



BENTHIC MACRO POLYCHAETES OF GOA, THE CENTRAL WEST COAST OF INDIA

Environmental Research

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ABSTRACT

Goa coastal area is a suitable environment for the growth and study of polychaetes with special reference to their systematic, spatial and temporal distribution. Hence, eight stations were sampled at random within the Goa coast for the study of polychaetes taxonomy and a total of 29 species belonging to 28 genera and 18 families were identified. Out of this, 18 species namely, *Lumbriconereis heteropoda*, *Nephtys dibranchis*, *Fabricia bansei*, *Neanthes bongcoi*, *Neanthes oxypoda*, *Chitinopomoides wilsoni*, *Scalibregma inflatum*, *Marphysa corallina*, *Iphionella philippinensis*, *Scyphoproctus variabilis*, *Namanereis gesae*, *Gastrolepidia clavigera*, *Oenone fulgida*, *Pileolaria militaris*, *Scoloplos johnstonei*, *Dendronereides zululandica*, *Lysidice ninetta* and *Perinereis nuntia vallata* are reported for the first time from Goa. In this report Species number was high in this area mainly due to the good environmental conditions prevailing there when compared to other areas in the West Coast of India. The taxonomic investigation of the present data can form a baseline information for future monitoring programmes in this area.

KEYWORDS

Polychaetes, Diversity, Taxonomic Investigation, Goa, Central West Coast.

INTRODUCTION

Polychaetes are an important component of macro-benthic community as they often dominate in terms of abundance, biomass and species diversity. As a result, they play an important role in the stability and functioning of the benthic community and the ecology in general and food source in particular for most of the marine organisms, especially fishes in the marine ecosystem. Ansari *et al.* (1986, 1993 & 1994) studied the macro benthic assemblages in the soft sediments of Mormugao harbour, Goa; Harkantra & Parulekar (2003) reported the polychaetes of Goa. Sivasdas (2009) studied the impact of anthropogenic activities on the macro benthic communities of Goa. In the present study surveys were carried out in 8 different coastal areas of Goa lying within Lat. 14° 57' 24" to 15° 33' 48" N and Lon. 73° 44' 54" to 74° 03' 16" E, during the year 2019 to give a comprehensive account

about the presence of polychaetes there.

MATERIAL AND METHODS

Samples were collected from 8 stations ranging in depths from 5 m to 20 m, from the shore along the Goa coast (Fig.1.) using Peterson's Grab and Scoop following SCUBA diving technique, depending up on the depth of the sampling sites. To remove the sediments, samples were sieved without damaging the body parts and specimens were preserved in 7% formalin for further taxonomical studies. Preserved samples were brought to the laboratory, sorted out and stored in separate bottles. Species were identified by using standard keys (Fabricius, 1780; Echlens, 1908; Southern, 1921; Favuel, 1953; Day, 1961 and Kristian Fauchald, 1977) after drawing the figures using Camera Lucida and taking colour photos.

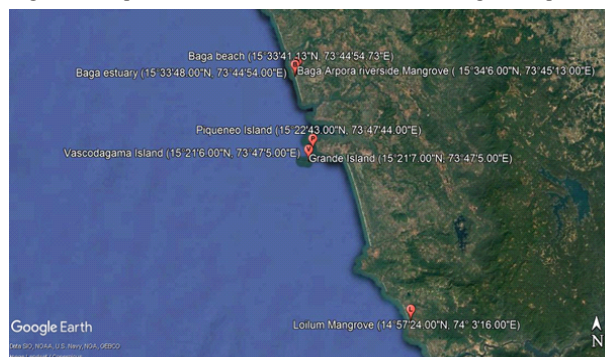


Fig. 1. Map of the study area showing the sampling stations in Goa.

RESULTS AND DISCUSSION

A total of 29 species as per the list given in Table 1, belonging to 28 genera and 17 families were found in the collections. So far, 10 species such as 1. *Harmothoe sp.*, 2. *Nephtys sp.*, 3. *Nereis sp.*, 4. *Paraprinospio sp.*, 5. *Cabira rangarajani*, 6. *Polydora sp.*, 7. *Trochochaeta sp.*, 8. *Notomastus sp.*, 9. *Capitella sp.* and 10. *Eunice indica* have been reported from Goa by earlier authors (Rangarajan, 1964; Sivasdas, 2009). Out of this, 8 forms (*Harmothoe sp.*, *Nephtys sp.*, *Nereis sp.*, *Paraprinospio sp.*, *Polydora sp.*, *Trochochaeta sp.*, *Notomastus sp.*, *Capitella sp.*) were reported only up to genus level by Sivasdas *et al.* 2009, and two species (*Eunice indica* and *Cabira rangarajani*) were reported up to species level by Rangarajan (1964) and Sivasdas (2009).

