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Research Article

BENTHIC MACRO POLYCHAETE DIVERSITY OF KARWAR COAST, KARNATAKA, INDIA

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ABSTRACT

Benthic macro polychaetes communities are important food source for most of the marine organisms. especially fishes in marine ecosystem. In the present study a survey on macro benthic polychaete was carried out in 9-different coastal areas. Results indicates that macro polychaetes are dominated diversified group. The maximum species diversity recorded due to high salinity. So the present study confirming that pollution in the intertidal coastal area directly affecting the species diversity as well as indirectly the fishery potential. Species diversity of benthic macro polychaetes of 70-species have been studied.

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INTRODUCTION

Benthic macro polychaetes play a significant role in marine food chain and ecosystem processing. A study was carried out diversity of soft bottom benthic macro polychaetes along the Karwar coast. 70 different species of 12-errentia group and 13-sedentaria group total 25 families of macro polychaetes were recorded. Occurrence of *Prionospio pinnata* and *Capitella capitata* the deposit feeders indicators of organic pollution.

MATERIALS AND METHODS

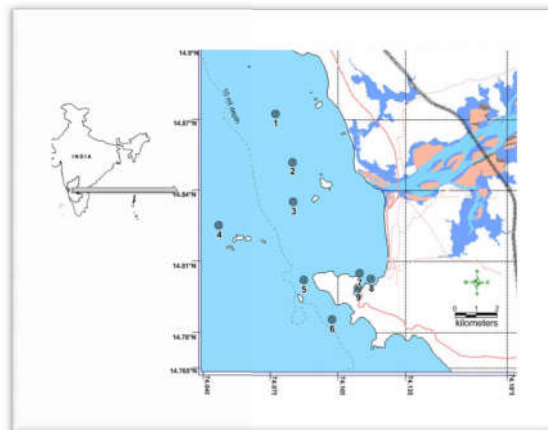
The present study was carried out for 13- months (March 2015-March 2016) from Karwar coast. Nine different stations were selected.

Study area

The present study was carried out along the coast of Karwar. Lying with in (14° 48' 02'' to 14° 50' 32'' N and 74° 03' 12'' to 74° 07' 30'' E) Kali estuary opens into Karwar bay on the Northern side, During the year March 2015-March 2016 seasonal samples were taken from Nine stations. Representing depths of 5mtrs., 10mtrs and 20mtrs. respectively from the shoreline along the coast (Map.1.)

Table1 Geographical position of study stations

Sl.No.	Name of the stations	Latitude	Longitude
1.	Majali	14°52' 204''N	74° 04' 394'' E
2	Devbog	14° 51' 762'' N	74° 05' 628'' E
3	Kurmgad	14°50' 712'' N	74° 05' 776'' E
4	Devgad	14° 49' 302'' N	74° 03' 748'' E
5	Baithkhol bay	14°48' 894'' N	74° 05' 246'' E
6	Binga	14° 48' 202'' N	74 06 ' 935'' E
7	Baithkhol port (f)	14° 48' 020'' N	74° 06' 818'' E
8	Baithkhol port (s)	14° 47' 981'' N	74° 06' 800'' E
9	Baithkhol port (b)	14° 47' 981'' N	74° 06' 800'' E



Map 1 Showing the location of the study area in Karwar Coast.

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Table 2 Checklist of Species diversity in all stations of Karwar coast. (Present+ absent-)

