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Diatoms of Dokewada Reservoir in Beed District of Maharashtra

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Abstract

The present study, fresh water diatoms of Dokewada reservoir Beed was investigated between June 2016 to May 2017. The survey was carried out for the period of one year. 32 Species of Diatoms were identified from Dokewada reservoir. These species belong to 12 Genera namely; Cyclotella (2), Melosira (1), Fragilaria (3), Mastagloia (2), Gyrosigma (3), Navicula (3), Pinnularia (2), Cymbella (4), Gomphonema (2), Rhopodia (2), Nitzschia (6), Surirella (2). This study revealed that the diversity of Diatoms varies seasonally which is higher in winter season and lower during the Post monsoon months. The Dominant genus was Nitzschia 6, Cymbella 4, Gyrosigma 3, Navicula 3, Fragilaria 3, Cyclotella 2, Mastagloia 2, Pinnularia 2, Gomphonema 2, Rhopodia 2, Surirella 2, Melosira 1.

Keywords: Diatoms, Dokewada and Reservoir.

1. Introduction

Diatoms are very important group of algae as they are all most common producers of organic matter in water bodies. Diatoms occur in almost all wet/damp places. Diatoms grow as a single cell form, simple Filaments or Colonies. Diatoms are algae that lives in house made of glass. They are the only organism on the planet with cell walls composed of transparent opulent silica, Diatom cell walls are ornamented by intricate and striking patterns of silica. Diatoms have light-3 absorbing molecules Chlorophylls a and c that collect energy from the Sun and turn into Chemical energy through Photosynthesis. Through carbon fixation, diatoms remove carbon dioxide (CO₂) from the atmosphere. The CO₂ is converted to Organic Carbon in the form of Sugar and Oxygen (O₂) is released.[1-6]

1.1 Materials and Methods

Algal sample were collected from four sites of Dokewada reservoir for the period of Jun-2016 to May-2017 in monthly intervals. Algal sample were collected in acid washed collection bottles. Collected sample were preserved in 4% of formalin for further taxonomic investigation. Samples were

observed under the microscopes in laboratory and identified with standard literature (Prescott 1951, P.T.Saroder, N.D. Kamat 1984).

1.2 Results and Discussion

In the present investigation a total of 32 species under the 12 genera of Bacillariophyceae were identified and recorded during the investigation period. Among these 2 species of Cyclotella, 1 of Melosira, 3 of Fragilaria, 2 of Mastagloia, 3 of Gyrosigma, 3 of Navicula, 2 of Pinnularia, 4 of Cymbella, 2 of Gomphonema, 2 of Rhopodia, 6 of Nitzschia, 2 of Suriella, were recorded on the basis of occurrence of diatom taxa, the dominant genera were Nitzschia, Cymbella, Fragilaria, Navicula, Gyrosigma. It is conformity with earlier reports (Jadhav A.S., Patil P.V. & Raut P.D 2016, Aher N.H., D.S.Jain and N.S. Pawar 2017 , Dharitri Borgohari and Bhaben Tanti 2014, Rashmi Pareek, Gajandra pal Singh and Rajesh Singh 2011 Santosh Talkar and Millind Jadhav 2009, J.H.Sawdekar and Millind J.Jadhav 2017). It is conform with reports (Jadhav A.S., Patil P.V. and Raut P.D. 2016, Rashmi Pareek, Gajandra Palsingh and Rajesh Singh 2011) Winter and summer is more suitable season for the

growth of diatoms. [7-14].

2. Table 01 Seasonal Variation of Diatoms of Dokewada Reservoir Beed Maharashtra.

S.No	Seasons	Genus	Species
01	Monsoon	04	08
02	Winter	08	20
03	Summer	06	16

Graph 01 Seasonal Variation of Diatoms of Dokewada Reservoir Beed Maharashtra.

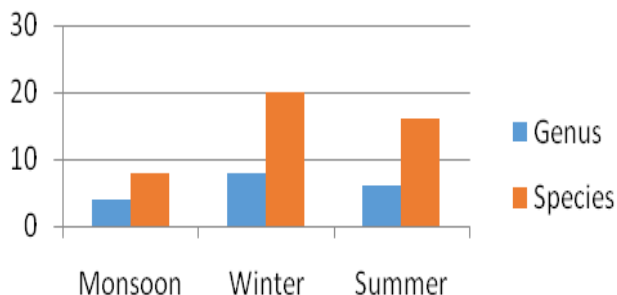


Table No.2 Diatoms of Dowekada Reservoir in Beed district of Maharashtra.

Sr No	Name of Algal Taxa
1	<i>Cyclotella Meneghiniana</i> Kuetzing
2	<i>Cyclotella streata</i>
3	<i>Melosira granulata</i> (Khr.)Ralfs
4	<i>Fragilaria brevistriata</i> Grun
5	<i>Fragilaria capucina</i> Desmazie
6	<i>Fragilaria construens</i> (Her.) Grun
7	<i>Mastagloia baltica</i>
8	<i>Mastagloia recta</i> Hustedt
9	<i>Gyrosigma acuminatum</i> (Kwtz)Rabh
10	<i>Gyrosigma attenuatum</i> (Kwtz)Rabh
11	<i>Gyrosigma khandishensis</i> S.P. Nov.
12	<i>Navicula cari</i> Khr.
13	<i>Navicula cryptocephala</i> Kuetz.v.subsalina Husted
14	<i>Navicula cuspidata</i> Kuetz .V.ambiguous (Her) Cleue Husted
15	<i>Pinnularia dolosa</i> Gandhi
16	<i>Pinnularia aestuariiv</i> Interrupta (Hustedt)
17	<i>Cymbella affinis</i> Kuetz.
18	<i>Cymbella aspera</i>
19	<i>Cymbella bengalensis</i> Grun
20	<i>Cymbella lanceolata</i> (Her.)V.H. v <i>cournuta</i> (Ehr)Grun.
21	<i>Gomphonima hebridense</i> (Greg). Her

22	<i>Gomphonema olivaceoidis</i> Hustedt
23	<i>Rhopolodia gibba</i> muell V.ventriicosa (Kuetz)
24	<i>Rhopolodia gibberula</i> (Khr).O.Muell
25	<i>Nitzschia amphibia</i> Grun.
26	<i>Nitzschia closterium</i> W. Smith
27	<i>Nitzschia gandershemiensis</i> Krasske.
28	<i>Nitzschia obtuse</i>
29	<i>Nitzschia palia</i> (Kuetz) W.Smits
30	<i>Nitzschia punctata</i> (W.smith) Grun.
31	<i>Surirella caproniodes</i> Gandhi
32	<i>Surirella ovata</i> Kueta

Conclusions

This study revealed that the diversity of Diatoms varies seasonally which is higher in winter season and lower during the Past monsoon months. The dominant genera were *Nitzshia*, *Cymbella*, *Fragilaria*, *Navicula*, *Gyrosigma*.

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