

Distribution of Planktonic Ostracods along the South-West Coast of India

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Fourteen species of ostracods were identified from the collections of 2 cruises of *Blue Fin* (February and April 1970) off the south-west coast of India. *Euconchoecia aculeata* and *Cypridina dentata* were the most common and abundant species which showed aggregation above the thermocline. For certain species, viz. *Microconchoecia curta*, *Orthoconchoecia atlantica* and *Spinoecia porrecta*, discontinuity layer did not act as a barrier in their vertical movements. Some species like *Conchoecetta giesbrechti* and *Metaconchoecia rotundata* showed aggregation below the thermocline.

OSTRACODS constitute a major group of tropical zooplankton. Information on their distribution in the Arabian Sea is limited^{1,2}. The present study is based on 37 zooplankton samples collected during the two cruises of *Blue Fin* in February and April 1970, covering 3 transects, off Cochin, Alleppey and Quilon. The stations were located (Fig. 1) between the depth range of 30 and 1100 m. Vertical hauls from bottom to surface were taken using a HT net (mouth area 0.25 m², length 2.5 m, mesh size 200 µm) with a flowmeter attached. At stations where a thermocline was observed, an additional haul from the thermocline to the surface was made. The numerical data (Table 1) were based on the counts of adults of each species in the whole sample. The hydrography of these cruises were published³.

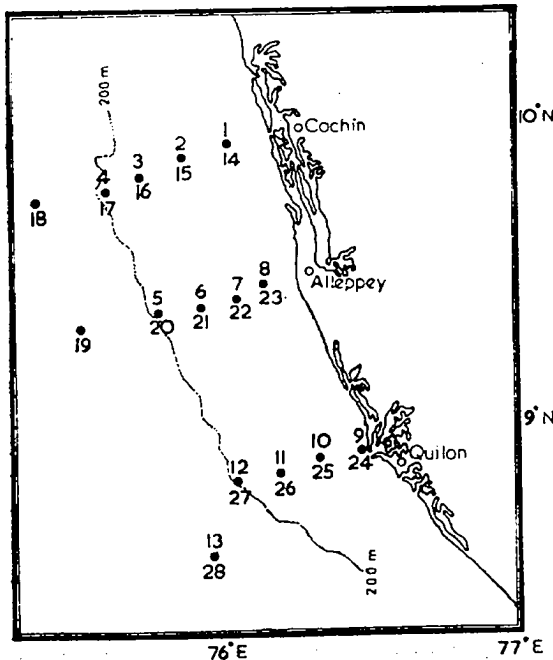


Fig. 1 — Location of stations

TABLE 1 — DISTRIBUTION OF PLANKTONIC OSTRACODS DURING FEBRUARY AND APRIL 1970

(Stations 1 to 13 — February collections and stations 14 to 28 — April collections. A = haul from bottom to surface and B = from thermocline to surface)

Station No.	Depth vertical haul from bottom (m) to surface	No/100 m ³ filtered water	Station No.	Depth vertical haul from bottom (m) to surface	No/100 m ³ filtered water	
<i>Paraconchoecia procerca</i>						
17A	150	106	4A	200	153	
4B	100	182	18A	1000	22	
17B	75	16	5A	200	303	
18A	1000	22	20A	200	49	
19A	900	26	5B	100	2241	
20A	200	50	20B	50	513	
12A	200	74	27A	200	50	
13	100	66	27B	50	86	
28A	1000	22	13	100	22	
28B	50	14				
<i>P. elegans</i>						
27A	200	25	<i>Pseudoconchoecia concentrica</i>			
<i>P. decipiens</i>						
28A	1000	2	<i>Alacia alata</i>			
<i>Conchoecetta giesbrechti</i>						
18A	1000	9	<i>Halocypris brevisrostris</i>			
20A	200	50	28A	1000	2	
22	50	29	<i>Archiconchoecia striata</i>			
27A	200	25	20A	200	25	
28A	1000	2	<i>Euconchoecia aculeata</i>			
<i>Microconchoecia curta</i>						
			1	30	21153	
4A	200	127	2	40	540	
18A	1000	22	3	70	369	
18B	50	23	4A	200	490	
19A	900	26	17A	150	171	
5A	200	121	4B	100	364	
27B	50	43	17B	75	511	
13	100	22	18A	1000	44	
28A	1000	3	18B	50	149	
<i>Metaconchoecia rotundata</i>						
18A	1000	44	19A	900	29	
27A	200	37	19B	50	258	
13	100	87	5A	200	1821	
28A	1000	17	20A	200	49	
<i>Orthoconchoecia atlantica</i>						
4A	200	148	5B	100	2241	
5A	200	424	7	50	1397	
20B	50	154	22	50	30	
27B	50	44	8	30	4444	
13	100	24	11	60	274	
28A	1000	10	26	50	50	
28B	50	15	12A	200	74	
<i>Cypridina dentata</i>						
1	30	3846	27A	200	739	
14	30	141	12B	75	1262	
15	40	268	27B	50	626	
16	75	84	13	100	69	
4A	200	204	28A	1000	9	
4B	100	1091	28B	50	62	
5A	200	121	<i>Cypridina dentata</i>			
			4B	100	172	
			21	60	309	
			22	50	107	
			23	30	221	
			9	30	2013	
			12A	200	73	
			12B	75	112	

