



Diversity of intertidal macrobenthic fauna around Ratnagiri and Sindhudurg districts of Maharashtra, west coast of India

P Sivaperumal^{a,c}, M Khot^a, S K Chakraborty^a, A Pawase^b & A K Jaiswar^{*a}

^aICAR-Central Institute of Fisheries Education, Panch Marg, Off Yari Road, Versova, Andheri (West), Mumbai – 400 061, India

^bCollege of Fisheries, Shirgaon, Ratnagiri, Maharashtra – 415 629, India

^cMarine Biomedical Research Lab & Environmental Toxicology Unit, Cellular and molecular research centre, Saveetha Dental College and Hospitals, Saveetha Institute of Medical & Technical Sciences, Saveetha University, Chennai, Tamil Nadu – 600 077, India

*[E-mail: akjaiswar@cife.edu.in]

Sr. No	Contents	Page No.
1	Table S1 — List of microbenthic taxa recorded during the study period	ii
2	Table S2 — Correlation coefficient (r) between macrofauna and physicochemical parameters at Sandy shore habitat around JNPP sites	ii
3	Table S3 — Correlation coefficient (r) between macrofauna and physicochemical parameters at Rocky shore habitat around JNPP sites	iii
4	Figure S1 — Dendrogram for macrobenthos of sandy shore (2013 to 2014)	iii
5	Figure S2 — Dendrogram for macrobenthos of rocky shore (2013 to 2014)	iii
6	Figure S3 — k – dominance curve for macrobenthos from sandy shore (2013-14)	iv
7	Figure S4 — k – dominance curve for macrobenthos from rocky shore (2013-14)	iv

Supplementary Tables

Table S1 — List of microbenthic taxa recorded during the study period

S. No	Species	Groups	S. No	Species	Groups
1.	Zoanthidae	Cnidaria	28.	<i>Protula</i> sp	Polychaete
2.	<i>Thais bufo</i>	Gastropod	29.	<i>Lumbriconereis</i> sp	Polychaete
3.	<i>Trochus radiatus</i>	Gastropod	30.	<i>Nereis</i> sp	Polychaete
4.	<i>Cellana radiata</i>	Gastropod	31.	<i>Onuphis</i> sp	Polychaete
5.	<i>Bursa tuberculata</i>	Gastropod	32.	<i>Perinereis</i> sp	Polychaete
6.	<i>Neritapolita</i>	Gastropod	33.	<i>Cossura</i> sp	Polychaete
7.	<i>Euchelus asper</i>	Gastropod	34.	<i>Glycera</i> sp	Polychaete
8.	<i>Nerita oryzarum</i>	Gastropod	35.	<i>Phyllodoce</i> sp	Polychaete
9.	<i>Drupa tuberculata</i>	Gastropod	36.	<i>Mysis</i> sp	Crustacean
10.	<i>Thais tissoti</i>	Gastropod	37.	<i>Gammarus</i> sp	Crustacean
11.	<i>Drupa konkanensis</i>	Gastropod	38.	<i>Cyclaspis</i> sp	Crustacean
12.	<i>Planaxis similis</i>	Gastropod	39.	<i>Talorchestia</i> sp	Crustacean
13.	<i>Planaxis sulcatus</i>	Gastropod	40.	<i>Cyathura</i> sp	Crustacean
14.	<i>Cerithium morus</i>	Gastropod	41.	<i>Accalthuria</i> sp	Crustacean
15.	<i>Cerithium rubus</i>	Gastropod	42.	<i>Euphausia</i> sp	Crustacean
16.	<i>Cantharus spiralis</i>	Gastropod	43.	<i>Cirolana</i> sp	Crustacean
17.	<i>Nerita</i> sp	Gastropod	44.	<i>Limnoria</i> sp	Crustacean
18.	<i>Nerita albicilla</i>	Gastropod	45.	<i>Penaeus</i> sp	Crustacean
19.	<i>Thais lacera</i>	Gastropod	46.	<i>Polyonyx</i> sp	Crustacean
20.	<i>Littorina</i> sp	Gastropod	47.	<i>Emerita</i> sp	Crustacean
21.	<i>Bursa granularis</i>	Gastropod	48.	<i>Calappa</i> sp	Crustacean
22.	<i>Cyprea</i> sp	Gastropod	49.	Anomura	Crustacean
23.	<i>Marcia opima</i>	Bivalve	50.	<i>Holothuria</i> sp	Echinodermata
24.	<i>Gafrarium divaricatum</i>	Bivalve	51.	<i>Didemnum psammatodes</i>	Ascidian
25.	<i>Nassarius</i> sp	Bivalve	52.	<i>Didnum</i> sp	Ascidian
26.	<i>Perna indica</i>	Bivalve	53.	<i>Trididemnum</i> sp	Ascidian
27.	<i>Perna viridis</i>	Bivalve	54.	<i>Aplidium</i> sp	Ascidian

