ABSTRACT

Total Fifty three species of algae belonging to twenty six genera, seventeen families and eleven orders of the five phyla, Cyanophycota, Volvocophycota, Euglenophycota, Bacillariophycota and Chlorophycota were collected during from fresh water of Bahawalnagar at different localities. They were taxonomically investigated in relation to quality of water parameters. Diversity of algae from city Bahawalnagar has been determined on the basis of number of algal species through TWINSPAN (Two Way Indicator Species Analysis). Total 53 algal species has been found to be associated in to two main groups that are group G1 and group G2. Group G1 has been divided into two further sub groups G1-A and G1-B and the associations between different species were described in the graph 1 and then mean followed at LSD=0.05 according to Duncan's Multiple Range Test. According to mean values then graph was made at MINITAB 14.0. Electrical conductivity (Graph 3) Total dissolved solids (Graph 4) Phosphates (Graph 8) Sodium (Graph 10) Nitrates (Graph 9) Sulphates (Graph 14) Chloride (Graph 15) Sodium adsorption ratio (SAR) (Graph 16) showed the positive correlation with algal families. While pH (Graph 2) Temperature (Graph 5) Carbonates (Graph 6) Bicarbonates (Graph 7) Potassium (Graph 11) Calcium (Graph 12) Magnesium (Graph 13) showed negative correlation with algal families. Chlorophycota was most abundant phylum with 3 classes, 5 orders, 5 Families, 8 Genus and 17 Species. Euglenophycota presented with only 1 species while Bacillariophycota with 10 Species. Volvocophycota shown diversity of two classes Volvocophyces (11species) followed by Desmidiophyceae with 4 species. The Cyanophycota shows a diversity of 10 species (Table III-IV).