

Short Communications

Marine flora of Nicobar group of islands in Andaman Sea

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The marine flora of 4 islands comprised 66 species of marine algae, 7 of seagrasses, and 10 of mangroves. Maximum number of marine algae (61) and mangroves (9) were reported from Great Nicobar Island, whereas more (7) species of seagrasses were observed from Nancowry and Katchall islands. Mangroves were dominated by *Rhizophora stylosa* and *Bruguiera gymnorrhiza* whereas seagrasses were dominated by *Cymodocea rotundata* and *Enhalus acoroides*. The most common seaweeds observed were *Boodlea composita*, *Caulerpa* spp., *Cladophora patentiramia*, *Halimeda* spp., *Padina gymnospora*, *Turbinaria ornata*, and *Amphiroa* spp.

The marine macrophytes such as mangroves, seaweeds, and seagrasses form important constituents of island ecosystem. India has the Lakshadweep and the Andaman and Nicobar groups of oceanic islands, in the Arabian Sea and Andaman Sea respectively and their marine flora has been recorded¹⁻⁶ to a great extent. However, there is no information available on seaweeds and seagrasses from the Nicobar group of islands. Present study was undertaken to gain firsthand information on the qualitative distribution of marine flora of the Nicobar group of islands.

The Nicobar group of islands are situated in the Andaman Sea, about 1200 km off east coast of India (Fig. 1). The Andaman and Nicobar group of islands are formed of conglomerate rocks with open coral reef around most of the islands. The intertidal expanse around these islands varies from 50-1000 m and average tidal amplitude ranges from 0.14-2.35 m. Atmospheric temperature varies from 21.8°C-31.8°C and average rainfall is about 3180 mm.y⁻¹ during May to October.

Eleven localities (Car Nicobar, 1-4; Katchall, 5; Nancowry, 6 and 7; Great Nicobar, 8-11) from the Nicobar group of islands (Fig. 1) were surveyed for qualitative distribution of marine flora, during March, 1990. Seaweeds, seagrasses and mangroves from intertidal zone were recorded.

The marine flora of the Nicobar group of islands in the Andaman Sea comprised 66 species of marine algae, 7 species of seagrasses and 10 species of mangroves (Table 1). Marine algae were represented by the greatest number (30) of Chlorophyceae followed by Rhodophyceae (22) and Phaeophyceae

(10). The abundance of marine algae of Nicobar group of islands was slightly higher than that in the Andamans^{5,7} but relatively poorer than in the Lakshadweep^{3,4,6}. The conditions (substratum and large intertidal expanse) around the Nicobar Islands are though favourable for seaweed growth, the

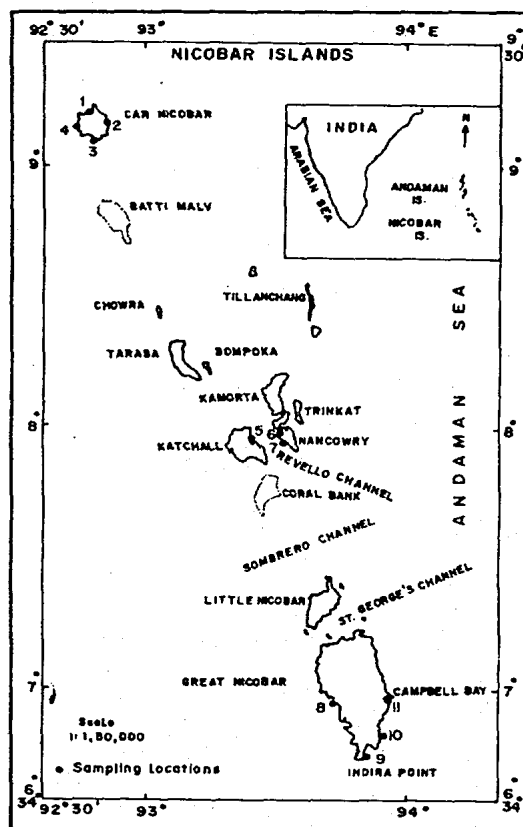


Fig. 1—Sampling locations

Table 1—Marine flora of Nicobar group of islands
[CN—Car Nicobar, K—Katchall, N—Nancowry, GN—Great Nicobar]

