Metadata Details

Title
Epiphytic Algae On The Bryophytes Of Larsemann Hills, East Antarctica

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Science Keywords

Category	Biological Classification
Topic	Plants
Expedition Year	2015-2016
ISO Topic	Biodiversity and Biotechnological Potential

Summary

Abstract
The epiphytic algae on the bryophytes of Larsemann Hills, East Antarctica, are taxonomically investigated, and sixteen algal species are recognized including ten species of blue?green algae dominated by the species of Nostoc, three species of green algae, a xantho- phycean alga and two diatoms. The occurrence of algae on different bryophytes is dependent on water-holding capacity of the bryophytes and sometimes nutrient enrichment in nearby lands through the excretion of resting sea birds. Thus, the bryophyte colonies in Broknes Peninsula, Fisher and Solomon Islands have rich and diverse epiphytic algal populations among the 18 study sites. The present study not only widens our knowledge on polar algal distribution, but can also be preferred as ?model? environment for the further studies of plant-adaptive strategies
to thrive in the harshest environment.
Purpose
Bryophytes and lichens being the most adaptive plants in the extremely harsh climatic conditions of Antarctica play a pivotal role in the composition of polar ecosystem by providing a suitable ambiance for colonization of algae in both extra and intracellular regions for nitrogen fixation activity to the vegetation. This colonization also helps the microscopic organisms to thrive in extreme weathers. The wind is the main dispersing agent of algal spores from nearby aquatic or terrestrial habitats to the bryophyte colonies, and sometimes birds also help in spore dispersal. The colonization occurs mostly near the rhizoids and the axial area or sometimes on the leaf surfaces, but during unfavorable conditions, the heterocystous cyanobacteria thrive near the shoot spices. Sometimes, algae specifically cyanobacteria colonize within the hyaline leaf cells through pores which help them in withstanding unfavorable pH.

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