Table S2 — Correlation coefficient (r) between macrofauna and physicochemical parameters at Sandy shore habitat around JNPP sites

	S	N	d	J	H	Temp	pH	Salinity	DO	Sand	Clay	Silt	OC
S Pearson	1	.825**	.964**	0.181	.943**	.734**	.666**	-0.267	-0.13	.386*	-.482**	0.04	-.381*
Correlation													
Sig. (2-tailed)		0	0	0.357	0	0	0	0.17	0.48	0.042	0.009	0.841	0.045
N Pearson	.825**	1	.653**	0.067	.740**	.766**	.683**	-0.221	-0.21	0.302	-.452*	0.178	-0.26
Correlation													
Sig. (2-tailed)	0		0	0.735	0	0	0	0.259	0.27	0.119	0.016	0.364	0.177
d Pearson	.964**	.653**	1	0.218	.928**	.626**	.562**	-0.213	-0.10	.393*	-.457*	-0.02	-.378*
Correlation													
Sig. (2-tailed)	0	0		0.266	0	0	0.002	0.277	0.61	0.039	0.015	0.893	0.048
J Pearson	0.181	0.067	0.218	1	.470*	0.195	-0.14	0.085	-0.09	-0.086	-0.1	.399*	-0.171
Correlation													
Sig. (2-tailed)	0.357	0.735	0.266		0.012	0.319	0.477	0.667	0.63	0.664	0.613	0.035	0.384
H Pearson	.943**	.740**	.928**	.470*	1	.667**	.558**	-0.191	-0.17	0.333	-.461*	0.123	-0.372
Correlation													
Sig. (2-tailed)	0	0	0	0.012		0	0.002	0.33	0.38	0.083	0.013	0.533	0.051

S - no of groups; N - number of the individuals; d - Richness; J - Evenness; H - diversity; **Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed)

Table S3 — Correlation coefficient (*r*) between macrofauna and physicochemical parameters at Rocky shore habitat around JNPP sites

		S	N	<i>d</i>	<i>J</i>	<i>H</i>	Temp	pH	Salinity	DO	Sand	Clay	Silt	OC
S	Pearson	1	.616**	.938**	-.29	.806**	.135	.390*	-.183	-.156	.145	-.051	-.242	-.111
	Correlation													
	Sig. (2-tailed)		.000	.000	.12	.000	.494	.040	.351	.427	.461	.797	.215	.574
N	Pearson	.616**	1	.330	-.57**	.251	.465*	.390*	-.192	.131	.253	-.153	-.296	-.279
	Correlation													
	Sig. (2-tailed)	.000		.086	.001	.197	.013	.040	.329	.508	.194	.438	.126	.151
<i>d</i>	Pearson	.938**	.330	1	-.11	.861**	.002	.325	-.145	-.179	.056	.011	-.153	.056
	Correlation													
	Sig. (2-tailed)	.000	.086		.57	.000	.993	.091	.462	.361	.778	.955	.436	.777
<i>J</i>	Pearson	-.299	-.577**	-.111	1	.266	-.095	-.192	.024	-.177	-.394*	.213	.512**	.074
	Correlation													
	Sig. (2-tailed)	.123	.001	.572		.171	.631	.328	.902	.368	.038	.278	.005	.710
<i>H</i>	Pearson	.806**	.251	.861**	.26	1	.023	.306	-.245	-.278	-.091	.085	.047	.009
	Correlation													
	Sig. (2-tailed)	.000	.197	.000	.17		.907	.113	.209	.153	.645	.667	.810	.962

S - no of groups; N - number of the individuals; *d* - Richness; *J* - Evenness; *H* - diversity; **Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed)