Sl No	Species	Family	St1	St2	St3	St4	St5	St6	St7	St8	St9
1	Amphicteis gunneri	Ampharetidae	+	+	+	-	-	-	-	-	-
2	Ancistrosyllis constricta	Pilargiidae	+	+	+	+	+	+	+	+	+
3	Ancistrosyllis rigida	Pilargiidae	+	+	+	-	-	-	+	+	+
4	Ancistrosyllis robusta	Pilargiidae	+	+	+	+	-	-	-	-	-
5	Aricidea fauveli	Paranoidea	-	-	-	-	-	-	+	+	+
6	Aricidea spp.	Paranoidea	-	-	-	-	-	-	+	+	+
7	Armandia lanceolata	Opheliidae	-	-	-	-	-	-	+	+	+
8	Capitella capitata	Capitellidae	+	+	+	+	+	+	+	+	+
9	Capitella spp.	Capitellidae	+	+	+	+	+	+	+	+	+
10	Chaetozone sp1	Cirratulidae	+	-	-	-	-	-	+	+	+
11	Cirratulus spp.	Cirratulidae	+	-	-	-	-	-	-	-	-
12	Cossura coasta	Cossuridae	+	+	+	+	+	+	+	+	+
13	Dendronereis aestuarina	Nereidae	+	+	+	+	+	+	+	+	+
14	Dioptra neopolitana	Onuphidae	+	+	+	+	+	+	+	+	+
15	Eteone spp.	Phyllodocidae	+	-	-	-	-	-	-	-	-
16	Eunice tubifex	Eunicidae	+	-	-	-	-	-	+	+	+
17	Eunice spp.	Eunicidae	+	+	+	+	+	+	+	-	-
18	Eurythoe complanata	Amphinomidae	+	-	-	-	-	-	-	-	-
19	Exogene spp.	Syllidae	+	-	-	-	-	-	+	+	+
20	Glycera alba	Glyceridae	+	+	+	+	+	+	+	+	+
21	Glycera longipinnis	Glyceridae	+	+	+	+	+	+	+	+	+
22	Glycinde spp.	Goniadidae	+	+	+	+	+	+	+	+	+
23	Goniada spp.	Goniadidae	+	+	+	+	+	-	+	+	+
24	Hesione spp.	Hesionidae	+	-	-	-	-	-	+	+	+
25	Heteromastus spp.	Capitellidae	+	+	+	+	+	+	+	+	+
26	Jasmineria spp.	Sabellidae	+	+	+	+	-	-	-	-	-
27	Leocrate claparedii	Hesionidae	+	+	+	+	+	-	-	-	-
28	Levinsenia spp.	Paranoidea	+	-	-	-	-	-	+	+	+
29	Lumbriconereis aberrans	Lumbrineridae	+	+	+	-	-	+	+	+	+
30	Lumbriconereis spp.	Lumbrineridae	+	+	+	+	+	+	+	-	-
31	Lumbriconeries heteropoda	Lumbrineridae	+	+	+	+	+	+	+	+	+
32	Lumbriconeries laterielli	Lumbrineridae	+	+	+	+	+	-	-	-	-
33	Lycastis indica	Nereidae	+	+	+	+	+	+	+	+	+
34	Macellicephalo sp.	Aphroditidae	+	-	-	-	-	-	+	+	+
35	Magelona longicornis	Magelonidae	+	+	+	-	-	-	+	+	+
36	Magelona papillicornis	Magelonidae	+	+	+	-	-	-	+	+	+
37	Maldanella capensis	Maldinidae	+	+	-	-	-	-	-	-	-
38	Marphysa sanguinea	Onuphidae	+	+	+	+	+	-	-	-	-
39	Mediomastus spp.	Capitellidae	+	+	+	+	+	+	+	+	+
40	Mesochaetopterus	Chaetopteridae	+	-	-	-	-	-	-	-	-
41	Minuspio cirrifera	Spionidae	+	+	+	+	+	-	+	+	+
42	Neanthes zonata	Nereidae	+	+	+	+	+	-	+	+	+
43	Neosabellaria cementarium	Sabellariidae	+	-	-	-	-	+	+	+	+
44	Nephtys polybranchia	Nephtyidae	+	+	+	+	+	+	+	+	+
45	Neries spp.	Nereidae	+	+	+	+	+	+	+	+	+
46	Nerine cirratula	Nereidae	+	+	+	+	+	+	-	-	-
47	Notomastus spp.	Capitellidae	+	+	-	-	-	+	+	+	+
48	Odontosyllis spp.	Syllidae	+	+	-	-	-	-	+	+	+
49	Onuphis emerita	Onuphidae	+	+	+	-	-	-	-	-	-
50	Owenia fusiform	Owiniidae	+	+	+	-	-	-	-	-	-
51	Paraprionospio pinnata	Spionidae	+	+	+	+	+	+	+	+	+
52	Perineris cultrifera	Nereidae	+	+	+	+	+	-	-	-	-
53	Phyllochaetopterus spp.	Chaetopteridae	+	+	+	-	-	-	-	-	-
54	Phyllodoce spp.	Phyllodocidae	+	+	+	-	-	-	-	-	-
55	Pisione spp.	Pisionidae	+	+	+	+	+	-	-	-	-
56	Pisionidens indica	Pisionidae	+	+	+	+	+	+	-	-	-
57	Platyneries spp.	Nereidae	+	-	-	+	+	+	+	+	+
58	Polydora spp.	Spionidae	+	+	+	+	+	+	-	-	-
59	Prinospio pinnata	Spionidae	+	+	+	+	+	+	+	+	+
60	Prinospio spp.	Spionidae	+	+	+	+	+	+	+	+	+
61	Prinospio cirrifera	Spionidae	+	+	+	+	+	+	-	-	-
62	Scoloplos spp.	Orbiniidae	+	-	-	-	-	-	+	+	+
63	Sternaspis scutata	Sternapsidae	+	+	+	+	-	-	-	-	-
64	Sthenelais boa	Aphroditidae	+	+	+	+	+	-	-	-	-
65	Syllis cornuta	Syllidae	+	+	+	+	+	-	-	-	-
66	Syllis spp.	Syllidae	+	+	+	+	+	+	+	+	+
67	Terebella Ehrenberg	Terebellidae	+	+	+	+	+	+	+	+	+
68	Terebella spp.	Terebellidae	+	+	+	+	+	+	+	+	+
69	Terebellides stroemi	Terebellidae	+	+	+	+	+	+	+	+	+
70	Tharyx spp.	Cirratulidae	+	+	+	+	+	+	+	+	+

Sediment samples were collected once in a month by using Peterson's grab with diameter (0.1m² (0.1m²x10=1m²)) at all stations. sediment samples were sieved through 500 micron mesh sieve and the fauna preserved in 5% formalin for taxonomic identification. Benthic Macro polychaetes were identified using standard keys (Days 1967) expressed in No./m².

RESULTS AND DISCUSSION

The species diversity of macro polychaete appendix is given (Table1.) 70-Macrobenthic polychaetes species were recorded along the coast of Karwar. Macro benthic polychaetes highlighted the presence of indicator species at all stations.

Out of these 20 species were recorded in all stations. Most of the benthic studies explored that Capitellidae, Cossuridae, Spionidae, Magelidae, Neriidae, Eunicidae, are the dominant species. The polychaetes observed throughout this study were smaller in size and this is a clear indication of extreme disturbance imposed on the sediment. The present findings shows macro benthic polychaete diversity rich in all along the coast Prionospio, Nephtys, Lumbriconeries, Glycera, Neriidae spp. Found to be stress indicators. *Paraprionospio pinnata*, *Polydora*, *Cossura costa*, *Thyrax spp.*, *Nephtys polybranchia*, *Capitella capitata*, *Mediomastus*, *Megalona longicornis*, *Terebellides stroemi* are the dominant macro benthic polychaetes abundant in port area.

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