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RESEARCH ARTICLE

A STUDY ON INTERTIDAL ROCKY SHORE FAUNA IN BURMANELLA, SOUTH ANDAMAN

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ABSTRACT

The Andaman & Nicobar coast constitute various ecological habitats that support large groups of marine organisms. These habitats help to unravel the faunal similarities and special features in the faunal composition among regions and habitats examined. The faunal diversity on the rocky shores is generally governed by the tides. The animals on the rocky shore undergo stress due to changing environmental factors. In the present study an attempt was made to study the distribution of marine fauna along the rocky shore of Burmanella coast. During the study two sites were selected and named a Stn 1 (N11°30.998' and E92°44.100') and Stn 2 (N11°31.606' and E92°43.464'). The present study investigated rich diversity of macro faunal groups which included echinoderms, molluscs, crabs, polychaetes etc.

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INTRODUCTION

The intertidal zone, also referred to as the littoral zone, is the area that is above water at low tide and under water at high tide (in other words, the area between tides marks). This area can include different types of habitats, with many types of animals like starfish, sea urchins, and some species of coral. The intertidal region is an important model system for the study of ecology, especially on wave-swept rocky shores that perishes the animals present in this area with fresh sea water from time to time. The region contains a high diversity of species, and the zonation created by the tides causes species ranges to be compressed into very narrow bands. This makes it relatively simple to study species across their entire cross-shore range, something that can be extremely difficult in, for instance, the stretch that is exposed from the shore to foreshore where shallow water is seen up to thousands of kilometers. Communities on wave-swept shores also have high turnover due to disturbance, so it is possible to watch ecological succession over years rather than decades. Since the foreshore is alternately covered by the sea and exposed to the air, organisms living in this environment must have adaptations for both wet and dry conditions.

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Study Area

The study area was located at the south east region of South Andaman district. The study was carried out in two different sites in the intertidal area of Burmanella. During the survey two different sites of Burmanella was selected and named as STN 1 (N11°30.998' AND E92°44.100') AND STN 2 (N11°31.606' AND E92°43.464').

METHODS

The specimens were collected from the two sites in two locations as north and east directions. The collection was made during low tide, in early morning hours around 6.30 am by hand picking method. The selected sampling site had a minimum distance of 10 mamong them to make a distinguished assessment of species diversity. The collected specimens were photographed, identified and stored in container containing formalin for future records.

RESULTS

A total of 40 species of macro benthos were investigated from this Island. The Molluscs were more diverse, among which gastropods were the most abundant followed by echinoderms consisting of Ophiuroids, Holothuroids, and Echinoids. Crustacean Platyhelminthes and annelids were also reported from the study area.

