



Tetraedrons at Nathsagar water reservoir (Paithan), Maharashtra.

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Abstract

The present paper gives the taxonomic enumeration of six taxa of the genus *Tetraedron*. These taxa were observed at four different locations on southern side of Nathsagar water reservoir (Paithan) Maharashtra. These were *viz. Tetraedron caudatum*, *T. minimum*, *T. muticum*, *T. regulare*, *T. regulare v. granulata* and *T. trigonum*. In the absence of earlier reports, above mentioned species were reported for the first time at the southern side of the Nathsagar water reservoir.

Introduction

Tetraedron is the coccal unicellular green algal genus can be easily identified by its typical polygonal shape. It is a common member of freshwater planktonic algae frequently observed in temperate and tropical waters (Maya et.al 2012). Cells of the *Tetraedron* are solitary and unattached; of various shapes, triangular and flat, pyramidal, polyhedral; the angles entire, with or without spines, or variously lobed to form dichotomous or trichotomous spine-tipped processes (Prescott, 1951). The spines have an inflated base and are longer than the diameter of the cell. The cells have one parietal chloroplast and one pyrenoid. Found in phytoplankton and metaphyton (Wehr and Sheath, 2003). While studying the algal diversity of algae from Nathsagar water reservoir-Paithan, Maharashtra the author's collected six taxa of genus *Tetraedron* belonging to the family Hydrodictyaceae and order Chlorococcales. The Knowledge of Chlorococcales from Maharashtra is known through the work of Kamat (1963, 1968, 1974), Kamat and Frietas (1976), Ashtekar and Kamat (1980), Barhate and Tarar (1983), Pingle (1992), Tarar and Bodkhe (1998), Kumawat and Jawale (2004), Jawale and Dhande (2005) and Jawale *et al.* (2010).

Materials and Methods

A survey of the algae was carried out at four locations *viz* Dahiphal (75°15'650" E longitude and 19°26'221" N latitude), Pravarasangam (75°00'801" E longitude and 19°36'281" N latitudes), Ramdoh (75°01'148" E longitude and 19°35'549" N latitudes) and Sonewadi (75°20'750" E longitude and 19°26'431" N latitudes); situated on southern side of the water reservoir. From each site, the algal samples were collected once in a month. Sample collection was done in morning between 7.00 am to 10.00 am. The samples were collected for years 2009-10 during the months November to March. The algal samples were collected in 100 ml plastic bottles and brought to the laboratory. The samples were then preserved in 35 ml capacity plastic bottles in 4% formaline for further studies. The morphological studies of specimens were done by using Olympus Research Microscope and the photographs were taken using Sony Cybershot digital camera. The algal taxa are described along with their location of occurrence.

Results and Discussion

Sub Family: Tetraedronoideae

Genus: *Tetraedron* Kuetzing

1) *Tetraedron caudatum* (Corda) Hansgirg

(Pl.1 Fig.1)

Philipose, 1967, p 150, f 64 (b), Cells small, flat, five sided with four of the sides concave and the fifth in the form of notch of varying depth. Angles rounded and produced into a small straight spine. Cells 15 µ in diameter, spine 2.5 µ long.

Locality : PravaraSangam; Ramdoh, Coll.No. and Date: JPS-313 (24/04/10); JR-122 (20/06/10)

2) *T. minimum* (A.Braun) Hansgirg

(Pl.1 Fig.2)

Prescott, 1951, p 267, pl 60, f 12

Cells small, flat, tetragonal, the angles rounded and without spine or processes, lobes sometimes cruciately arranged; margins of the cell concave, with one frequently incised; cells 15 μ in diameter.

Locality : Dahiphal; PravaraSangam; Sonewadi, Coll.No. and Date: JD-100 (29/03/09); JPS-350 (23/05/10); JS-71 (22/02/09)

3) *T. muticum* (A.Braun) Hansgirg f. ***punctulatum*** (Reinsch)

(Pl.1 Fig.3)

Prescott, 1951, p 268, pl 60, f 18

Cells flattened, triangular, the angles sharp but without spines; margins slightly convex; wall granular; cells 15 μ in diameter, 7.5 μ thick.

Locality : Dahiphal; Ramdoh, Coll.No. and Date: JD-109 (05/04/09); JR-274 (14/03/10)

4) *T. regulare* Kuetzing var. ***bifurcatum*** Wille

(Pl.1 Fig.4)

Prescott, 1951, p 269, pl 61, f 1

Cells tetragonal, pyramidal, the sides convex or slightly concave, the angles broadly rounded and tipped with two stout often curved spines; cells 35 μ in diameter including spines.

Locality : Dahiphal; Ramdoh, Coll.No. and Date : JD-07 (09/11/08); JR-123 (20/06/09)

5) *T. regulare* Kuetzing v. ***granulata*** Prescott

(Pl.1 Fig.5)

Prescott, 1951, p 269, pl 61, f 3

Cells large, pyramidal, the lobes broad and stout with convex margins, the angles broadly rounded and tipped with a single short spine which may be reduced to a mere papilla; wall punctuate and covered with small granules or roughening; cells 37.5 μ in diameter.

Locality : Pravara Sangam; Ramdoh, Coll.No. and Date: JPS-162 (08/11/09); JR-162 (17/01/10)

6) *T. trigonum* (Naegali) Hansg.

(Pl.1 Fig.6)

Prasad and Misra, 1992, p16, pl 1, f 13

Cells flat, triangular with slightly concave sides, angles rounded, each ending in a stout spine; cell wall without any ornamentations; cell 30 μ ; long spines 5 μ m.

Locality : Dahiphal; Sonewadi, Coll.No. and Date: JD-214 (11/01/10); JS-76 (22/02/09)

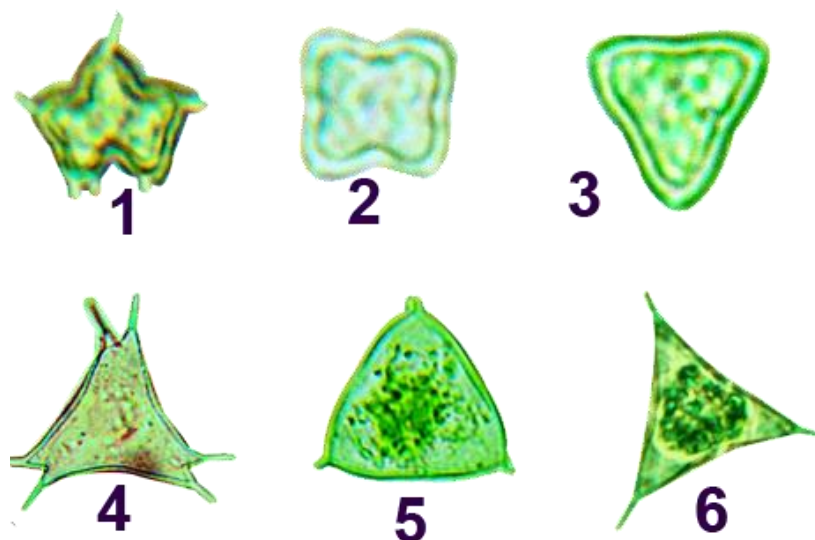


Plate-1. Fig. 1) *Tetraedron caudatum* 2) *T. minimum* 3) *T. muticum* f. *punctulatum* 4) *T. regulare* var. *bifurcatum* 5) *T. regulare* var. *granulata* 6) *T. trigonum*

Conclusion

In the absence of earlier reports, above mentioned species were reported for the first time at the southern side of the Nathsgar water reservoir

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