

A review on the distribution records of mangrove-associated heterocytous cyanobacteria: an update

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Abstract:

Microorganisms associated with mangrove habitats have an important role in this ecosystem, contributing significantly to its productivity and ecosystem maintenance. Studies on the distribution of mangroves inhabiting cyanobacterial diversity are scarce and meagre. This study aims to record the occurrence and geographic distribution of the heterocytous cyanobacteria in mangrove environments during 43 years of research carried out by different countries in the world. We consulted 33 publications (national and international journals and books published from 1977 to 2020). There are a total of 70 heterocytous cyanobacterial species. The dominant family was Nostocaceae with 27 species, followed by Calotrichaceae with 12 species, Rivulariaceae and Scytonemataceae with 10 species each, Aphanizomenonaceae with 5 species, Hapalosiphonaceae with 2 species, Chlorogloeopsidaceae, Heteroscytonemataceae, Microchaetaceae and Tolypothrichaceae with one species each. This study will be a contribution to our knowledge of cyanobacterial biodiversity in mangrove ecosystems and generate data for future taxonomic, ecological and biogeographic studies.

Keywords: Cyanobacteria, heterocytous, mangrove environment, biodiversity.

Introduction

Cyanobacteria are the most ancestral lineage responsible for the generation of an oxygen-rich atmosphere that originated before 3.0 Ga (**Schirrmeister *et al.*, 2015**). Taxonomic classification of cyanobacteria is the only method for understanding their diversity and diversification processes (**Komarek, 2013**). The modern taxonomic classification of cyanobacteria must be continually revised to

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