LIST OF MACRO BENTHOS REPORTED FROM THE 2 STATIONS OF BURMANELLA

PHYLUM	CLASS	ORDER	FAMILY	GENUS & SPECIES	
Echinodermata	Ophiuroidea	Ophiurida	Ophiotrichidae	<i>Macrophiothrix longipeda</i>	
			Ophiocomidae	<i>Ophiocoma scolopendrina</i>	
	Holothuroidea	Aspidochirotida	Holothuriidae	<i>Actinopygam auritiana</i> <i>Holothuria atra</i>	
Platyhelminthes	Echinoidea	Camarodonta	Echinometridae	<i>Echinometra mathaei</i>	
		Diadematoidea	Diadematidae	<i>Echinothrix calamaris</i>	
Annellida	Rhabditophora	Polycladida	Pseudocerotidae	<i>Pseudoceros contrarius</i>	
Arthropoda	Polychaeta	Phyllodocida	Nereididae	<i>Nereis pelagica</i>	
			Malacostraca	Decapoda	Inachidae
Mollusca	Gastropoda	Littorinimorpha	Eriphiidae	<i>Eriphia bana</i>	
			Pilumnidae	<i>Pilumnusves pertilio</i>	
			Xanthidae	<i>Zosimus aeneus</i>	
			Turbinidae	<i>Turbo chrysostomus</i>	
			Strombidae	<i>Lambis lambis</i>	
			Cypraeidae	<i>Cypraeidae rafinesque</i> <i>Cypraea tigris</i> <i>Monetaria moneta</i>	
			Strombidae	<i>Canarium labiatum</i> <i>Euprotomus aurisdiana</i>	
			Naticidae	<i>Polinices flemingianus</i>	
			Caenogastropoda	Cerithiidae	<i>Clypeomorus petrosa petrosa</i> <i>Clypeomorusbatillariaeformi</i>
				Potamididae	<i>Terebralia palustris</i>
		Neogastropoda	Olividae	<i>Oliva bifasciata</i>	
			Tegulidae	<i>Tectus niloticus</i>	
			Conidae	<i>Conus ebraeus</i> <i>Conus coronatus</i>	
				Muricidae	<i>Thais buccinea</i> <i>Tenguella granulata</i> <i>Thais armigera</i>
		Cycloneritimorpha	Buccinidae	<i>Engina mendicaria</i>	
			Nassariidae	<i>Nassarius livescens</i>	
			Mitridae	<i>Mitra chrysalis</i>	
			Neritidae	<i>Nerita chamaeleon</i>	
			Lottiidae	<i>Patelloida saccharina</i>	
			Cardiidae	<i>Trachycardium egmontianum</i>	
BIVALVIA	Cardiida	Tellinidae	<i>Tellinas trigosa</i>		
		Psammobiidae	<i>Asaphis violascens</i>		
		Lucinida	Lucinidae	<i>Codakia tigerina</i>	

Macrophiothrix Longipeda *Ophiocoma scolopendrina* *Ophiomastix annulosa* *Actinopyga mauritiana* *Holothuria atra*



Echinometra mathaei *Echinothrix calamaris* *Pseudoceros contrarius* *Nereis pelagica* *Camposcia retusa*



Eriphia sebana *Pilumnus pertilio* *Zosimus aeneus* *Turbo chrysostomus* *Lambis lambis* *Tectus niloticus*



Mauritiaarabica immanis *Clypeomorus petrosa* *Euprotomusaurisdianae* *Oliva bifasciata* *Terebralia palustris* *Conus ebraeus*

*Cypraea tigris**Thais buccinea**Nerita chamaeleon**Engina mendicaria**Polinices flemingiana**Mitra chrysalis*

Tenguella granulate *Canarium labiatum* *Thais armigera* *Nassarius livescens* *Monetaria moneta* *Conus coronatus* *Conus ebraeus*



Clypeomorus batillariaeformis *Patelloidea saccharina* *Trachycardium egmontianum* *Tellina strigosa* *Asaphis violascens* *Codakia tigerina*



The dominant species of gastropods belonged to order Neogastropoda followed by Littorinimorpha, Caenogastropoda and Cycloneritimorpha, while 2 orders Cardiida and Lucinida were reported under bivalves. Under Echinodermata 7 species belonging to 4 orders were reported, followed by Arthropod that reported 4 species belonging to order decapoda. Platyhelminthes and Annelida reported only 1 species each belonging to order Polycladida and Phyllodocida. Stn1 shows more diversity of molluscs and echinodermata than Stn2. The echinoderm and molluscs fauna are similar on the two sites, the community structure is stable along the study area; it seems that habitat type has a strong influence on the distribution and abundance of both phyla.

Conclusion

The present study searches the high diversity of Molluscs, Echinoderms, Arthropoda, Platyhelminthes, and Annelida in South Andaman, which needs to be protected and prevented from anthropogenic substances, formulating effective management strategies. Some strategies and techniques for marine conservation can be implemented, such as setting up protected areas, as with marine protected areas (MPAs) or Voluntary Marine Conservation Areas. In the recent years Andaman Islands has become a famous tourist spot, strategies

should be adopted in educating tourists that come to these areas who might not be familiar with certain regulations regarding the marine habitat. One example of this is a project called Green Fins based in Southeast Asia that uses the scuba diving industry to educate the public. This project, implemented by UNEP, encourages scuba diving operators to educate their students about the importance of marine conservation and encourage them to dive in an environmentally friendly manner that does not damage coral reefs or associated marine ecosystems.

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