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RESEARCH ARTICLE

ADDITIONS TO ALGAL FLORA OF MEHEKARI LAKE IN BEED DISTRICT OF MAHARASHTRA-I

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ABSTRACT

During the present study the members of chlorophyceae, bacillariophyceae and cyanophyceae were noted. The chlorophyceae members were *Chlorococcum infusionum* (Schrank) Meneghini, *Pediastrum integrum* Naegeli, *Oocystis pyriformis* Prescott, *Coelastrum proboscideum* Bohlin., *Scenedesmus acutiformis* Schroeder, *Oedogonium cardiacum* (Hass.) Wittrock, bacillariophyceae members were *Fragillaria intermedia* Grun., *Navicula cari* Ehr. var. *angusta* Grun., and cyanophyceae were *Aphanocapsa bififormis* A.Br., *Lyngbya birgei* Smith, G.M and *Scytonema arcangelii* Born. et Flah.

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INTRODUCTION

Algae are the most beautiful microflora of the microscopic world. The collection and study of algae has a charm and fascination, which is better experienced than described (Randhawa, 1959). These are a group of organisms that have been generally described as photoautotrophic unicellular or multicellular, mainly water dwelling organisms lacking complex morphological organization. Algae from the locations was collected in the convenient season and documented. In the present paper total 11 species of freshwater algae of class chlorophyceae, bacillariophyceae and cyanophyceae have been taxonomically and morphologically described. Mehekari Lake is constructed on the Seena River in Ashti tehsil of Beed district of Maharashtra. The study was carried out to explore the presence of algal diversity of the water reservoir. Earlier the author reported the algal species of chlorophyceae from the water reservoir.

MATERIALS AND METHODS

Random sampling technique has been used for collection of algal samples. Sample collections from different locations were made during the period of October 2014 to November 2015 at monthly intervals. The algal samples were taken to laboratory. The Samples were preserved in 4% formalin for further taxonomic investigations. Temporary Mounts of algal specimen were prepared with suitable stains and observed under compound microscope. Identification of taxa was carried out by using Prescott (1951), Desikachary (1959),

Philipose (1967), Sarode and Kamat (1984), Prasad and Misra (1992), Prasad and Srivastava (1992) Bhakta *et. al* (2010) and other relevant monographs and available literature.

RESULTS AND DISCUSSION

During the present study following algal taxa belonging to class Chlorophyceae, Bacillariophyceae and Cyanophyceae were observed which are described as under

*Chlorococcum infusionum* (Schrank) Meneghini

Philipose, 1967, p 73, f 1

Cells usually spherical, rarely ovoid or elongated and of variable dimensions. Chloroplast like a hollow sphere with a notch on one side and with single pyrenoid. Cells 85  $\mu$  in diameter.

Coll.No.and Date: ML-14 (18/10/14); ML-45 (27/02/15)

*Pediastrum integrum* Naegeli

Prescott, 1951, p 225, pl 48, f 10

Colony entire; cells 5 sided; outer margin of peripheral cells smooth or with two short and much reduced processes, and granular walls, emarginate between the processes; cells 17.5  $\mu$  in diameter.

Coll.No.and Date: ML-95 (09/04/15); ML-138 (21/08/15)

*Oocystis pyriformis* Prescott

Prescott, 1951, p 246, pl 54, f 8

Cells broadly pyriform-ovoid, with a prominent apiculation at one pole, the other end broadly rounded; united in families of two or four; chloroplast massive and parietal with one pyrenoid; cells 15  $\mu$  in diameter, 17.5  $\mu$  long; colony 35  $\mu$  in diameter, 47.5  $\mu$  long.

Coll.No.and Date: ML-144 (07/09/15); ML-149 (07/09/15)

***Coelastrum proboscideum*** Bohlin

Prasad and Misra, 1992, p 31, pl 4, f 7

Colonies pyramidal or cubical consisting of 16 cells; cells truncately conical, enclosed by a gelatinous sheath and joined along lower lateral walls, cell wall slightly thickened at poles; Chloroplast single, parietal with one pyrenoid. Colony 25  $\mu$  in diameter, cells 10  $\mu$ .

