

## SOME STUDIES ON THE PHYTOPLANKTON POPULATIONS OF BEIRA LAKE

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A taxonomic study of the phytoplankton population of the Beira lake showed that there were over 50 species of algae, most of which were identified. The commonest genera were *Chlorella*, *Pediastrum* and *Scenedesmus*, each being represented by nearly ten species. Numerically, *Chlorella* spp were the most abundant. The highest populations of these chlorococcalean algae were found just below the water surface (0.2-0.3m), and there was a marked decrease in numbers below 0.6m depth. There was clear indication that over a 12h day period, vertical movement of the phytoplankton population occurred.

The influence of some physio-chemical characteristics like transparency, pH, temperature, light intensity, dissolved  $\text{CO}_2$ , dissolved  $\text{O}_2$ , dissolved  $\text{NH}_4^+$ , dissolved  $\text{PO}_4^{3-}$ , and  $\text{NO}_3^-$ ,  $\text{NO}_2^-$  levels on the phytoplankton over a 12h day period were monitored. Marked variations in the  $\text{PO}_4^{3-}$  and  $\text{NO}_3^-$  and  $\text{NO}_2^-$  contents in the surface waters was noted. Dissolved oxygen levels also changed markedly, while dissolved  $\text{CO}_2$  levels stayed extremely low. The pH remained basic and did not fluctuate to any marked extent.

Measurements of primary productivity in the surface waters indicated it to be rather high at  $11 \text{ g C/m}^2/12$  hours while at a depth of 0.6m, the value dropped to nearly  $1.6 \text{ g C/m}^2 / 12$  hours.

### References:

1. Mendis, A. S. (1964) Bulletin of Fisheries Research Station 17 p 213
2. Costa, H. H. & de Silva, S. S. (1978) *Spolia zeylanica* Vol 32 Part II p 84
3. Vollenweider, R. A. (1969) A Manual on Methods for measuring Primary Production in Aquatic Environment IBP Handbook No. 12 Blackwell: Oxford.