Theme 3: Biodiversity – Terrestrial, Aquatic

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PHYTOPLANKTON DIVERSITY AND POLLUTION INDICATORS OF BATHI POND NEAR DAVANGERE-A SEASONAL STUDY

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A study was carried out in Bathi pond near Davangere city Karnataka on phytoplankton diversity, density and distribution in different seasons and their correlations with physico-chemical properties of water. A total of 67 phytoplankton species belonging to Chlorococcales, Blue-greens, Desmids, Diatoms and Euglenoids were represented. Relative abundance of phytoplankton showed maximum of Blue-greens (45.61%) followed by Chlorococcales (40.11), Diatoms (13.97), Desmids (0.17%) and Euglenoids (0.13%). The highest density of phytoplankton was recorded during summer season. Chlorococcales varied with peak density (14,134 org/l) during summer and lowest during rainy season (10,333 org/l), Blue-greens recorded highest during summer with 16,351 org/l and least during winter with 14,289 org/l. Diatoms –showed a variation of 5,600 org/l during summer and minimum -of 3,739 org/l during rainy season, Desmids varied from 76 org/l during summer –to 48 org/l (lowest during rainy season). -() - Euglenoids recorded 57org/lduring summer and 41 org/l (least) during winter. -(). Our study revealed that the growth of phytoplankton is governed by BOD, Chloride, COD, Conductivity, Potassium and Sodium. When total phytoplankton density was considered, Air temperature is positively correlated with Euglenoids, BOD was positively correlated with Diatoms andChloride was positively correlated with Desmids and Diatoms. COD showed positive correlation with Blue-greens, Chlorococcales and Euglenoids. Potassium and sodium are positively correlated with Desmids. Pollution tolerant species like *Scenedesmus quadricauda, Coelastrum sp. Tetraedon muticum, Closterium sp. Euglena sp. Phacus sp. Trachelomonas sp. and Microcystis sp* were recorded.

Key words: Bathi pond, phytoplankton, Chlorococcales, Euglenoids, Blue-greens, Desmids