

Current status of marine worms at Rangbai coast

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Present study is to prepare a baseline data base of diversity of the marine worms in intertidal zone of Rangbai coast. During study periods we were observed two marine worms species *Eulalia viridis*(Linnaeus, 1767) and *Alitta virens*(M.Sars, 1835). Both worms are belonging to class Polychaete.

[**Key words:** Rangbai Temple, Polychaete, *Eulalia viridis*(Linnaeus, 1767) , *Alitta virens*(M.Sars, 1835)]

Introduction

Most marine annelids are Polychaete, segmented worms that have parapodia. Vast majority are marine; a few in freshwater the life history of many Polychaete involves a planktonic larval stage known as the trochophore, the more than 10,000 species of Polychaete are almost entirely marine. Many Polychaete crawl on the bottom, hiding under rocks or coral. These crawling worms, such as most sandworms (*Nereis*), are mostly carnivores. In the phylum Annelida, the Polychaete has received considerable attention from 1909. Survey of this group actually started with Southern's work on Polychaete of Chilka Lake followed by the littoral fauna of Krusadai Island in the Gulf of Mannar by Gravely and by Fauvel From the collections of Zoological Survey of India and the Indian Museum, Fauve 182 described 300 species under 30 families and in his later monograph raised this to 450 species¹. Polychaete can provide as vital ecotoxicological testing organisms due to their small size, comparatively short life cycles, and general ease of continuation in cultures. It often been utilized as test organisms in the biotoxicity testing of heavy metals. Many Polychaete

species have shown a relatively high ability to regulate organic contaminants such as polycyclic aromatic hydrocarbons (PAH) and pesticide.² Fauchald was noted through worldwide reported 897 genera and 6,800 species of polychaetes. polychaetes occur in Almost all benthic marine and estuarine sediments³. The worm which belongs to the Nereididae a family of worms with a high concentration of essential biomolecules⁴. Polychaetes form an important part in the marine food chain chiefly for bottom fish and some mammals as they form an significant source of food for demersal fish. Polychaetes are bristle-bearing segmented worms which belonging to phylum Annelida. It is the most dominant groups in benthic infaunal communities contribute about 80% to the total macrobenthic community and their diet include microbial, meiobial and organic substance⁶. family Nereidae are strictly semelparous that is through lifespan it breed only once per life- time, which contrasts with the more usual iteroparous mode of reproduction in marine invertebrates^{7,8}

Materials and Methods

Porbandar is located at 21°37'48"N 69°36'0"E. It has an average elevation of 1 meter. The study site Rangbai is about 14 km. distance from Porbandar. Present study was carried out at rocky and sandy intertidal belt at Rangbai coast. Between N 21°33'05.4" E 069°41'15.4" and N 21°35'57.7" E 069°41'26.6". During the study period the site frequently surveyed at regular during the lowest low tide. The identification of species was done using morphological characteristics keys. Intertidal Marine worms were observed recorded properly and studied systematically. The typically study was conducted in a non-destructive manner in which the organisms were not at all disturbed and in some cases if disturbed. Few times of worms was collected and stored immediately in 10 % formaldehyde. Noted the date of collection, site name, and tidal time. For specimen's further study Brought to the laboratory.



Fig 1- Study site

Results and Discussion

Study site Porbandar is rocky and sandy area. Throughout study monthly data are undertaken for study. The present study was conducted to know Marine worms diversity from Rangbai coast. *Alitta virens*(M.Sars, 1835) is belonging class Polychaete and order Nereidae. And *Eulalia viridis*(Linnaeus, 1767) is belonging class order Polychaete and Phyllodocida. Marine worm's two species of this phylum Annelids have been recorded during study time. And also through study Sea water physicochemical parameter also observed like Temperature, pH, Dissolve oxygen, Biological oxygen demand, salinity etc.

Conclusion

During through study period's two marine worms are observed *Alitta virens*(M.Sars, 1835) and *Eulalia viridis*(Linnaeus, 1767).The study site Rangbai coast is suitable for both species. On Rangbai coast food availability is sufficient. so, the study site is sufficiently provide food and habitat for *Eulalia viridis*(Linnaeus, 1767) and *Alitta virens*(M.Sars, 1835).

References

1. Fauvel,P. Annelida Polychaeta of the Madras Museum. (1930). Bull. Madras Govt, Mus., (N.S.) Supplement, 1, Pg. 1:18
2. Harlan K. Dean, (December 2008): a review The use of polychaetes (Annelida) as indicator species of marine pollution Rev. Biol. Trop. (Int. J. Trop. Biol. ISSN-0034-7744) Vol. 56 (Suppl. 4): 11-38,
3. Fauchald,K.(1977) The Polychaete Worms, definitions and keys to the Orders, Families and Genera. Nat. His. Mus.LA Country Mus.Sci. Ser.28, 1-190
4. García-Alonso, J., Müller, C. T. & Hardege, J. D.(2008). Seasonal changes and influence of food regimes on fatty acid composition of the ragworm *Nereis diversicolor* from Cardiff Bay. Aqua. Biol. 4: 7-13.
5. Parulekar, A. H., Harkantra, S. N. & Ansari, Z. A. (1982). Benthic production and the assessment of demersal fishery resources of the Indian sea. Indian Journal of Marine Sciences ,11, 107-114.
6. Shou, L., Huang, Y., Zeng, J., Gao, A., Liao, Y., & Chen, Q. (2009). Seasonal changes of macrobenthos distribution and diversity in Zhoushan sea area. Aqua. Eco. Heal. & Manag. 12(1), 110–115
7. Peter J.W.Olieve, Simon W.Rees. & Ali Djunaedi.(1998) influence of photoperiod and temperature on oocyte growth in the semelparous polychaete *Nereis* (*Neanthes*) *virens* .Mar Ecol Prog Ser. Vol. 172: 169-183.
8. Goldng DW, Yuwono E (1994) Latent capacities for gametogenic cycling in the semelparous invertebrate *Nereis*. Proc Natl Acad Sci USA 91:11777-11781