Coll.No.and Date: ML-176 (28/09/15); ML-179 (28/09/15)

***Scenedesmus acutiformis*** Schroeder

Philipose, 1967, p 260, f 169 (a)

Colony 4 celled. Cells cylindrical fusiform and arranged in a single linear series. Cell wall smooth. Median cells with a lateral longitudinal ridge extending from pole to pole on each side. Terminal cells with two or four ridges. Poles of cells acute and without teeth or spines, but sometimes with a minute papilla. Cells 7.5  $\mu$  broad, 15  $\mu$  long.

Coll.No.and Date: ML-153 (14/09/15); ML-161 (21/09/15)

***Oedogonium cardiacum*** (Hass.) Wittrock

Prescott, 1951, p 168, pl 29, f 7

Macrandrous; diocious, vegetative cells cylindrical, 20  $\mu$  in diameter, 52.5  $\mu$  long. Oogonia solitary, globose; opening by suprmedian pore 32.5  $\mu$  in diameter, 27.5  $\mu$  long. Oospores globose, not filling the oogonia; cell wall thick, smooth.

Coll.No.and Date: ML-130 (03/03/15); ML-111 (17/12/14)

***Fragillaria intermedia*** Grun

Sarode and Kamat, 1984, p 27, pl 1, f 21

Frustules united together to form long bands, linear, rectangular in girdle view; valves 80  $\mu$  long, 7.5  $\mu$  broad, linear with parallel margins; ends gradually tapering and rounded; axial area narrow, linear; striae 10-12 in 10  $\mu$ , coarse and distinct, absent on one side in the middle.

Coll.No.and Date: ML-130 (07/08/15); ML-138 (21/08/15)

***Navicula cari*** Ehr. var. ***angusta*** Grun

Sarode and Kamat, 1984, p 104, pl 11, f 247

Valves 35  $\mu$  long, 7.5  $\mu$  broad, narrowly lanceolate with slightly constricted or unconstricted, broadly rounded ends; raphe thin and straight with curved terminal fissures; axial area narrow, linear; central area large, quadrate; striae 10-12 in 10  $\mu$ , indistinctly lineate, radial in the middle and convergent at the ends, middle striae shorter.

Coll.No.and Date: ML-125 (07/08/15); ML-128 (07/08/15)

***Aphanocapsa biformis*** A.Br

Desikachary, 1959, p 134, pl 21, f 3

Thallus olive green, gelatinous, often expanding; cells 5  $\mu$  diam, spherical, mostly with a special envelope; loosely arranged, 2-4 together in a common mucilaginous envelope, nannocytes about 2  $\mu$  diam.

Coll.No.and Date: ML-105 (08/06/15); ML-98 (22/06/15)

***Lyngbya birgei*** Smith, G.M

Desikachary, 1959, p 296, pl 50, f 8

Filaments straight, seldom, coiled, free floating, 22.5  $\mu$  broad, sheath firm, colourless, seldom lamellated 2.5  $\mu$  thick; trichome not constricted at the cross walls, ends rounded, not attenuated, not capitate; cells 2.5  $\mu$  long

Coll.No.and Date: ML-95 (09/04/15); ML-71 (22/03/15)

***Scytonema arcangelii*** Born. et Flah

Prasad and Srivastava, 1992, p 124, pl 14, f 1-3

Filaments long, brownish green, compactly interwoven forming expanded floccose flushy thallus; 17.5  $\mu$  in diameter, sheaths thick, membranaceous, colourless, smooth, sometimes gelatinised at the points from where branches arise; cells somewhat quadrate or much shorter than broad, 5  $\mu$  long; cell contents olive blue green, homogenous without granules and gas vacuoles; end cells rounded; heterocysts intercalary, cylindrical with flattened ends, bipolar 10  $\mu$  broad, 15  $\mu$  long; cell wall smooth and thick.

Coll.No.and Date: ML-60 (08/12/14); ML-75 (17/03/15)

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