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Research Article

Nostocales from Bindusura Dam of Beed District (MS) India

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Abstract

In present investigation was carried out during June 2013 – May 2015 in the Bindusura Dam of Beed District. To study the algal diversity of algae with reference to order Nostocales (Cyanophyceae) from three selected sites. At the time of investigation 28 algal taxa were encountered from 8 genus viz, *Arthrospria, Spirulina, Oscillatoria, Phormidium, Lyngbya, Nostoc, Plectonema* and *Calothrix.* Out of these 6 *Phormidium,* 5 *Oscillatoria, 5 Lyngbya,* 4 *Calothrix,* 3 *Spirulina,* 3 *Plectonema,* and 1 *Arthrospria.* Species of *Oscillatoria, Phormidium, Lyngbya, Arthrospria and Spirulina* were found more frequently in all selected sites while *Nostoc, Plectonema* and *Calothrix* was observed only in single sites. Familywise abundance of algal taxa encountered from order Nostocales in Bindusura Dam is reach infancy in their diversity dominance of order Oscillatoriaceae followed by Rivulariaceae, Scytonemataceae and Nostocacae.

INTRODUCTION

The present investigation for seasonal variation was carried out form June 2013 to May 2015 on Bendusara dam in Beed district of Maharashtra (India). Bendusara dam is constructed on Bendusara river originated from Bensur village located at Patoda Tahsil of Beed District. It is one of the important dam in Beed district of Maharashtra (India) situated 10 Km away from Beed City. The water of Bendusara dam is used as a drinking and agricultural purpose of Beed city and surrounding villages. Algae are the most widespread and abundant photosynthetic life in aquatic as well as terrestrial ecosystem. It is a diverse group of plant kingdom, comprising large heterogeneous assemblage of autographs. As water is life supporting system each type of water body has their own communities. Fresh water bodies are the habitats where an algae grows abundantly and found in diverse form. Except few reports (Ashtekar 1980, Talekar 2009 and Yadav 2010) very rare attention has been paid towards algal diversity and seasonal variation of fresh water habitats in Marathwada region. To full fill this lacuna it has been decided to work on Cyanobacterial diversity particularly on order nostocals form Bendusara dam in Beed district of Maharashtra (India).

MATERIALS AND MATHODS

To study Cyanobacterial diversity particularly on order nostocals three sites were selected for the collection of algal samples. Algal samples were collected at monthly intervals in acid washed collection bottles. Moist soil Surface, submerged and attached substratum algal samples were collected separately in collection bottles. After collection, algal samples were brought immediately in the Laboratory. The fresh as well as preserved algal forms were observed under microscope and identified with the help of standard literature on algae (Smith 1950, Prescott 1951, Desikachary 1959 and Inyengar and Desikachary 1981).

RESULT AND DISSCUSSION

Algal diversity study of algae with reference to order Nostocales (Cyanophyceae) of Bendusara dam in Beed district of Maharashtra (India). showed interesting results, 28 algal taxa were encountered

from 8 genus viz, *Arthrospria, Spirulina, Oscillatoria, Phormidium, Lyngbya, Nostoc, Plectonema* and *Calothrix.* Out of these 6 *Phormidium,* 5 *Oscillatoria, 5 Lyngbya,* 4 *Calothrix,* 3 *Spirulina,* 3 *Plectonema,* and 1 *Arthrospria.* Species of *Oscillatoria, Phormidium, Lyngbya, Arthrospria and Spirulina* were found more frequently in all selected sites while *Nostoc, Plectonema* and *Calothrix* was observed only in single sites. Familywise abundance of algal taxa encountered from order Nostocales in Bindusura Dam is reach infancy in their diversity dominance of order Oscillatoriaceae followed by Rivulariaceae, Scytonemataceae and nostocacae (Table 1). Familywise abundance of algal taxa encountered from order nostocales shown in (Table 2 and Fig.1). Result of present study agreed with the results (Astekar, P.V. 1980, Nandan S. N.and Mahajan S. R 2003 Mahajan S.R & S.N Nandan. 2004, Prasad V. 2005 and Talekar S. M .and Jadhav M. J 2009).

Table no. 01. Algal taxa encountered from order Nostocales from Bindusura Dam.

Sr. No.	Name of algal tax	Sr. No.	Name of algal tax
1	*Arthrospria platensis* (Nordst.) Gomont	15	*Phormidium stgnina* Rao C.B.
2	*Spirulina gigantea* Schmidle	16	*Lyngbya aestuarii* Liebm ex Gomont
3	*Spirulina laxissima* West. G. S	17	*Lyngbya ceylanica* Wille
4	*Spirulina meneghinan*	18	*Lyngbya subconfervoides* Borge
5	*Oscillatoria acuta* (Bruhl) at Biswas	19	*Lyngbya majuscula* Harbey et. Gomont
6	*Oscillatoria chlorine* Kuetz ex. Gomont	20	*Nostoc ellipsosporum* V. *violacea* Rao.
7	*Oscillatoria obscura* (Bruhl) at Biswas	21	*Nostoc punctiforme* (Kuetz) Hariot
8	*Oscillatoria oronta* Kuetz	22	*Plectonema gracilliuimum* (Zopf) Hansgirg
9	*Oscillatoria subbrevis* Schmidle	23	*Plectonema nostocorum* Bornet et Gomont
10	*Phormidium abronema* Skuja	24	*Plectonema radiosum* (Schiederm) Gomont
11	*Phormidium ambiguum* Gomont	25	*Calothrix bravissima* West, G. S
12	*Phormidium molle* (Kuetz) Gomont	26	*Calothrix braviarticulata* West, G.S. West
13	*Phormidium mucosum* Gardene	27	*Calothrix fusca* (Kuetz) Bornet et Flahault
14	*Phormidium rubroterricola* Gardener	28	*Calothrix geitonos* (Skuja)

Table no. 02. Familywise abundance of algal taxa encountered from order Nostocales from Bindusura Dam.

Sr. No.	Name of Family	Genera	Species	Percentage composition
01	Oscillatoriaceae	05	19	67.86
02	Nostocacae	01	02	7.14
03	Scytonemataceae	01	03	10.71
04	Rivulariaceae	01	04	14.29
Total		08	28	100

REFERENCES

Astekar PV, 1980. Studies on fresh water algae of Aurangabad district. Ph.D. thesis, Marathwada University, Aurangabad. Desikachary T.V. (19590)

Desikachary TV, 1959. Cyanophyceae *I.C.A.R.* Monographas on Algae New Delhi. Pp. 680.

Mahajan SR & SN Nandan. 2004. Blue green algae of Hartala lake of Jalgaon, Maharashtra *J. Aqua. Bio* B.19 (1):11-12.

Nandan SN and Mahajan SR. 2003. Cyanobacterial diversity in polluted lake of Jalgaon district of North Maharashtra in *Aquatic Environmental and Toxicology* (ed.Arvind Kumar) Daya publishing House .New Delhi Pp 28

Prasad V. 2005. Algal and Cyanobacterial distribution in Wheat fields of Bara, Parsa and Rautan at Nepal. Int *Mendel* 22:3-4.

Prescott CW. 1951. Algae of the Western great lakes area. Cranbreek Institute of Science, Michigan

Smith GM. 1950. The fresh water algae of the United States *McGraw Hill Book Co. NewYork pp.*719.

Talekar SM and Jadhav MJ. 2009. Cyanobacterial diversity in polluted water *National Journal of life science*, **6**(3):361-362.