



## CHLOROPHYCEAN ALGAE OF KHELNA RESERVOIR IN AURANGABAD DISTRICT OF MAHARASHTRA.

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**ABSTRACT** The present paper deals with the Chlorophycean algae of Khelna reservoir in Aurangabad district of Maharashtra. Algal samples were collected from four selected sites of reservoir at monthly intervals from October 2014 to September 2016. A total of 50 taxa under 25 genera were identified and recorded. Free floating, planktonic, submerged and attached epiphytic Chlorophycean algal taxa were recorded. On the basis of number of taxa the abundant genera of Chlorophyceae were *Oedogonium*, *Spirogyra*, *Scenedesmus*, *Cosmarium*, *Gloeocystis*, *Tetraspora*, *Ulothrix*, *Trochischia*, *Pediastrum*, *Tetraedron*, *Zygnema*, *Closterium*, *Coelastrum* and *Euastrum*. Genera *Stigeoclonium*, *Chlorococcum*, *Trebouxia*, *Schroderia*, *Chlorella*, *Ankistrodesmus*, *Crucigenia*, *Mougeotia*, *Clostridium* and *Selenastrum* were also found.

**KEYWORDS** : Chlorophycean algae, Khelna reservoir.

### INTRODUCTION

Chlorophycean algae mostly found in fresh water habitat and are free floating, planktonic and submerged. Some are attached epiphytic, endophytic, endozoic, parasitic or symbiotic whereas few are found in or on moist soil or on tree trunks. A few species are important constituents of snow floras. Some species of Chlorophyceae are recorded in hot springs (Philipose, 1967). A few species of Chlorophycean algae are also reported in brackish water and in sea. While working on algal diversity of Khelna reservoir in Aurangabad district of Maharashtra, the authors came across a number of interesting taxa of Class Chlorophyceae. Survey of literature reveals that in Maharashtra except few reports (Ashtekar and Kamat 1978, Jawale and Dhande 2007, Andhale 2008, Magar 2008, Talekar and Jadhav 2010 and Mahadik and Jadhav 2014) rare attention has been paid towards Chlorophycean algae of fresh water habitats. While studying algal diversity of Khelna reservoir free floating, planktonic, submerged taxa of Chlorophycean algae were recorded.

### MATERIALS AND METHODS

For present research work four sites of Khelna reservoir were selected. Khelna reservoir is one of the important reservoir in Aurangabad district of Maharashtra. It is located in Sillod tehsil area of Aurangabad district. Algal samples were collected from selected sites of Khelna reservoir at monthly intervals in the morning between 08:00 am to 10:00 am. The collections were made for two consecutive years. i.e. from October 2014 to September 2016. Acid washed collection bottles were used for collection of algal samples. Floating, planktonic, submerged and attached epiphytic algal samples were collected separately in collection bottles. Collected algal samples were preserved in 4% Formalin for further taxonomic investigations. Fresh as well as preserved algal samples were observed thoroughly under research microscope and identified with the help of standard literature on algae.

### RESULTS AND DISCUSSION

A Total of 50 taxa of Chlorophyceae under 25 genera were identified and recorded throughout the period of study (Table 1). On the basis of number of taxa, the abundant genera of Chlorophyceae were *Oedogonium*, *Spirogyra*, *Scenedesmus*, *Cosmarium*, *Gloeocystis*, *Tetraspora*, *Ulothrix*, *Trochischia*, *Pediastrum*, *Tetraedron*, *Zygnema*, *Closterium*, *Coelastrum* and *Euastrum*. The genera with single taxa were *Stigeoclonium*, *Chlorococcum*, *Trebouxia*, *Schroderia*, *Chlorella*, *Ankistrodesmus*, *Crucigenia*, *Mougeotia*, *Clostridium* and *Selenastrum*. Patel (1966) reported abundance of *Oedogonium itzigsii* var. *minutus* from reservoir of Mahabaleshwar. Ashtekar and Kamat (1978) extensively worked on *Oedogoniaceae* and *Zygnemataceae* members in the fresh water habitats of Aurangabad district. Nandan and Mahajan (2007) observed abundance of Chlorophycean genera such as *Tetraedron*, *Oocystis*, *Scenedesmus*, *Spirogyra*, *Closterium*, and *Cosmarium*. Talekar and Jadhav (2010) worked on Chlorococcales of Manjara river and reported dominance of *Scenedesmus*, *Pediastrum*, *Oocystis*, *Tetraedron*, *Ankistrodesmus* and

*Crucigenia*. Mahadik and Jadhav (2014) recorded dominance of Chlorophycean algae from Ujani reservoir of Maharashtra. They observed that *Spirogyra*, *Scenedesmus*, *Cosmarium*, *Cladophora*, *Gloeocystis* and *Chlorella* were most frequent. Results of these research workers are agreed with abundance of Chlorophycean algae of Khelna reservoir. Diversity of Chlorophycean algae in terms of quantity and quality were observed at all selected sites of Khelna reservoir.

**Table 1: Chlorophycean algae recorded from Khelna reservoir.**

*Gloeocystis gigas*, *Gloeocystis major*, *Tetraspora gelatinosa*, *Tetraspora lamellosa*, *Ulothrix zonata*, *Ulothrix sp.*, *Stigeoclonium lubricum*, *Oedogonium magnusii*, *Oedogonium microgonium*, *Oedogonium moniliformae*, *Oedogonium nanum*, *Oedogonium porrectum*, *Oedogonium smithii*, *Oedogonium sp.*, *Chlorococcum humicola*, *Trebouxia humicola*, *Schroderia setigera*, *Trochischia aspera*, *Trochischia obtusa*, *Pediastrum duplex*, *Pediastrum simplex* Var. *duodenarium*, *Chlorella vulgaris*, *Ankistrodesmus falcatus*, *Tetraedron hastatum*, *Tetraedron proteiformae*, *Crucigenia tetrapedia*, *Scenedesmus bijugatus*, *Scenedesmus longus* Var. *dispar*, *Scenedesmus quadricauda* var. *longispina*, *Mougeotia tumidula*, *Spirogyra aequinoctialis*, *Spirogyra jugalis*, *Spirogyra nitida*, *Spirogyra orientalis*, *Spirogyra subsalsia*, *Spirogyra sp.*, *Zygnema conspicuum*, *Zygenama mucigenum*, *Closterium aciculare*, *Closterium leibleinii*, *Clostridium sp.*, *Coelastrum microporum*, *Coelastrum sphericum*, *Euastrum irregulare*, *Euastrum sinuosum*, *Cosmarium margaritatum*, *Cosmarium subtumidum*, *Cosmarium sp.*, *Staurastrum sp.*, *Selenastrum westii*.

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