



The Sarawak Museum Journal

Vol. LXV No. 86

December 2008



ISSN: 0375-3050

E-ISSN: 3036-0188

Citation: Ruhana Hassan et al. (2008). Cyanobacteria Composition in Sungai Semadang and Sungai Bengoh, Sarawak, Malaysia. The Sarawak Museum Journal, LXV (86): 329-338

CYANOBACTERIA COMPOSITION IN SUNGAI SEMADANG AND SUNGAI BENGHOH, SARAWAK, MALAYSIA

Ruhana Hassan, Aileen May Ridis Rinyod and Sarah Lasung

ABSTRACT

Cyanobacteria or blue green algae is said to be ubiquitous, as it can live in marine, freshwater, brackish water and even hot spring. Bloom of cyanobacteria is associated with biotoxin risks in water bodies and consequently will affect the food web via bioaccumulation and biomagnification. In contrast, some of the non-toxic cyanobacteria are cultured, processed and sold as supplementary food product, available in shops globally. This preliminary study assessed and documented cyanobacteria composition in two rivers, namely Sungai Semadang and Sungai Bengoh, Padawan, Sarawak. In total, there were 38 genera found with 10 genera listed as potential toxin producers. The common genera found in both rivers were *Lyngbya*, *Oscillatoria*, *Stigonema* and *Spirulina*. Sorensen's Quotient of Similarity (%) value ranged from 21.4 to 83.7, indicating that there were some degrees of cyanobacteria similarity in both rivers.

Keywords: cyanobacteria, genera composition, river, Sarawak

CYANOBACTERIA COMPOSITION IN SUNGAI SEMADANG AND SUNGAI BENGHOH, SARAWAK, MALAYSIA

by

Ruhana Hassan, Aileen May Ridis Rinyod and Sarah Lasung

Abstract

Cyanobacteria or blue green algae is said to be ubiquitous, as it can live in marine, freshwater, brackish water and even hot spring. Bloom of cyanobacteria is associated with biotoxin risks in water bodies and consequently will affect the food web *via* bioaccumulation and biomagnification. In contrast, some of the non-toxic cyanobacteria are cultured, processed and sold as supplementary food product, available in shops globally. This preliminary study assessed and documented cyanobacteria composition in two rivers, namely Sungai Semadang and Sungai Bengoh, Padawan, Sarawak. In total, there were 38 genera found with 10 genera listed as potential toxin producers. The common genera found in both rivers were *Lyngbya*, *Oscillatoria*, *Stigonema* and *Spirulina*. Sorensen's Quotient of Similarity (%) value ranged from 21.4 to 83.7, indicating that there were some degrees of cyanobacteria similarity in both rivers.

Key words: cyanobacteria, genera composition, river, Sarawak

INTRODUCTION

Cyanobacteria occur in all living conditions, thus making it ubiquitous. It has the ability to fix the atmospheric nitrogen making soil and water bodies suitable for agriculture (Bold and Wynne, 1985), source of food for human and animals (Sze, 1993), and its 'bloom' will affect animals and human if it comprises toxin producer species (Skulberg *et al.*, 1993). Carmichael (1988) reported that freshwater cyanobacteria have higher tendency to produce toxic bloom compare to marine species. Rivers in Sarawak play very important roles in the lives of local people as a source of drinking