NOTES ON MONTANE STREAM ALGAE OF SAYAP KINABALU PARK, SABAH

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The following genera of montane stream algae were recorded from several streams in Sayap-Kinabalu Park: Spirogyra, Cosmarium, Closterium, Scenesdesmus, Eustrium, Navicula, Synedra, Diatoma, Nitzschia, Fragilaria, Gomphonema,Tabellaria, Cymbella and Oscillatoria.

INTRODUCTION

Apart from the works done by Anton (1991), Fatimah et al. (1984), Nather Khan (1990), Prowse(1957) and Prowse(1962), there are virtually no other documented articles particularly on the riverine or stream of Malaysia.

In fact, the studies on various aspects of algae in Malaysia are quite limited. Therefore, this study was conducted in order to have some information on the algae species composition in almost undisturbed streams of Sayap-Kinabalu Park.

METHODS

The algae were collected during the Sayap-Kinabalu Scientific Expedition from June until 10 June 1992. The samples were mainly collected from the streams, namely, Sungai Wariu, Sungai Minodtuhan and Sungai Kemantis.

The collected species were preserved in Lugol's solution for further identification at the School of Biological Sciences, Universiti Sains Malaysia (USM), Knormasky effect was employed in order to sharpen the pictures of algae.

RESULTS AND DISCUSSION

Collectively the streams in Sayap-Kinabalu Park are relatively low in algal composition. Only three divisions of algae, namely, Chlorophyta, Bacillariophyta and Cyanophyta, were recorded. Five genera were recorded from the green algae or chlorophyta. A dense colony of filamentous green algae, Spirogyra spp. was col1ected in front of the Base Camp at Sungai Kemantis. It is interesting to note that none of the epiphytic species was observed growing on this plant. Generally, in a polluted water, several species of epiphytic algae clinched to the plant.

