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Some Desmids 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 desmids from the Terna water reservoir. They were belonging to family Chlorococcaceae, Hydrodictyaceae and Selenastraceae. Six species of desmids belonging to 4 genera viz *Chlorococcum*, *Pediastrum*, *Hydrodictyon* and *Ankistrodesmus* have been reported from Terna water reservoir in Osmanabad district of Maharashtra.

Keywords: Desmids, Terna, Osmanabad.

Introduction

There are few published records on the chlorococcales flora of India. (Mrutyunjay and Adhikary, 2007). Desmids form a characteristic group, which are generally unicellular and are divided into two compartments separated by a narrow bridge or isthmus; which can be recognized by their symmetry. There are also some desmids that form long filaments. Desmids are found mostly but not exclusively in fresh water. There, they may live as phytoplankton, on the bottom as benthic dwellers, or on the submerged portions of plants. Desmids show a wide variety of body shapes and many species are ornamented with all kinds of knobs and spines. There are circular, rotund, elongated, star-shaped and even moon-shaped species. Desmids are excellent indicators of water quality (Peter and Koos, 2007). The desmids observed during the present investigation are described in this paper.

Materials and Methods

The algal samples were collected by using plankton net. Each sample was noted with a voucher number, date of collection and preserved in 4% formalin and

deposited at the department of Botany, Yashwantrao Chavan College, Tuljapur. Microphotograph of the algal samples was taken by using Olympus Research Microscope and the photographs were taken using Sony Cybershot digital camera. The algal samples were identified by using the monographs Prescott (1961), Philipose (1967), Anand (1998), Hegewald and Silva (1988), Hindak (1977, 1980, 1984, 1988), Komarek and Fott (1983), Komarek and Jankovska (2001) and research papers on chlorococcales. The result of morpho- taxonomic studies of the samples, with description of each taxa, their collection number and date of collection were noted.

Results and Discussion

During the present investigation 4 genera and 5 species of desmids were observed which are described as under.

1. *Chlorococcum humicola* (Nag.) Rabenh.

Mrutyunjay and Adhikary 2007, .p. 169, pl 1, fig. 1

Cells spherical, solitary or number of cells crowded together to form a stratum; chloroplast a hollow sphere with a lateral notch, cells 15 µm in diameter, zoospores elliptical, 5 µm broad and 2.5 µm long. Coll.No.and Date: TS1-58 (25/10/13); TS3 -20 (27/11/13)

2. *Pediastrum duplex* Mey.

Philipose, 1967, p 121, f 43 (a-b)

Colony 16 celled cells with small lens shaped perforations between cells. Inner cells quadrate to angular and not in contact at the central portion of the side cells. Inner side of marginal cells concave, outer side produced into two short truncate processes. Cells 15 µm in diameter, colony up to 45 µm in diameter.

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

3. *Pediastrum tetras* (Ehrenb.) Ralfs.

Mrutyunjay and Adhikary 2007, ,p. 172, pl 1, fig. 13-14

Coenobia circular, 8 celled, 27.5 µm in diameter, coenobia a flat plate; cells without intercellular spaces; marginal cells divided into two lobes with a deep single linear incision, inner cells 4-6 sided with a single linear incision, cells 7.2 µm in diameter.

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

4. *Hydrodictyon reticulatum* (Linn.) Lagerh.

Mrutyunjay and Adhikary 2007, ,p. 172, pl 1, fig. 15

Coenobia reticulate net-like, meshes pentagonal or hexagonal, up to 15-20 cm long; cells elongate-cylindrical, coenocytes with large central vacuole, cell wall two layered; chloroplast single, parietal and with a single pyrenoid; cells up to 250 µm broad and up to 1.5-2 cm long.

Coll.No.and Date: TS3 -27 (01/03/15); TS4 -16 (08/11/13)

5. *Ankistrodesmus falcatus* (Cord.) Ralfs

Philipose, 1967, p 211, f 121(e)

Cells acicular to narrowly fusiform with the ends tapering to acute apices, usually in fasciculate bundles. Chloroplast single, parietal and usually without pyrenoids, cells 5 µm broad, 42.5 µm long.

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

6. *Ankistrodesmus gracilis* (Reins.) Kors.

Mrutyunjay and Adhikary 2007, p. 176, pl 2, fig. 20
Coenobia 4-8-16 celled, cells are markedly arcuate, semicircular to sub-circular, only slightly sigmoid, distance between the cells ends, ends acute, chloroplast without pyrenoid; cells 11.5-5 µm broad and 15-50 µm long.

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

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