Name of Species	Locality				Name of Species	Locality			
	CN	K	N	GN		CN	K	N	GN
Cyanophyceae					<i>T. ornata</i>	+	—	—	+
<i>Calothrix contarenii</i> (Zanard.)	+	+	+	+	<i>T. ornata</i> (Turn.) A. Ag. var. <i>serrata</i>	—	+	+	—
Barnet et Flahaut					Jaasund				
<i>Lyngbya</i> spp	+	+	+	+	Rhodophyceae				
<i>Oscillatoria</i> spp	+	+	+	+	<i>Acanthophora spicifera</i> (Vahl.) Boerg.	+	+	+	+
<i>Phormidium</i> sp.	+	+	+	+	<i>Amphiroa fragillissima</i> (L.) Lamour.	+	+	+	+
Chlorophyceae					<i>A. rigida</i> Lamour	+	—	—	+
<i>Avarainvillea erecta</i> (Berk.) Gepp.	+	+	+	+	<i>Amphiroa</i> spp	+	+	+	+
<i>Borgesenia forbesii</i> (Harv.) Feldm.	+	+	+	+	<i>Centroceras clavulatum</i> (A. Ag.) Mont.	+	+	+	+
<i>Boodlea composita</i> (Harv.) Brand.	+	+	+	+	<i>Ceramium</i> spp.	+	+	+	+
<i>Bryopsis pennata</i> Lamour.	—	—	—	+	<i>Cheilosporum acutilobum</i> (Descne)	—	—	—	+
<i>Caulerpa microphysa</i> (Weber-Van Bosse)	—	—	—	+	Aresck.				
J. Feldm.					<i>Crownia</i> sp.	—	+	—	—
<i>C. occidentalis</i> (J. Ag.) Jaasund	—	—	—	+	<i>Dignia simplex</i> (Wulf.) C. Ag.	+	+	+	+
<i>C. racemosa</i> (Forssk.) J. Ag. var.	—	—	—	+	<i>Galaxaura oblongata</i> Lamour.	+	+	+	+
<i>macrophysa</i> (Kütz)					<i>Gelidiella acerosa</i> (Forssk.)	+	+	+	+
<i>C. racemosa</i> var. <i>clavifera</i> (Turn.)	+	—	—	—	Feldm. & Ham.				
Weber-Van Bosse					<i>Gracilaria corticata</i> J. Ag.	—	—	—	+
<i>C. serrulata</i> (Forssk.) J. Ag.	—	—	—	+	<i>G. edulis</i> (J. Ag.) Silva	—	+	—	—
<i>C. sertularioides</i> (Gmel.) Howe	—	—	—	+	<i>G. salicornia</i> (C. Ag.) Dawson	+	+	+	+
<i>C. taxifolia</i> (Vahl.) C. Ag.	—	+	+	+	<i>Hypnea cervicornis</i> J. Ag.	+	+	+	+
<i>Chaetomorpha linum</i> (Muller) Kütz.	—	—	—	+	<i>Laurencia papillosa</i> (Forssk.) Grev.	+	+	+	+
<i>C. antennia</i> (Bory) Kütz	+	—	—	+	<i>Ligora rugosa</i> Zanard.	+	—	—	+
<i>Cladophora patentirama</i> (Mont.) Kütz.	+	+	+	+	<i>Melobesia</i> sp.	+	+	+	+
<i>C. vagabunda</i> (Linn.) Van der Hock	+	—	—	—	<i>Polysiphonia ferulacea</i> Suhr. (ex. J. Ag)	+	+	+	+
<i>Codium arabicum</i> Kütz.	—	—	—	+	<i>P. platycarpa</i> Boerg.	+	+	+	+
<i>C. geppi</i> Schmdt.	—	+	+	—	<i>Tolypocladia glomerulata</i> (Ag.) Schmt.	+	—	—	—
<i>Dictyosparia cavernosa</i> (Forssk.) Boerg.	+	+	+	+	Unidentified algae	+	—	—	+
<i>Enteromorpha clathrata</i> (Roth.) J. Ag.	+	+	+	—	Seagrasses				
<i>Halimeda discoidea</i> Decaisne	—	+	—	+	<i>Cymodocea rotundata</i> Ehren. et Hemp.	+	+	+	+
<i>H. opuntia</i> (L.) Lamour.	+	—	—	+	ex Aschers.				
<i>H. tuna</i> (Ellis & Sol.) Lamour.	+	—	—	+	<i>Enhalus acoroides</i> (L.f.) Royle	—	+	+	—
<i>Neomeris dumetosa</i> Lamour.	+	+	+	+	<i>Halodule uninervis</i> (Forssk.) Aschers	+	+	+	+
<i>Rhizoclonium</i> spp	+	+	+	+	<i>Halophila ovalis</i> (R. Brown) Hooker	—	+	+	—
<i>Spongocladia vaucheriaformis</i>	—	+	—	—	<i>H. ovata</i> Gaud.	—	+	+	+
Areschong					<i>Syringodium isosetifolium</i> (Aschers.)	—	+	+	—
<i>Ulva fasciata</i> Dehile	+	—	+	+	Dandy				
<i>U. reticulata</i> Forssk.	+	—	—	—	<i>Thalassia hemprichii</i> (Ehren.) Aschers	—	+	+	+
<i>U. rigida</i> C. Ag.	+	—	—	—	Mangroves				
<i>Valonia utricularis</i> (Roth.) C. Ag.	+	—	—	—	<i>Acrostichum aureum</i> L.	—	+	+	+
<i>Vuloniopsis pachynema</i> (Mart.) Boerg.	+	+	+	+	<i>Bruguiera gymnorhiza</i> (L.) Lamk.	+	—	—	+
Phaeophyceae					<i>Derris heterophylla</i> Willd. Back	—	—	—	+
<i>Dictyota bartayresiana</i> Lamour.	—	+	+	+	<i>Excoecaria agallocha</i> L.	—	—	—	+
Sensu vick.					<i>Heretiera littoralis</i> Aiton ex Dryand	—	—	—	+
<i>Ectocarpus rhodochortonoides</i> Boerg.	+	+	+	+	<i>Lumnitzera littorea</i> (Jack.) Voigt.	+	—	—	—
<i>Hinckia</i> sp.	+	+	+	+	<i>Nypa fruticans</i> Van Wurmb	+	+	+	+
<i>Lobophora variegata</i> (Lamour.) Papenf.	+	+	+	+	<i>Rhizophora mucronata</i> Lamk.	+	+	+	+
<i>Padina gymnospora</i> (Kütz.) Sonder	+	+	+	+	<i>R. stylosa</i> Griff.	+	+	+	+
<i>Rosenvingia orientalis</i> (J. Ag.) Boerg.	—	—	—	+	<i>Sonneratia alba</i> J. Sm.	—	—	—	+
<i>Sargassum duplicatum</i> J. Ag.	+	+	+	+					
<i>Turbinaria decurrens</i> Boerg.	+	—	—	—					

