COMPOSITION AND ABUNDANCE OF ANOMURAN (CRUSTACEA, DECAPODA) FROM NON-CONSOLIDATED SUBLITTORAL, ON THE NORTHERN COAST OF SÃO PAULO STATE, BRAZIL

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INTRODUCTION

The Anomura represents a very important group within the intertidal community and also a significant taxon in the benthic sublittoral habitat, exerting an important role in the marine trophic chain. The systematic of anomurans from Brazil were chiefly through up by Forest & Saint (1967). More recently, Melo (1999) listed 36 genus and 103 species for the Brazilian coast. The present contribution reports the composition and abundance of anomuran crabs in the soft bottoms in three regions along the northern coast of São Paulo.

MATERIAL AND METHODS

The study area comprised three bays (Mar Virado, Ubatuba and Ubatumirim) which present contrast physiographic features, both regarding their configuration and orientation of river discharge.

Samples were taken monthly from January 1998 through December 1999, in Ubatumirim, Ubatuba and Mar Virado bays, in Ubatuba on the northern coast of the state of São Paulo, Brazil. In each bay, six trawls (transects) were sampled, at depths of 20, 15, 10 and 5 meters. The other two transects were perpendicular to the beach; one in a sheltered area and the other in an area exposed to wave action. The trawls were done from a fishing boat equipped with two double-rig nets (4,5m wide at the mouth; 15mm mesh size ate the cod end). In the laboratory, the specimens were identified and counted.

RESULTS AND DISCUSSION

During the 2-year sampling period a total of 6356 individuals, 16 species, 9 genus and 4 families were recorded. The list of species according each family is presented below:

Family **Diogenidae** Ortmann, 1892: ***Dardanus insignis*** (de Saussure, 1858); ***Loxopagurus loxochelis*** (Moreira, 1901); ***Petrochirus diogenes*** (Linnaeus, 1758); ***Paguristes calliopsis*** Forest & Saint Laurent, 1967; ***Paguristes erythrops*** A. Milne Edwards, 1880; ***Paguristes robustus*** Forest & Saint Laurent, 1967; ***Paguristes tortugae*** Schimitt, 1933.

Family **Paguridae** Latreille, 1803: ***Pagurus brevidactylus*** (Stimpson, 1859); ***Pagurus criniticornis*** (Dana, 1852); ***Pagurus exilis*** (Benedict, 1892); ***Pagurus leptonyx*** Forest & Saint Laurent, 1967.

Family **Albuneidae** Stimpson, 1858: ***Albunea paretii*** Guérin-Menéville, 1853.

Family **Porcellanidae** Haworth, 1825: ***Minyocerus angustus*** (Dana, 1852); ***Pisidia brasiliensis*** Haig *in* Rodrigues da Costa, 1968; ***Porcellana sayana*** (Leach, 1820).

The total abundance of species differed among the bays. The highest abundance was recorded in Ubatuba Bay. *Dardanus insignis* was the most abundant species in both Ubatumirim and Ubatuba bays. In Mar Virado Bay, *L. loxochelis* was 7.2% more abundant than *D. insignis*. The variation observed in the composition and abundance of species among the bays must be the result of the relationship between the biological variations and the abiotic factors, which act in different ways, spatially and temporally, influencing the structure and the functioning of the benthic communities.

Some species act as bio indicators, when they are more frequent and abundant in the samples (Field, 1971). The high abundance of *D. insignis, L. loxochelis* and *P. sayana* suggests that these species are characteristics in the area.

Some previous studies in the Ubatuba region (Hebling *et al*., 1994; Negreiros-Fransozo *et al.*, 1997 and Fransozo *et al.*, 1998) showed a higher diversity of anomurans at locations near the rock shores. The higher species diversity along the

inner transects must be the result of proximity to the beach, an area of shelter and food. The high abundance of *D. insignis* is, probably, a result of its high fecundity and the occurrence of more than one reproductive cycle per year (Fernandes-Góes *et al.*, 2001).

According to Pires-Vanin (1993), who studied the structure and dynamics of the benthic megafauna at several locations along the coast of São Paulo, mollusks were the third most abundant group in the region. Other regions, along the coast of São Paulo also showed greater abundance of gastropods compared with other groups of the marine malacofauna. The presence of hermit crabs in the Ubatuba region could be explained by the presence of mollusks. This aspect was well defined by Migotto *et al.* (1993), in a study done in the São Sebastião Channel. According to Rittschoff (1980), the ability of hermit crabs to obtain new shells by changing them, by finding empty shells or by seeking out sites where gastropods are preyed upon by other animals may support the relatively successful presence in the region.

CONCLUSION

From the results obtained for Ubatumirim, Ubatuba and Mar Virado bays, it is possible to infer that, although this area is intensively commercially exploited, it is an important locality for the colonization, settlement and survival of many anomuran species. It contains a high percentage of the species known from the entire Brazilian coast.

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