In all, 14 species, 13 of them belonging to the family Halocyprididae and one to Cypridinidae, were observed in the collections.

The pattern of distribution showed that two species of ostracods, *Euconchoecia aculeata* and *Cypridina dentata*, were the numerically more abundant and common species of ostracods found along the coast.

Euconchoecia aculeata was represented in February by a large patch with a steep population gradient decreasing southward and a steeper gradient decreasing towards the edge of the shelf. In the southernmost transect, off Quilon, the gradient was reversed and had a maximum density at the edge of the shelf. Maximum density of the patch was off the mouth of Cochin backwater system (211.5 spec./m³). Fair numbers were present at the edge of the shelf. By April the patch in the area sampled had become much thinner with a maximum of 7.4 spec./m³ at the edge of the shelf in the southern transect; the patch had also moved offshore and was found at the edge or beyond the shelf; probably the sampling was done only from the easternmost boarder of the patch.

Distribution of *Cypridina dentata* is interesting in that it was taken only off the estuaries off Cochin (maximum density 38.5 spec./m³), off Quilon and over the edge of the shelf in February. In April the species was present only at the two southernmost transects with a maximum density of 3.1 spec./m³ and an average of less than 2 spec./m³. This species was conspicuously absent beyond the edge of the continental shelf.

Spinoecia porrecta was the third most abundant species, but rather rare and uncommon. Its highest density was observed as 22.4 spec./m³, at the edge of the shelf in the middle transect in February. The patch was still there in April with 5.1 spec./m³.

All the other species were rare with density ranging from 0.02 spec./m³ to a single 4.2 spec./m³ occurrence and less than 1 spec./m³ as an average. They were all distributed along the edge of the continental shelf or in oceanic waters.

The effect of thermocline on the vertical movements of these species was assessed based on their occurrence and aggregation in the samples above the thermocline. Three species, *Microconchoecia curta*, *Orthoconchoecia atlantica*, and *Spinoecia porrecta*, were found to move freely across the discontinuity layer. *Euconchoecia aculeata* and *Cypridina dentata* showed accumulation above the thermocline as may be inferred from B samples, taken from thermocline to the surface, having always larger or roughly similar number of specimens to A samples, taken from bottom to the surface. Probably the specimens that occurred in A samples were fished by the net on the portion of the haul above the thermocline. Two species, *Conchoecella giesbrechti* and *Metaconchoecia rotundata*, were confined to waters below the thermocline. Angel⁴ included *Paraconchoecia procera* among species with vertical movements restricted to below the thermocline. The present data showed that even though their occurrences were largely so, their presence was also noticed above the discon-

tinuity layer. Thermocline seems to be acting only as a partial barrier in its vertical movements. Other species like *Paraconchoecia elegans*, *Paraconchoecia decipiens*, *Pseudoconchoecia concentrica*, *Alacia alata*, *Halocypris brevirostris* and *Archiconchoecia striata* occurred at a single station each in April. Although their occurrences were below thermocline, more sampling is required to draw any conclusion on their vertical movements.

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Benthic Studies in Goa Estuaries*: Biomass & Faunal Composition in the Zuari Estuary

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Benthic biomass and faunal composition in relation to salinity and substratum were reported for a 22.1 km stretch of the Zuari estuary. The fall in salinity in 22.1 km was 13.90%. Medium sand with a mixture of silt and clay dominated the bottom deposits. The average biomass (dry weight) was 40.2 gm⁻². Polyhaline conditions and sandy substratum accounted for higher biomass, but population density was high in euhaline zone. Polychaetes and bivalves were dominant in silty and sandy bottoms respectively. The observations add to baseline information on the bottom fauna of Goa estuaries.

DURING the course of a short term investigation, 22 km stretch of Zuari estuary was studied for the quantitative distribution of benthic fauna in relation to bottom salinity and substratum characteristics. The general features of this estuary, have been described earlier^{1,2}.

Observations were carried out from 29-12-1972 to 8-1-1973. Eighteen sections in north-south direction were fixed for sampling 22 km stretch of the estuary (Fig. 1). The number of stations along

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