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PRELIMINARY INVESTIGATION OF SOME LIMNOLOGICAL FACTORS GOVERNING ALGAL GROWTH IN A FOREST STREAM IN THE MAN AND THE BIOSPHERE RESERVE OF THE SINGHARAJA FOREST FROM DECEMBER 1979 TO MAY 1980

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The chemical and physical characteristics of the forest stream and their effects on algal growth were studied.

The stream water was found to be acidic recording a pH of around 6.4 throughout the period of sampling. As such P— alkalinity was zero, whilst T— alkalinity was comparatively low. This could have been due to the high levels of organic acids in the stream.

The rainfall in the area had a direct bearing on the flow rates and volumes of flow. Accordingly algal counts and nutrient levels fluctuated depending on flow rates. The highest algal count of 100.6×10^4 cells/1 was recorded during March when the stream was relatively stagnant.

The nitrate levels, unlike the phosphate levels appeared to have a direct bearing on the algal population and was found to be the limiting factor. This was evident during the period March to May when the algal numbers were depleted from 100.6×10^4 cells/1 to 18.5×10^4 cells/1, following a depletion of nitrate levels of 0.10—0.05 micro g at N/1.

Temperature too had a bearing on the algal growth. A miximum count ranging from 18.5×10^4—100.6×10^4 cells/1 was recorded during March-May, the warmest months.

The periodicity of algae was similar to the seasonal variation in the semi-tropics and tropics and the productive months were February-March. Algal species recorded were mainly diatoms and green algae. *Navicula* sp *and Pinnularia* sp were dominants and sub-dominants respectively. Chlorophycean members predominated the warm months (March-May), and this was substantiated with Chlorophyll data.