



## CYANOPHYCEAN ALGAL FLORA OF LONAR LAKE - A PRELIMINARY STUDY

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### ABSTRACT

Lonar lake is a natural lake, situated in Buldhana district of Maharashtra. The water of lake is alkaline and saline with a high pH. In present study algal samples from selected sites of Lonar lake were collected at monthly intervals for the period of one year i.e. October 2015 to September 2016. Acid washed collection bottles were used for the collection for algal samples. In present study 27 species under 14 genera have been identified and recorded. Algal genera such as *Arthrospira*, *Aphanothece*, *Spirulina*, *Oscillatoria*, *Phormidium* and *Plectonema* were dominant. Cyanophycean algal flora of Lonar lake is rich and it is found in diverse form. The lake water was observed green in colour due to abundance of Cyanophycean algae in lake water.

**KEYWORDS :** Cyanophycean algae, Lonar lake.

### INTRODUCTION

Lonar lake is a natural water body. The lake is situated (19°55' 45" and 76° 34' 00") in Buldhana district of Maharashtra state. Lonar lake is believed to be originated due to meteoritic impact (Beals et.al. 1960, Nayak 1972 and Hagerty and Newson 2001.) The lake is third largest salt water lake. Unique feature of this lake is its high alkalinity and salinity. The Lonar lake water appears to be saline due to high concentration of dissolved solids and total suspended solids. Many studies have been under taken on Lonar lake pertaining to geological and geomorphological features. Extensive review of literature reveals that except few reports (Satpathy et.al. 2007, Jadhav et.al. 2008, Satyanarayan et.al.2008) Present study deals with the Cyanophycean algal flora of Lonar lake. In saline water condition particular Cyanophyceae algal member grows luxuriantly.

### MATERIALS AND METHODS

In order to study Cyanophycean algal flora of Lonar lake, 10 sites of lake were selected for the collection of algal samples. The algal samples were collected at monthly intervals for the period of one year, from October 2015 to September 2016. Acid washed collection bottles were used for collection of algal samples. Collected samples were preserved in 4% formalin for further taxonomy study. Fresh as well as preserved algal forms were observed under research microscope and identified with the help of standard literature on algae.

### RESULTS AND DISCUSSION

In present study a total of 27 species under 14 genera have been identified and recorded. Algal genera such as *Arthrospira*, *Aphanothece*, *Spirulina*, *Oscillatoria*, *Phormidium* and *Plectonema* were dominant. Rath and Adhikari (2005) studied algal flora of Chilka lake and reported abundance of Cyanophycean algae. Jadhav et.al. (2007) studied algal flora of Lonar lake and reported dominance of Cyanophycean members. In Lonar lake *Arthrospira plantensis* is found dominant, similar kind of observation was made by Mahajan (2005). *Spirulina gigantea*, *Spirulina laxissima*, *Spirulina labyrinthiformis*, *Aphanothece nidulans*, *Aphanothece saxicola*, *Oscillatoria amphibia*, *Oscillatoria quadripunctulata*, *Phormidium molle* and *Plectonema gracillimum* were also found dominant. Due to the vigorous growth of Cyanophycean algae especially *Arthrospira plantensis*, Lonar lake water remains green in colour throughout the year.

### CONCLUSION

It is concluded that Lonar lake water contains variety of Cyanophycean algal forms. *Arthrospira plantensis* was found most dominant Cyanophycean alga. These algal forms grows luxuriantly although the water is alkaline and saline in nature with high pH. Vigorous growth of Cyanophycean algae imparts green colour to lake water.

**Table 1: Cyanophycean algal flora of Lonar lake.**

Sr. No.	Name of Cyanophycean algae
1.	<i>Microcystis aeruginosa</i>
2.	<i>Microcystis robusta</i>

3.	<i>Chroococcus minutus</i>
4.	<i>Gloeothece palea</i>
5.	<i>Aphanocapsa pulchra</i>
6.	<i>Aphanothece nidulans</i>
7.	<i>Aphanothece saxicola</i>
8.	<i>Merismopedia glauca</i>
9.	<i>Arthrospira platensis</i>
10.	<i>Spirulina gigantea</i>
11.	<i>Spirulina labyrinthiformis</i>
12.	<i>Spirulina laxissima</i>
13.	<i>Spirulina major</i>
14.	<i>Oscillatoria acuta</i>
15.	<i>Oscillatoria amphibia</i>
16.	<i>Oscillatoria quadripunctulata</i>
17.	<i>Oscillatoria subbrevis</i>
18.	<i>Phormidium corium</i>
19.	<i>Phormidium jenkelianum</i>
20.	<i>Phormidium molle</i>
21.	<i>Lyngbya cryptovaginata</i>
22.	<i>Microcoleus acutissimus</i>
23.	<i>Nostoc linckia</i>
24.	<i>Nostoc microscopicum</i>
25.	<i>Plectonema gracillimum</i>
26.	<i>Plectonema nostocorum</i>
27.	<i>Plectonema notatum</i>

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