

A preliminary investigation on the algal biodiversity in the mangrove vegetation of Kadalundi, Kerala

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Abstract

Algae play a vital role in mangrove community food webs. Many organisms feed directly on micro and macro algae that thrive within mangrove communities. The study area Kadalundi is about 20 Kms from the Kozhikode city which lies between North latitude 10° 7'36" N and East latitude 75°50'02" E. Kadalundi mangrove vegetation provides suitable niche for the growth of phytoplankton. A total of 16 algal members were identified.

Keywords: Mangrove algae, Kadalundi

Introduction

A large number of micro and macro algae occur in association with mangroves some on the above ground roots and some free living on the mud and pelagic water column (Alongi 1990; Laegdsgaard and Johnson 1995). The majority of the phytoplankton get washed into the mangroves from adjacent areas, including Open Ocean, fresh water and estuarine environments. Some algae are unique to certain mangrove habitat and an understanding of their diversity and biomass may indicate the health of mangroves (Chilhara and Tanaka, 1988).

Algae play a vital role in mangrove community food webs. The aerial root system of mangrove trees provides a hard substratum for the attachment of epiphytic algae such as diatoms and cyanobacteria. Phytoplanktons are an important component of mangrove ecosystem. Species richness is depended upon the primary source of water and salinity level as well as seasonal and daily environmental fluctuations.

Materials and methods

The study was carried out in the Kadalundi mangrove ecosystem of Kerala. Kadalundi is about 20 Kms from the Kozhikode city. Kadalundi lies between North latitude 10° 7'36" N and East latitude 75°50'02" E. The samples of algae were collected from sea water, pneumatophores, shells, woods etc. of Kadalundi mangroves. The collected specimens were preserved in 4% formalin (APHA, 1998) for further analysis. Algal identification was done with manuals such as Prescott (1982) and Sarode and Kamat (1984).

Results and discussion

In the taxonomic survey of algal diversity of mangrove ecosystem in Kadalundi, about 16 algal members were identified from the three classes. These are *Chaetomorpha gracilis* Kuetzing, *Enteromorpha clathrata* (Roth) Greville, *Enteromorpha intestinalis* (L.) Nees, *Ulva* sp, *Ulothrix tenerrima* Kuetzing, *Cosmarium* sp. (Chlorophyceae), *Phacus curvicauda* Swirenko, (Euglenophyceae), *Coscinodiscus* sp., *Melosira juergensii* Agardh, *Achnanthes longipes* Agardh, *Cocconeis placentula* Ehr.v.englypta(Ehr.) Grun., *Gyrosigma scalproids* (Rabh.) Cleve v.exinia (Thwaites), *Nitzschia punctata* (W.Smith) Grun, *Nitzschia sublinearis* Hustedt, *Nitzschia longissima* (Breb) Ralfs, *Amphora coffeiformis* Agardh (Bacillaiophyceae).

George (2002) reported *Enteromorpha intestinalis* and *Chaetomorpha linza* from Kadalundi. Saifullah *et al.* (1997) reported that *Chaetomorpha gracilis* present on middle portion of the pneumatophore. The present investigation reports *Enteromorpha intestinalis*, *Enteromorpha clathrata*, *Ulva* sp and *Chaetomorpha gracilis* growing epiphytically on pneumatophores.

The present study revealed that the algae can flourish well in mangrove ecosystem, since they are one of the undisturbed areas of our ecosystem. Kadalundi mangrove vegetation provides suitable niche for the growth of phytoplanktons. Therefore, documenting the algal flora of mangrove ecosystems provides a solid foundation for scientific descriptions like ecology to begin the formulation of good management practice.

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