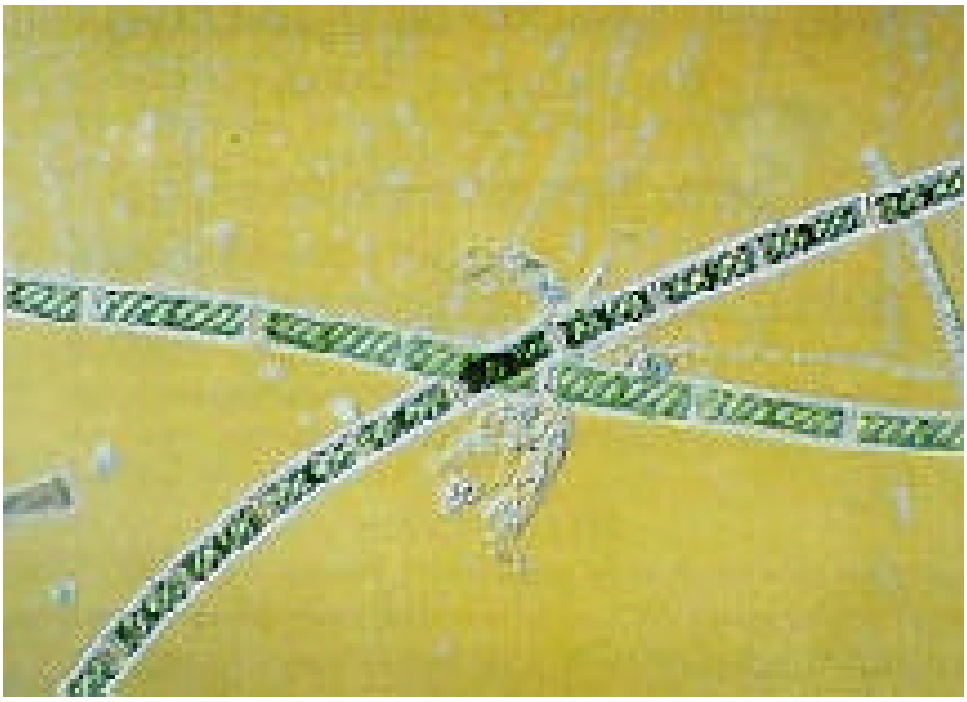

Figure 1. Spirogyra sp. 10x

Figure 2. Cosmarium sp. 40x

Figure 3. Closterium sp. 40x

Figure 4. Navicula sp. 40x

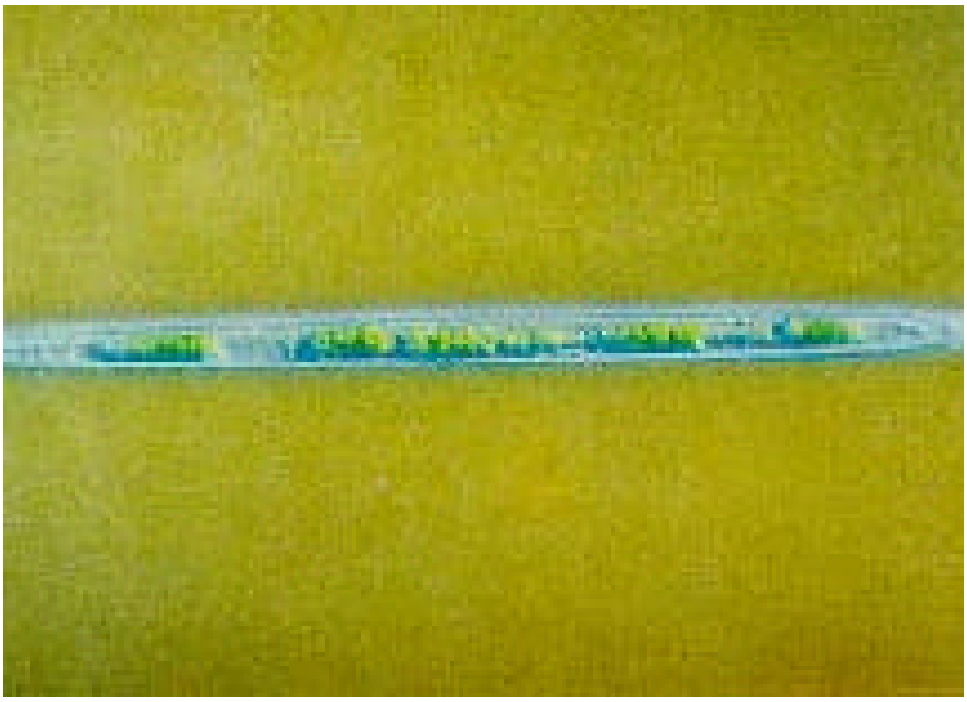

Figure 5. Synedra sp. 40x

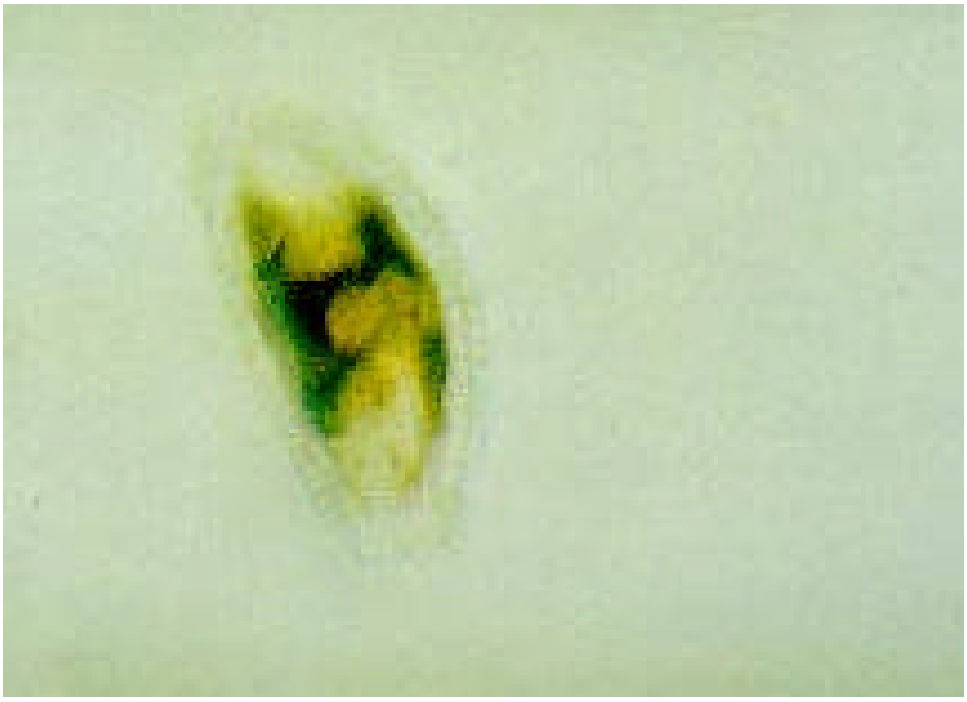

Figure 6. Cymbella sp. 100x

According to Mansor and Lidun (1992) one of the most common filamentous algae in the river systems is Spirogyra. Since many of the species from the genus Spirogyra could survive in eutrophic and polluted waters, therefore, they were generally used as biological indicators particularly for the contaminated waters. The presence of Spirogyra in this case, most probably correlated to the human activities.

In addition to Spirogyra, there were four other genera from chlorophyta, namely, Cosmarium, Closterium, Scenedesmus and Eustrium, which are the non-motile green algae. According to Belcher and Swale (1979), these genera are commonly found in the river.

Eight genera, namely, Navicula, Synedra, *Diatoma, Nitzschia,* Fragilaria, Gomphonema, Tabellaria and Cymbella, were recorded from Bacillariophyta or commonly known as diatom. Most of the genera collected including Navicula, Synedra, Nitzschia, Tabellaria and Cymbella belong to the Bacillariales or Pennales order. The cells in the order have either pennate or trellisoid ornamentation. According to Lee (1980) diatoms generally are the main composition of river algae. Only one genera *Oscilla*toria from Cyanophyta was recorded. This is a clear indication of a pristine stream where the composition and also the population of Cyanophyta was low and also undetected in some streams.

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