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RESEARCH ARTICLE

ULOTHRICHALES AT TERNA DAM IN OSMANABAD DISTRICT OF MAHARASHTRA

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ABSTRACT

Study of the algal flora of Terna dam in Osmanabad district of Maharashtra were investigated from Oct. 2013 to Sept. 2015. The algal samples were collected from different sites of the water body of Terna dam. Present paper reports the algae of Ulothricales order from the water reservoir. They were belonging to family Ulothrichaceae. Six species of algae belonging to order Ulothricales viz *Uronema confervicolum*, *Ulothrix subtilissima*, *U. tenerrima*, *U. tenuissima*, *U. variabilis* *U. zonata* and *Geminella minor* have been reported from water body of Terna dam.

Key words:

Ulothrichales, Terna, Osmanabad

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INTRODUCTION

Terna water project is constructed in 1970 on Terna River in Osmanabad district of Maharashtra. The height of the dam above its lowest foundation is 15 m while the length is 2,651 m. The project is having large capacity of storage of water. The catchment area of the project is large. Sunlight reaches up to the bottom of the dam in most of the area due to the shallow water, and therefore, the biomass productivity of water reservoir is high. The water reservoir has good number of fishes and other aquatic animals. In the water reservoir a large number of algae and some aquatic plants are also present. These algae and plants serve as a food for the fishes.

The order Ulothricales belongs to the class Chlorophyceae of the division Chlorophyta. This order includes mainly simple, unbranched filamentous algae which are mostly in habitats of freshwater, though a few are of brackish water. They are generally free floating but in some cases, especially when young, they are attached by one end and are epiphytic (Ramnathan, 1964).

MATERIALS AND METHODS

The water body is having 18.329265°N longitude and 76.1203623°E geographical location. The algal samples were

collected once in a month from water body. Collection of sample was carried out in morning between 7.00 am to 10.00 am. The algal samples were collected in 100 ml plastic bottles and brought to the laboratory. These collected samples were then preserved in 35 ml capacity plastic bottles in 4% formalin for the laboratory studies. The morphological studies of specimens were done by using Research Microscope and the photographs were taken using digital camera. The identification was done with the help of available literature such as floras, monographs and research articles. [Prescott (1951), Prasad and Misra (1992), Ramnathan (1964), Randhawa (1948), Sfriso et al (2014), Gupta and Pamposh (2014)].

RESULTS AND DISCUSSION

During present investigation 2 genera and 06 species of Ulothricales were observed which are described as under.

Order: Ulothrichales

Family: Ulothrichaceae

Genus: *Uronema* Lagerheim

Filaments are simple, unbranched, uniseriate, mostly attached and grow epiphytically; terminal cell tapering to an acuminate tip, straight or bent, may be shorter or larger than the other cells of filaments vegetative cells usually cylindrical and elongated with a parietal plate like chloroplast containing one or more pyrenoids; reproduction by zoospores and aplanospores.

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Uronema confervicolum Lagerheim

Prasad and Misra, 1992, p 46, pl 6, f 3

Filaments long, slightly curved, consisting of many cells, constricted at septa; cells cylindrical, slightly longer than broad, apical cells acuminate with pointed apex, basal cell narrow and long; each cell with one laminate chloroplast, occupying a part of the cell; pyrenoid not prominent. Long cell 08 µm, long basal cell 10.2 µm; lat cell 5.5 µm, basal cell 2.5 µm.

Coll. No. and Date: TS1-58 (25/10/13); TS3 -20 (27/11/13)

Genus: *Ulothrix* Kuetzing

Filament unbranched, indefinitely long, not apically attenuated, with special hold-fast cell, generally attached, in some species free- floating in later stages, vegetative cells uninucleate, cylindrical or sometimes barrel-shaped; chloroplast one, parietal band or girdle shaped, occupying a part or hole of the cell with or more pyrenoids; reproduction by zygospores, aplanospores, akinetes, sexuality isogamous.

Ulothrix subtilissima Rabenhorst

Prescott, 1951, p 96, pl 6, f 3

Filaments long and slender, free floating or attached, cells very slightly inflated and constricted at the cross walls. Chloroplast extending the entire length of the cell, with one pyrenoid. Cells 5 µ in diameter, 12.5 µ long.

Coll. No. and Date: TS2 -23 (07/12/14); TS 3-27 (04/03/14); TS1 -22 (24/08/14)

U. tenerrima Kuetzing

Prescott, 1951, p 96, pl 6, f 12

Filaments free floating or attached; long or in short sections; composed of cylindrical, relatively short cells with constriction at the length of cell, with one pyrenoid. Cells 7.5 µ in diameter, 12.5 µ long.

Coll. No. and Date: TS2 -15 (08/08/015); TS2 -36(25/06/14); TS4 -25 (21/02/15)

U. tenuissima Kutzing

Ramnathan, 1964, p 34, pl 9, f (g)

Cells mostly 15-22 µ thick, in young stages as long as broad, but most often ¼-½ the breadth; cell wall thin, not striated;

chloroplast a broad band, with two or more pyrenoids; zoospores formed in somewhat swollen cells.

Coll. No. and Date: TS1 -17 (01/03/15); TS3 -16 (08/11/14); TS4 -22 (30/11/14)

U. variabilis Kuetzing

Prescott, 1951, p 97, pl 6, f 13

Filaments long, slender and entangled, forming cottony masses. Cells cylindrical without constrictions at the cross walls, chloroplast folded, parietal plate with one pyrenoid. Cells 5.5 µ in diameter and 15 µ long.

Coll.No.and Date: TS3 -27 (01/03/15); TS4 -16 (08/11/1)

U. zonata (Weber et Mohr) Kuetzing

Ramnathan, 1964, p 30, pl 5, f (M)

Filaments attached in earlier stages, later free, with cylindrical or slightly swollen cells, of very varying width and length; length generally smaller than width except in some cases when it can be 2-3 times width; cells measures generally 11-45 µ broad and 1/3- 1^{1/2} times as long, cell wall thin in younger stages, but thickened in older filaments; chloroplast band shaped, broad or narrow girdle, covering only the medium region of the cell and containing more than one pyrenoid.

Coll.No.and Date: TS2 -11 (31/01/14); TS4 -20 (20/06/15)

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