ranged from 2 individuals to 63 ind. 10cm<sup>-2</sup> with an average of 24.3 ind.10cm<sup>-2</sup>. The meiobenthic biomass varied between 0.135 to 0.48 mg.10cm<sup>-2</sup> with an average 0.27 ± 0.12. On the whole, nematodes constituted 73.62% of the meiofauna in terms of numerical abundance. Shannon -Wiener index values were 2.053 ± 0.64 (June, 2008), 2.477 ± 0.177 (October 2008) and 2.2815±0.24 (March 2009). Multivariate analyses were used to define the most important taxon in nematode assemblages. Three nematode associations could be recognized off Pudimadaka coast, namely Laimella longicaudata, Euchromodora vulgaris and Sabatieria elongata assemblage (June, 2008); Catanema sp. and Leptosomatium sp. assemblage (October 2008) assemblage; Sabatieria sp. and Setosabatieria sp. assemblage (March 2009). Canonical correspondence analysis showed that temperature, organic matter, silt and mean particle diameter were important in controlling nematode community structure.

**Keywords :** meiofauna, marine nematode, biodiversity, community structure, India

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