In the present study 29 species, namely 1. *Lumbriconereis heteropoda*, 2. *Capitella capitata*, 3. *Notomastus aberans*, 4. *Eunice indica*, 5. *Owenia fusiformis*, 6. *Harmothoe charlatta*, 7. *Nephtys dibranchis*, 8. *Fabricia bansei*, 9. *Neanthes bongcoi*, 10. *Neanthes oxypoda*, 11. *Chitinopomoides wilsoni*, 12. *Scalibregma inflatum*, 13. *Trochochaeta watsoni*, 14. *Marphysa corallina*, 15. *Paraprinospio cordifolia*, 16. *Cabira rangarajani*, 17. *Iphionella philippinensis*, 18. *Scyphoproctus variabilis*, 19. *Polydora onagawaensis*, 20. *Namanereis gesae*, 21. *Gastrolepidia clavigera*, 22. *Oenone fulgida*, 23. *Pileolaria militaris*, 24. *Scoloplos johnstonei*, 25. *Euclymene annandalaei*, 26. *Platynereis dumerilli*, 27. *Dendronereides zululandica*, 28. *Lysidice ninetta* and 29. *Perinereis nuntia vallata* are recorded. In this, 18 species as shown in Table. 1. are new to the study area.

Table 1. List of Ploychaete Species recorded from Goa.

Sl. No.	Name of the Species	Family	Sub-family	Place Of Collection							
				BE	GI	BB	BA RS	BW WP	PI	VI	LM
1	<i>Lumbriconereis heteropoda</i> *	Eunicidae	Lumbri nereidae	+		+	+		+		+
2	<i>Capitella capitata</i>	Capitellidae		+	+	+		+		+	
3	<i>Notomastus aberans</i>	Capitellidae	-	+		+		+	+		+
4	<i>Eunice indica</i>	Eunicidae	-	+		+			+		+
5	<i>Owenia fusiformis</i>	Oweniidae	-		+			+	+		
6	<i>Harmothoe charlatta</i>	Aphroditidae	Polynoidae	+					+		+
7	<i>Nephtys dibranchis</i> *	Nephtyidae	-	+	+	+	+		+		
8	<i>Fabricia bansei</i> *	Sabellidae	-			+	+		+		
9	<i>Neanthes bongcoi</i> *	Nereidae	-	+	+		+		+		+
10	<i>Neanthes oxypoda</i> *	Nereidae	-	+			+		+		+
11	<i>Chitinopomoides wilsoni</i> *	Serpulidae	-				+	+	+		
12	<i>Scalibregma inflatum</i> *	Scalibregmidae	-	+			+		+		+
13	<i>Trochochaeta watsoni</i>	Disomidae	-		+			+		+	
14	<i>Marphysa corallina</i> *	Eunicidae	-	+	+	+	+	+	+		
15	<i>Paraprionospo cordifolia</i>	Spionidae	-		+		+			+	
16	<i>Cabira rangarajini</i>	Pilargidae	-	+		+		+		+	
17	<i>Iphionella phillippinensis</i> *	Aphroditidae	Polynoidae		+		+		+		
18	<i>Scyophroctus variabilis</i> *	Capitellidae	-			+		+		+	
19	<i>Polydora onagawaensis</i>	Spionidae	-	+			+		+		+
20	<i>Namanereis gesae</i> *	Nereidae	-		+		+		+		
21	<i>Gastrolepidia clavigera</i> *	Aphroditidae	Polynoidae	+	+			+		+	
22	<i>Oenone fulgida</i> *	Eunicidae	Lysaretidae				+		+		+
23	<i>Pileolaria militaris</i> *	Serpulidae	-	+		+		+		+	
24	<i>Scoloplos johnstonei</i> *	Orbiniidae	-	+		+	+		+		+
25	<i>Euclymene amandalaei</i>	Maldanidae	-	+		+			+		+
26	<i>Platynereis dumerilli</i>	Nereidae	-	+			+		+	+	
27	<i>Dendronereides zululandica</i> *	Nereidae	-	+	+		+		+		+
28	<i>Lysidice ninetta</i> *	Eunicidae	-	+				+		+	+
29	<i>Perinereisnuntia vallata</i> *	Nereidae	-		+		+		+		+

*New records.

BE-Baga Estuary; GI-Grande Island; BB-Baga Beach; BARS-Baga Arpora River Side; BWWP-Blue Whale Water Park; PI- Piqueeno Island; VI- Vascodagama Island; LM- Lolium Mangrove.

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