



ALGAL BIODIVERSITY OF VENA RIVER

K. J. Cherian and Mamta Khobragade

Department of Botany of Sindhu College, Nagpur

Abstract:

The present study was undertaken to study the seasonal algal diversity of Vena river of Butibori of Maharashtra state. The study revealed the presence of 57 different species of algae. During the study, Cyanophyceae dominated the algal community, followed by members of Chlorophyceae, Bacillariophyceae and Euglenophyceae.

Key words: Vena river, algal biodiversity, Cyanophyceae, Chlorophyceae, Bacillariophyceae and Euglenophyceae

Introduction:

Water is the life of all living organism to perform essential life functions. Of the 71% of water covering the Earth's surface, only 3% is fresh water, 97% constitute marine water. Phytoplankton are vital for almost all the freshwater ecosystems as they play an important role through primary productions in the food chain, they are also a useful tool for the assessment of waterquality.

Assessment of physic-chemical and biological parameters serves a good index in providing particular status to a water body. Algae are the bio-indicators of pollution (Mohanty, R.C., 1985). The assessment of water quality using phytoplankton diversity and their association as biological indicators has been carried out by several workers (Dwivedi and Pandey, 2002, Bhatt et al., 1999; Saha et al. 2000). The physic-chemical characteristic of water plays an important role in algal biodiversity and it determines the algal bloom of any specific species. Cholonky (1960) studied relationship between algae and the chemistry of

Result and Discussion:

Table 1 shows the seasonal diversity of algal flora in the study area. A total of 57 freshwater algal genera belonging to class Cyanophyceae, Chlorophyceae, Bacillariophyceae and Euglenophyceae have been reported from the study area. Cyanophycean were found to be dominating represented by 23 algal species. Chlorophyceae was represented by 17 algal species. Bacillariophyceae was represented by 15 algal species. Two species of Euglena of

Conclusion:

The study revealed the presence of 57 different species of algae. During the study, Cyanophyceae dominated the algal community,

natural waters. Patrick (1973) used algae especially diatoms for the assessment of water quality.

The present investigation was carried out as an attempt to assess the diversity status of phytoplankton of river Vena at Butibori in Maharashtra state.

Materials and methods:

Water and algal samples from three different sites of Vena river were collected during the period 2011-2012. Samples were analyzed for physic-chemical parameters. The samples were carefully collected, cleaned in clean water to remove all the extraneous matter and were observed fresh by preparing wet mount within 48 hrs. Then the samples were further presented in Lugol's solution and 4% formaldehyde solution separately for detailed study. The collected algal forms were observed under microscope and identified them by referring to the standard literature on algae (Desikachary, 1959; Randhawa, 1959; Sarode and Kamat, 1984).

Euglenophyceae were reported. Diversity was found be maximum during monsoon as the environmental conditions are favourable for the algae. Summer season although showed decrease in the habitat but algal diversity was seen to be high in the limited amount of water that was available. Winter temperature was probably not suitable for most of the algal flora and therefore the number decreased during the winter season.

followed by members of Chlorophyceae, Bacillariophyceae and Euglenophyceae.

Table 1: Seasonal variation of algal diversity in Vena river

Sr. No.	Name of algae	Monsoon	Winter	Summer
1	Cyclotellameneghiniana	-	-	+
2	Cymbellacymbiformis	+	-	-
3	Diatomaelongatum	+	-	-
4	Frustularhomboides	-	-	+
5	Pinnulariadivergens	+	+	-
6	Pinnulariaviridis	+	-	+
7	Navicula cuspidate	+	-	+
8	Navicularadiosavar.tenella	-	-	+
9	Nitzschiabrevissima	+	+	+
10	Nitzschiacapitalia	-	+	-
11	Nitzschiafruticosa	-	+	-
12	Nitzschiapalea	-	-	+
13	Stauroneis obtuse v.nagpurensis	+	-	-
14	Synedraaffinis	+	-	+
15	Synedra ulna	+	-	-
16	Cosmariumquadrum	+	+	-
17	Cosmariumcontractum	+	-	+
18	Cosmariumgranatum	+	+	-
19	Closteriumcyanthia	+	+	+
20	Closteriumdidymotocum	-	-	+
21	Closteriumehrenbergii	+	-	-
22	Coelastrumastroideum	+	-	+
23	Coelastrummicroporum	-	+	-
24	Eudorinaelegans	+	-	-
25	Monorphidiumgriffithii	+	+	-
26	Oocystisborgei	-	-	+
27	Pediastrum minus	+	-	+
28	Pediastrum simplex	+	+	+
29	Pandorinamorum	+	-	-
30	Scenedesmusacutus	+	-	+
31	Scenedesmusmaximus	+	+	-
32	Scenedesmusdimorphus	+	+	+
33	Aphanocapsalittoralis	+	-	-
34	Aulosirafertilissimavar.tenuis	-	+	-
35	Chroococcusturgidus	+	-	-

36	Chroococcuslimneticus	-	-	+
37	Cylindrospermumstagnale	+	-	-
38	Fischerellamuscolica	+	-	-
39	Hapalosiphonhansgirgi	+	-	+
40	Hapalosiphonwelwitschii	+	-	-
41	Lyngbya majuscula var. chakiaensisRao	+	-	-
42	Lyngbyaaestuarii BLJ	+	-	-
43	Lyngbyasordida	+	-	-
44	Microcystisflos-aquae	+	+	+
45	Microcystisrobusta	+	+	+
46	Merismopediapunctata	+	-	+
47	Merismopediaglauca	+	+	-
48	Merismopedia minima	+	-	-
49	Oscillatoriacurviceps	+	+	+
50	Oscillatorianigroviridis	+	-	+
51	Oscillatorialimosa	-	-	+
52	Oscillatoriaprinceps	+	-	+
53	Oscillatoria sancta	-	+	-
54	Spirulinasubtilissima	+	-	-
55	Westiellopsisprolifera	-	-	+
56	Euglena magnifica	+	-	-
57	Euglena Splendens	+	-	-

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