Supplementary Figures

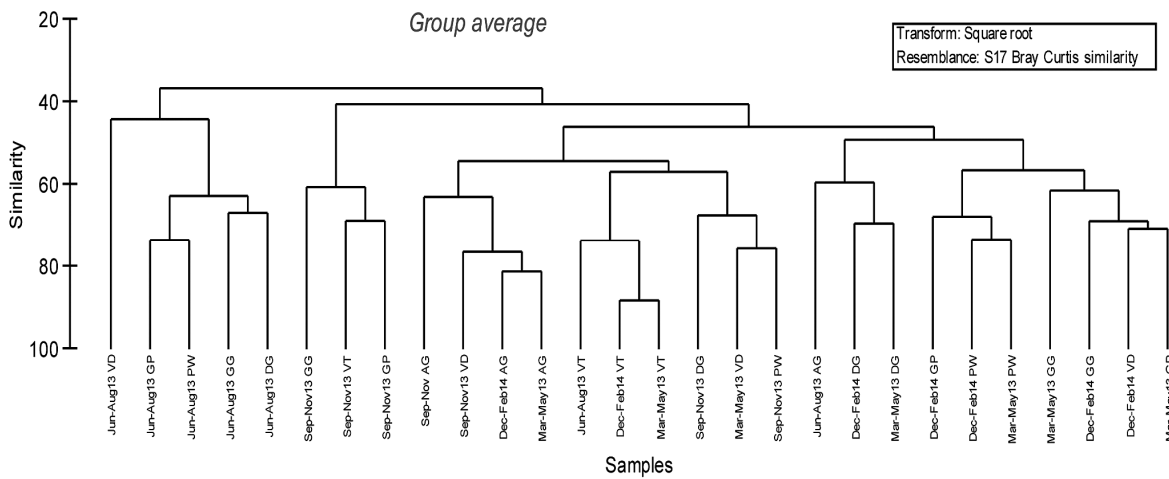


Fig S1 — Dendrogram for macrobenthos of sandy shore (2013 to 2014)

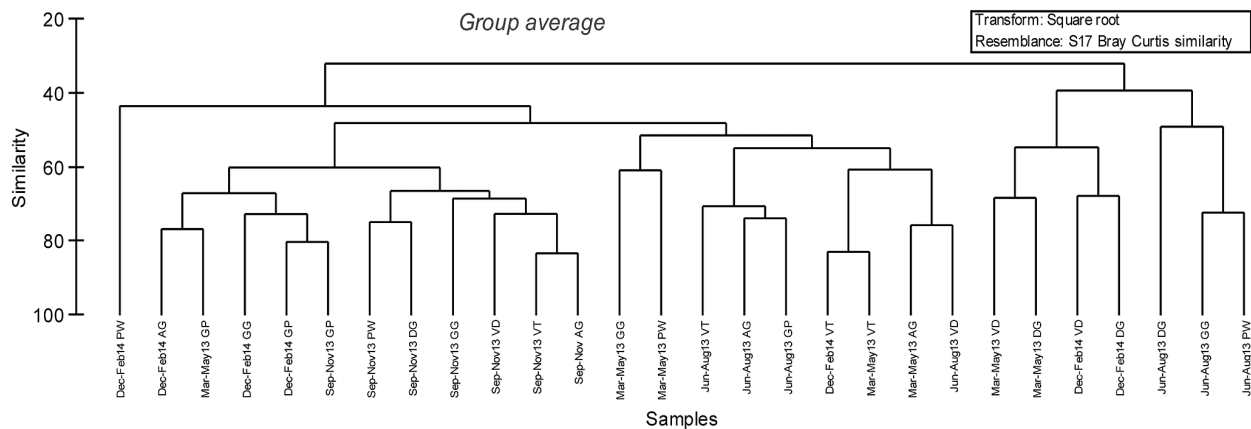


Fig S2 — Dendrogram for macrobenthos of rocky shore (2013 to 2014)