+ Observed; — Not observed

abundance of marine algae observed during the present survey was very poor, which might be attributed to their seasonal occurrence. The distribution pattern of algae was very much similar to that of Andamans as described earlier⁵. The predominant marine algae observed were *Turbinaria ornata*, *Halimeda* spp, *Cladophora* spp and *Amphiroa* spp. *Turbinaria* spp and *Sargassum duplicatum*, generally occurred in the subtidal regions just below the low-tide mark and in the breaking zone of coral reefs. *Hinckesia* sp. was observed to be a common epiphyte on *Turbinaria* and *Sargassum* species. Most of the other algae and seagrasses were observed from intertidal zones. *Gracilaria* spp, *Hypnea cervicornis*, *Padina gymnospora* and *Caulerpa* spp. commonly occurred in the rock pools. Cyanophyceae members were mainly associated with seagrass beds either as epiphytes on seagrasses and associated algae or free floating. *Spongocladia vaucheriaformis* was recorded from coral reefs at Nancowry for the first time from Indian waters.

The seagrass flora (Table 1) comprised of 7 species and the growth was patchy and mixed due to nonuniform sandy substratum. However, *Enhalus acoroides* in association with *Cymodocea rotundata* and *Syringodium isoetifolium*, occurred in the sheltered, sandy-clay swamps at Nancowry and Katchall, below low tides level. *Halophila ovalis*, *H. ovata* and *Halodule uninervis*, were exclusively confined to intertidal regions. *Thalassia hemprichii* and *C. rotundata* were reported from intertidal as well as subtidal regions. The seagrass flora was qualitatively very similar⁶ to that from Lakshadweep islands in the Arabian Sea, except for the dominant seagrasses.

Mangroves (Table 1) were represented by 10 species and dominated by *Rhizophora stylosa* and *Bruguiera gymnorhiza* towards sea while *Acrostichum aureum*, *Derris heterophylla*, and *Excoecaria agallocha* were commonly present towards landward side. *Lumnitzera littorea*, *Heretiera littoralis* and *Nypa fruticans* were distributed rarely towards high-tide levels. Mangrove formations at Nicobar were of the fringing and patchy type and were mainly located at Kimois (Car Nicobar), Galathea creek (Great Nicobar), and in sheltered bays at Nancowry. Total mangrove cover from Great Nicobar has been estimated to be about 2450 ha. The poor extent and qualitative distribution of mangroves from Nicobar group of islands could be attributed to the narrow and small patches of low lying areas.

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References

- 1 Sidhu S S, Forester, 9 (1983) 337.
- 2 Blasco F, *The mangroves of India*, French Inst Pondichery Trav Sect Sci Tech, 14 (1975) 168.
- 3 Subbaramaiah K, Ramarao K & Nair M R P, *A report on survey of marine algal resources of Lakshadweep* (CSMCRI & Dept Fish, Union Territory of Lakshadweep) 1979.
- 4 Untawale A G & Jagtap T G, *Aquat Bot*, 19 (1984) 97.
- 5 Jagtap T G, in *Marine plants: their biology, chemistry and utilization*, edited by V Krishnamurthy and A G Untawale, (Seaweed Res Util Assoc, Madras) 1985, 43.
- 6 Jagtap T G, *Indian J Mar Sci*, 16 (1987) 256.
- 7 Dagar J C, Mongia A D & Bandopadhyay A K, *Natn Semi Mangrove awar ness in India*, 1990 (Abstract 52).