P: ISSN NO.: 2394-0344 RNI No.UPBIL/2016/67980 VOL-2* ISSUE-1* April - 2017
E: ISSN NO.: 2455-0817 *Remarking An Analisation*

Genus *Tetraedron* (Chlorococcales) Kuetz.from Anjani dam of Jalgaon District, Maharashtra

Abstract

The present communication deals with the taxonomic enumeration of 14 taxa representing 07species, 02 varieties and 05 forms of the genus *Tetraedron* Kuetz of order chlorococcales from Anjani dam in the Erandol Tahsil of Jalgaon district, Maharashtra. All these taxa are being reported for the first time from the Anjani dam.

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Introduction

Tetraedron is an interesting genus of green algae identified by its flat and triangular, quadrangular or polygonal shape. Cells of *Tetraedron* are solitary and unattached of various shapes triangular and flat, pyramidal, polyhedric the angles entire with or without spines or variously lobed to form dichotomous or trichotomous spine-tipped processes. The cells have parietal chloroplasts and pyrenoid (Prescott, 1951). It is a member of interesting order Chlorococcales of Chlorophyceae and found as fresh water planktonic unicellular algae. During the study of algal diversity from Anjani dam (20^0 54' North latitude and 75^0 19' East longitude) of district Jalgaon Maharashtra; the authors collected 14 taxa of genus *Tetraedron*. The knowledge of Chlorococcales from Maharashtra is known through the work of Kamat (1962, 1963, 1968,1974, 1975), Ashtekar and Kamat (1980), Barhate and Tarar (1983), Pingle (1992), Patil and Badgujar (1994),Tarar and Bodkhe (1998), Kumawat and Jawale (2003), Jawale and Dhande (2005), Deshmukh and Gunale (2007), Andhale and Papdiwal (2010), Jawale *et.al* (2010), Dhande (2013), Jadhavar and Papdiwal (2016).

Aim of the Study

The main aim of study is to identify, enlist the algal resources of Anjani dam and to explore the genus from study area.

Materials and Methods

Algal samples were collected early in the morning between 7.00 am to 9.00 am in different sized wide mouth plastic bottles for two years from Anjani dam in Erandol Tahsil of Jalgaon district, Maharashtra. Algal samples were examined fresh as far as possible immediately after they were brought to the laboratory under Labomed trinocular research microscope (LX-400 Model) and salient morphological features of the algal taxa were noted. The remaining material were preserved in 4% formalin for further taxonomical study. The line drawings of algal taxa were made with the help of mirror type of camera lucida under appropriate magnifications, microphotographs of algal taxa also taken with the help of Sony digital camera. Identification of the taxa is based on the monograph of Prescott (1951), Philipose (1967) and relevant research papers.

Systematic Enumeration

Class-Chlorophyceae,
Order-Chlorococcales,
Family-Hydrodictyaceae,
Sub-family - Tetraedronoideae.
Genus- *Tetraedron*

Genus *Tetraedron* Kuetzing, 1845

***Tetraedron caudatum* (Corda) Hansg.** **Pl.1, Fig.1**

Philipose, M. T. 1967, p. 150, figs. 64 a-b.

Cell small, flat, five-sided with four of the sides concave and the fifth side in the form of a notch of varying depth. Angles rounded and produced in to a short straight spine. Cell 8.6 µm diameter wide with spines 4.1 µm long.

Habitat: Coll. No. 282.

***T. gracile* (Reinsch) Hansg. Pl.1, Fig.2**

Philipose, M. T. 1967.p.154-155, figs. 69 a-c.

Cell flat, rectangular, angles of the cells produced into narrow processes, margins of the cells deeply concave between the processes. The primary branches usually at right angles with one another and parallel to one side of the cell. Cell 22.8 µm wide without processes, spines 8.6 µm.

Habitat: Coll. No. 293.

***T. incus* (Teiling) G. M. Smith Pl.1, Fig.3**

Philipose, M. T. 1967, p. 148, fig. 61a.

Cells tetragonal and flat with concave sides, angles slightly produced to form short lobes, each ending in a fairly long, slightly curved spine. Cells 13.1 µm in diameter without spines and up to 19.8-34.8 µm with spines. The spines 5.6 µm long.

Habitat: Coll. Nos. 222, 229, 282.

