



Seaweed distribution and diversity on the intertidal rocks at Nochiyurani coast of Gulf of Mannar*

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ABSTRACT

The present study deals with 21 seaweed species from the intertidal rocks at nine sampling stations along Nochiyurani coast during six month period from January to June 2014. Among the different species of seaweeds, the dominant species *Gracilaria corticata* in all the sampling stations indicated its adaptability to the surf zone. *Acanthophora spicifera* and *Caulerpa scalpelliformis* var. *denticulata* were the next two dominant species. The present study reveals that intertidal rocks occurring along the entire coast of Nochiyurani offer suitable substratum for the luxuriant growth of seaweeds. The lack of anthropogenic activity along this coast favours for the good growth of different seaweeds.

Introduction

Seaweeds generally grow in the intertidal and subtidal regions of the sea up to a depth where sufficient light intensity is available for photosynthetic activity. The seaweed ecosystem provides habitat for a variety of invertebrate and vertebrate animals. Hence, from ecological and economical points of view it is an important marine realm. Nochiyurani coast (09°16.016'N; 78°02.043'E) is located near Mandapam coast in the Gulf of Mannar. The intertidal region of Nochiyurani coast is dominated by beach rocks which were formed from lithification by calcium carbonate

sediment in the intertidal and spray zone. The hard substratum of the rocks favours for the growth of diverse marine macroalgal species.

Materials and Methods

The location of the study area Nochiyurani is shown in Figure-1. The study was made for a period of six month from January to June 2014. The regular field survey was carried out during the lowest low tide periods. Seaweed samples were collected as per the standard survey methods of Leliaert and Coppejans (2004) along one km stretch of intertidal coast covering nine sampling stations. The algal samples



Fig.-1. Map showing the study area

collected were sorted out species wise, placed in polythene bags containing seawater and transported to the laboratory. Then they were fixed in 4% formaldehyde solution for taxonomic studies. The seaweeds were identified using the taxonomic keys provided by Srinivasan (1973) and the nomenclature was updated using the website of Appeltans *et al.* (2012) and Guiry and Guiry (2012).

Results and Discussion

During the present study twenty two

Table-1. Distribution of seaweeds in nine stations at Nochiyurani coast

Sl. No.	Name of the seaweeds	Species distribution								
		Station 1	Station 2	Station 3	Station 4	Station 5	Station 6	Station 7	Station 8	Station 9
Chlorophyceae										
1.	<i>Caulerpa scalpelliformis</i> (R.Brown ex Turner) C.Agardh var. <i>denticulata</i> (Decaisne) Weber-van Bosse	+	-	+	+	+	-	+	+	-
2.	<i>Caulerpa racemose</i> v. <i>laetevirens</i> (Sonder) Weber-van Bosse	-	-	-	+	-	-	-	-	-
3.	<i>Caulerpa racemosa</i> v. <i>clavifera</i> (Turner) C.Agardh	-	-	-	-	-	-	-	-	+
4.	<i>Caulerpa taxifolia</i> (Vahl) C.Agardh	+	+	+	+	-	-	-	-	-
5.	<i>Caulerpa verticillata</i> J.Agardh f.typica	-	-	-	+	-	-	-	-	-
6.	<i>Caulerpa serrulata</i> (Forsskal) J.Agardh	-	-	-	+	-	-	-	-	-
7.	<i>Chaetomorpha antennina</i> (Bory de Saint-Vincent) Kuetzing	+	-	-	-	-	-	+	-	+
8.	<i>Valoniopsis pachynema</i> (G.Martens) Boergesen	-	+	-	-	+	+	+	+	+
9.	<i>Boergesenia forbesii</i> (Harvey) J.Feldmann	+	-	-	-	+	-	-	-	-
10.	<i>Codium geppiorum</i> O.Schmidt	-	-	-	-	-	-	-	-	+
Phaeophyceae										
1.	<i>Stoechospermum marginatum</i> (C.Agardh) Kuetzing	+	-	+	+	-	-	-	-	-
2.	<i>Padina tetrastromatica</i> Hauck	-	+	+	+	+	-	+	-	-
3.	<i>Sargassum myriocystum</i> J.Agardh	-	-	-	+	-	-	-	-	-
4.	<i>Sargassum wightii</i> Greville	-	-	-	+	-	-	-	+	-
5.	<i>Dictyota dichotoma</i> (Hudson) Lamouroux	-	-	-	-	-	+	-	-	-
Rhodophyceae										
1.	<i>Gelidiella acerosa</i> (Forsskal) Feldmann & Hamel	-	-	+	+	-	+	-	+	-
2.	<i>Jania rubens</i> (Linnaeus) Lamouroux	-	-	+	+	+	-	-	+	+
3.	<i>Grateloupia lithophila</i> Boergesen	-	-	-	-	+	-	-	-	+
4.	<i>Gracilaria corticata</i> (J.Agardh) J.Agardh	+	+	+	+	+	+	+	+	+
5.	<i>Champla compressa</i> Harvey	-	-	-	-	+	+	+	-	-
6.	<i>Acanthophora spicifera</i> (Vahl) Boergesen	+	+	+	-	+	+	+	+	+
7.	<i>Hypnea pannosa</i> J.Agardh	-	+	+	+	-	+	-	+	+

+ Present; - Absent

seaweed species were collected from Nochiyurani coast, of which 10 species belonged to Chlorophyceae, 5 species to Phaeophyceae and 7 species to Rhodophyceae (Table-1). *Gracilaria corticata* was the dominant species occurred from all the 9 sampling stations. *Acanthophora spicifera* and *Caulerpa scalpelliformis* var. *denticulata* were the next two dominant species in the entire seaweed distribution from all the 9 sampling stations. The species of *Caulerpa* were found more on the western side of the Nochiyurani coast and *Gelediella acerosa* was found only in few stations. *Sargassum myriocystum* and *Champia compressa* were the least dominant species along this coast. The dominance of *Gracilaria corticata* in all the sampling stations showed that the surf zone is best suited for this species. The genus *Gracilaria* is cosmopolitan in distribution. In India, the genus *Gracilaria* includes 32 species, of which 31 are reported from different parts of Tamil Nadu coast (Umamaheswara Rao, 1972; Kaliaperumal and Pandian, 1984; Krishnamurthy, 1991). The present study reveals that the rocky formation occurring along the entire intertidal region of Nochiyurani offers good substratum for the rich growth of different seaweeds. The lack of anthropogenic activity along this coast allows the luxuriant growth of many marine algal species belonging to four groups of algae.

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