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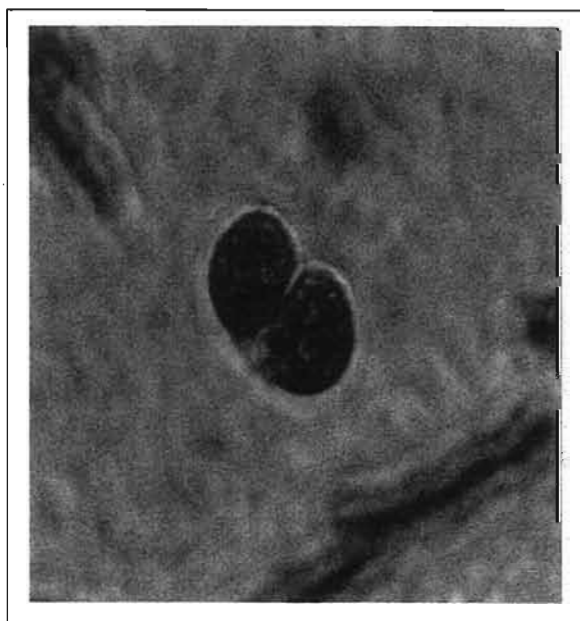


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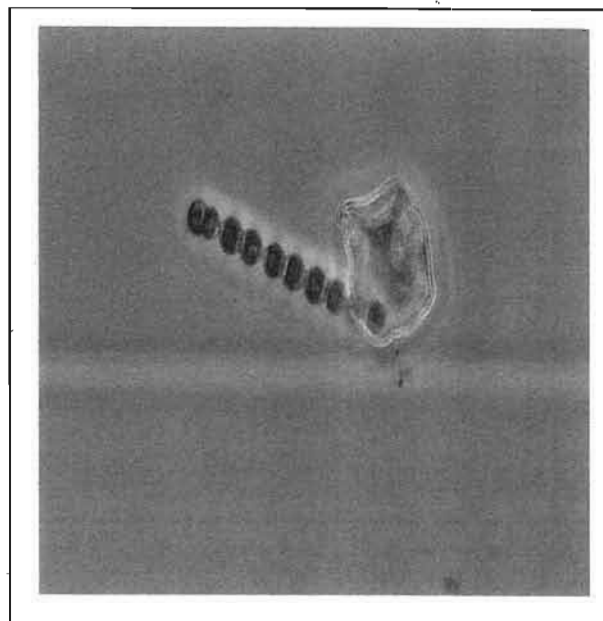
*Special focus on  
Biodiversity*

## THE DIVERSITY OF CYANOBACTERIA FROM SELECTED AQUATIC ECOSYSTEMS IN SARAWAK

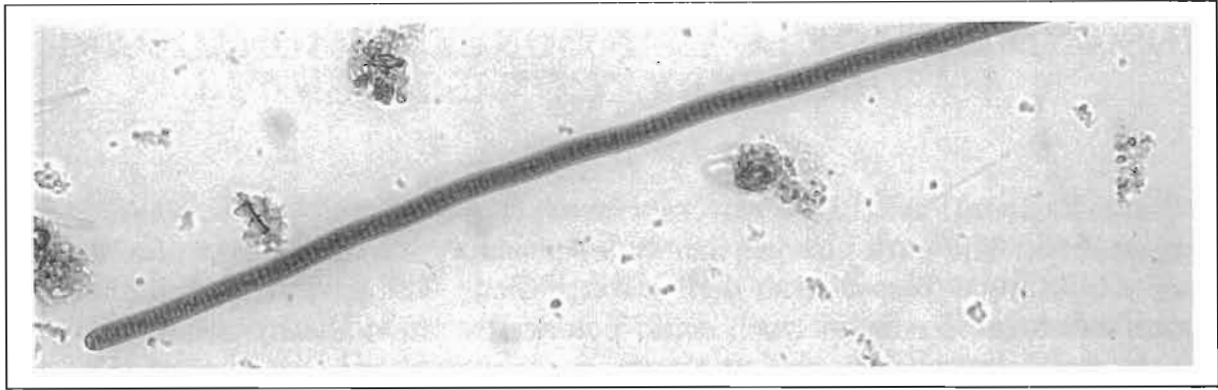
Cyanobacteria are microalgae that have the characteristics of both bacteria (prokaryotic cell organization) and algae (ability to photosynthesize like plants). They belong to the class Cyanophyceae. They have the ability to grow in most diverse ecological conditions and are very beneficial to mankind, although several produce toxins which may be toxic to human and animal. In addition, some cyanobacteria produce odorous metabolites that can cause "off-flavor" which have significant negative impact to the aquaculture sector. The aim of this study is to provide an update on the diversity of cyanobacteria in selected Sarawak aquatic ecosystem with focus on their composition and the evaluation of their diversity using beta indices. A number of eight stations which include aquaculture ponds, cage cultures, waterfall and artificial lake located in Serian, Bau and Batang Ai area were selected for this study. The Wilson & Shmida's (1984) formula was selected to analyze the beta diversity of the identified cyanobacteria. A total of 43 species belonging to 30 genera were recorded. *Oscillatoria* was the best represented genus, comprising 9% of the species composition in the samples. The most distributed pattern among all the sampling sites was of the genera *Chroococcus*, *Lyngbya*, *Noctoc* and *Oscillatoria*. The highest  $\beta$  diversity value was found among non-contiguous sites. There were no identical or totally different cyanobacteria diversity values among those non-contiguous sites. The highest  $\beta$  diversity values were found among sites with contrasting environmental characteristics. The wide range of  $\beta$  diversity suggested that variations in the physico-chemical properties of the water may exist among the different locations and types of aquatic ecosystems which lead to the difference in cyanobacteria composition.



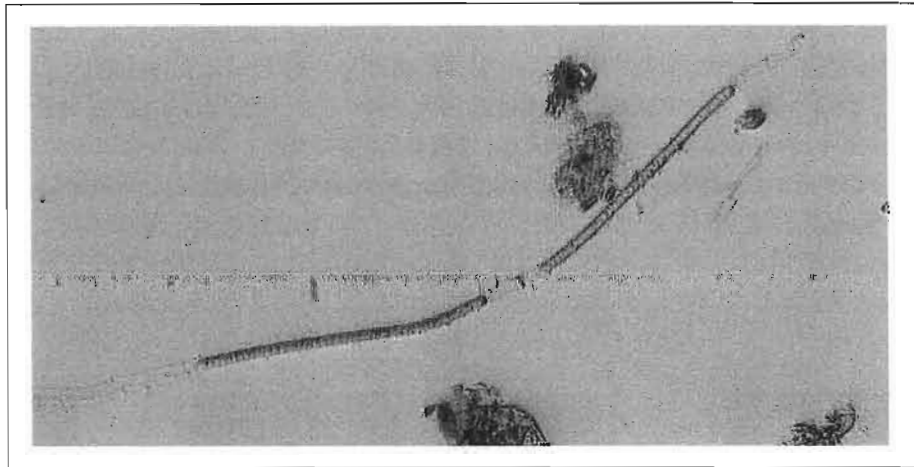
(a)



(b)



(c)



(d)

The most distributed genera among all sampling sites: (a) *Chroococcus*, (b) *Noctoc* (c) *Oscillatoria*, and (d) *Lyngbya*. Observations were made using Inverted Light Microscope Olympus M1025 – Microscope Research Fluorescence Model 1X51RFLCCD (Magnification: 400X)

**Researcher:**

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