SUMMARY OF WORK DONE

Now a days most of the rivers are being polluted and very little attention appears to have been paid on assessment of water and algae from rivers of India. In Maharashtra late Prof. M. S. Balakrishana and his students initiated the ecological studies of algae in and around Poona. Murali krishna et.al.(2008) studied on Water quality evaluation through application of chemometrics for Godavari river at Rajahmundry To fulfill the lacuna in the study of assessment water and algae in Maharashtra the present investigation was carried out on Assessment of water quality and Algae in the river Tapti of Jalgaon district of North Maharashtra. In present investigation the study was made on 3 stations of Tapti. Regular sampling of water samples and algal samples at monthly intervals was made for Physico-chemical and algal analysis over a period of two years. i.e. from April 2008 to March,2010.

Meteorological data and seasonal fluctuations of 17 parameters for 3 stations of Tapti were observed from April 2008 to March,2010..

The correlation between Physico-chemical parameter and algae was made for all stations. Water temperature played important role in periodicity of blue-green in present data.

Throughout the period of investigation the biotopes was supported a rich and varied biocenose. In total composition of 4 groups of algae 270 algal taxa were recorded at 3 stations of Tapti river. Blue-greens were greater in species composition to other groups of algae at all sites of study areas.

The number of algal taxa observed at 3 stations of Tapti was 270, of these, 83 belonging to Chlorophyceae, 89 belonging to Cyanophyceae, 74 belonging to Bacillariophyceae and 24 belonging to Euglenineae. Among 4 groups algae, Cyanophyceae was dominated in present study. In Cyanophyceae dominated genus was *Oscillatoria,* represented by 11 species.

The population density of 4 groups of algae was recorded at each month for all stations during period of two years. The algal periodicity was affected by water temperature and other parameter during the summer seasons.

In general the population of Cyanophyceae was dominant as compared to other group of algae. The seasonal percentage of 4 groups of algae was more in monsoon seasons at all stations for both years. While seasonal percentage of blue-greens and diatoms were more in summer seasons at majority of the sites for both the years. The total population of euglenoids was less as compared to other groups of algae in present study.

The pollution tolerant genera & species of 4 groups of algae from 3 stations of Tapti were recorded according to Palmer (1969). The most pollution tolerant species of *Navicula, Oscillatoria, & Euglena,* were recorded in present study. By using Palmer's index of pollution for rating of water samples as high or low organically polluted at 3 stations of Tributaries of Tapti were studied. The highest degree of pollution was observed at B-V of tributaries of Tapti.

By using Palmer's pollution index number the total score of all stations of Tapti was greater than 20 indicating the confirmed high organic pollution. Thus the pollution tolerant algal communities can be used as 'Bioindicators, of organic pollution.

Nygaard's indices of different groups of algae viz. Myxophycean, Chlorophyceae, Diatoms, Euglenophyte and compounds were used to get meaningful evolution of the extent of pollution of sites Trophic state indices were calculated for all stations. All the indices were showing eutrophic nature of all sites except diatoms indices. The compound index which had the widest range and was very sensitive holds good index for assessing the eutrophication of all stations.

Kolkuitz system was used for classifying the 4 saprobic levels of all sites. Saprobic index of 3 stations of Tapti showed b-mesosaprobic nature of water. No polysapribion alga was recorded in present study. The water qualities of tributaries were assessed by Physico-chemical analysis and also by algal communicates with relation of pollution index, trophic indices and Saprobity index.

॥ विद्या दानम् महत् पुण्यम् ॥
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