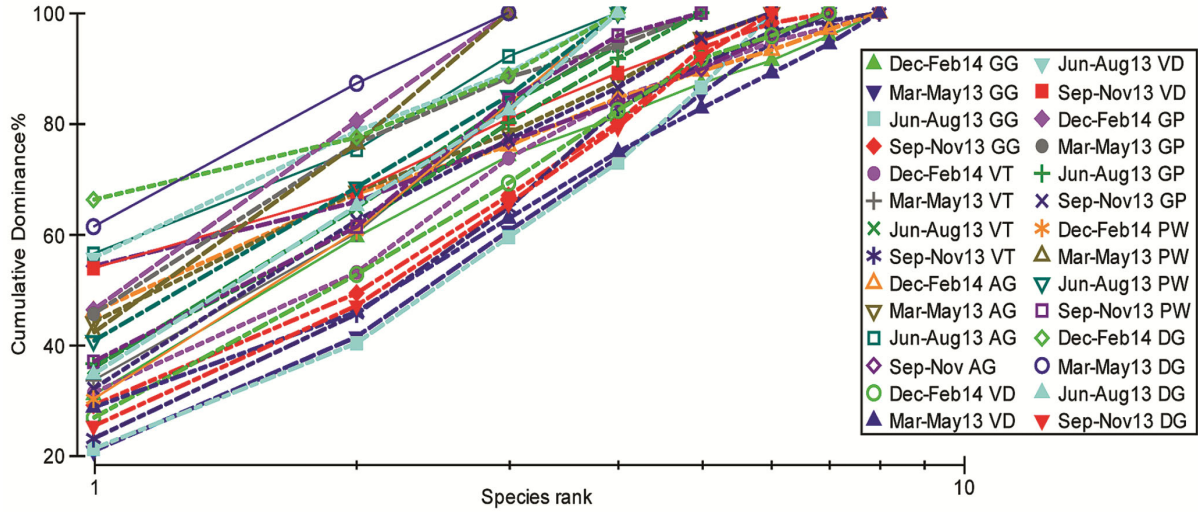


Fig S3 — k – dominance curve for macrobenthos from sandy shore (2013-14)

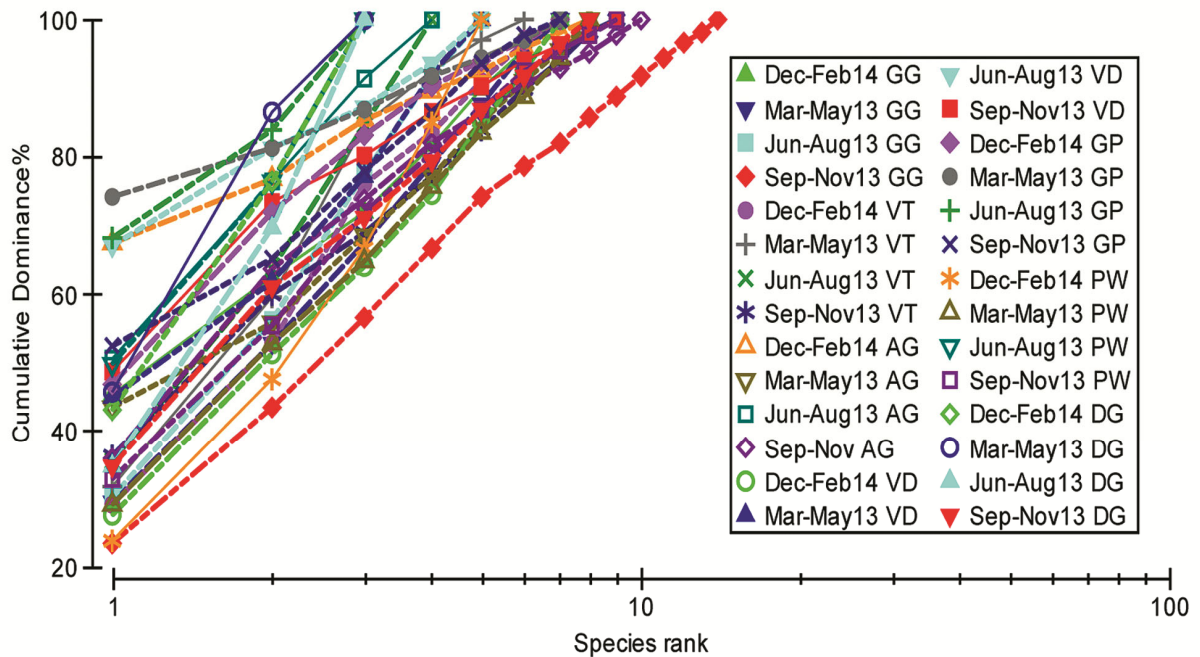


Fig S4 — k – dominance curve for macrobenthos from rocky shore (2013-14)