***T. minimum* (A. Braun) Hansg. Pl.1, Fig.4**

Philipose, M. T. 1967, p. 138, figs. 53a-c.

Cell small and quadrangular with the sides concave and angles rounded, cell wall smooth, Cells 7.1-10.8 µm in diameter

Habitat: Coll. Nos. 124, 194, 2112

***T. minimum* (A.Braun) Hansg. f. *apiculatum* (Reinsch) De. Toni Pl.1, Fig.5**

Philipose, M.T. 1967, p.138, fig.53d

Cells small and quadrangular with sides concave and angles rounded. Cell with a very short fine papilla from each angle. Cell wall smooth, cells 9.3-9.3 µm diameter and papilla about 1.1-1.8 long.

Habitat: Coll. No. 187

***T. muticum* (A.Braun) Hansg. Pl.1, Fig.6**

Philipose, M.T. 1967, p.137, figs.51 a-b

Cell small, flat and triangular with the sides slightly concave and angles broadly rounded or truncate.Cell wall smooth. Cells 8.2-15.0 µm in diameter

Habitat: Coll. Nos. 187, 256, 194, 1101

***T. pentaedricum* W. et G. S. West Pl.1, Fig.7**

Philipose, M. T. 1967, p. 151, Figs. 65 a-b.

Cell small, irregularly five lobed with four lobes in one plane and the fifth at an angle to the former; corners somewhat acute, each with a short slightly curved spine, Cell 11.2 µm in diameter without spine; spines 3.3µm long.

Habitat: Coll. No. 114.

***T. quadratum* (Reinsch) f. *minus* (Reinsch) De Toni Pl.1, Fig.8**

Philipose, M. T. 1967, p. 145, fig. 59

Cells quadrate, sides straight or slightly convex. Angles broadly rounded with a spine; Cells 12.7-18.7 µm in diameter. spines, 1.8-3.0 µm long.

Habitat: Coll. Nos. 187,198,222

***T. regulare (*Kuetzing) var. *incus* Teiling. Pl.1, Fig.9**

Prescott, G.W. 1982, p.269, pl. 61, figs. 4-7.

Cells tetragonal, flat or pyramidal concave lateral margins the angles slightly produced to form short lobes each tipped by a long spine. Cell 14.2 µm in diameter without spines, upto 15.3 µm in diameter including spines

Habitat: Coll. No.122.

***T. trigonum* (Naegeli) Hansg. Pl.1, Fig.10**

Philipose, M. T. 1967, p. 142, fig. 58 i.

Cells flat, triangular with somewhat concave sides and rounded corners each ending in a stout spine. Cell sides more or less concave. Cells 15.0-18.5 µm in diameter without spine. Spines 4.8-7.7 µm long.

Habitat: Coll. Nos.124, 212,282,284.

***T. trigonum* (Naegeli) Hansg. f. *crassum* (Reinsch) De Toni**

Pl.1, Fig.11

Philipose, M.T. 1967, p.142-143, figs. 58 d-h,

Cell with straight or convex sides and stumpy angles, each with a short spine. Diameter of cell 13.1 µm and spines 8.6 µm long.

Habitat: Coll. Nos. 299,251

***T. trigonum* f. *gracile* (Reinsch) De Toni Pl.1,Fig.12**

Philipose, M.T. 1967, p.144, figs. 58 a, b, p.

Cell with more markedly concave sides; cell membrane sooth; cell 24.3 µm in diameter, spines 4.1 µm long.

Habitat: Coll. No. 194.

***T.trigonum* (Naeg.) Hansg. f. *minus* (Reinsch) De Toni**

Pl.1, Fig.13

Philipose, M. T. 1967, p. 142, fig. 58 c.

Cells smaller than the type: cell 13.1 µm in diameter, spines 1.8 µm long.

Habitat: Coll. No. 187

***T.trigonum* (Naeg.) Hansg. var. *papilliferum* (Schrod.) Lemm.**

Pl.1, Fig.14

Smith, G. M. 1926, p. 172, pl.6 figs. 13-17.

This variety is characterised by its smaller size and by the small mucro at each of the angles (with a small wart at each corner). The sides are emarginated in the median portion (the angles tipped with a blunt, wart-like papilla). Wall smooth or granulate. Cells 9.3-12.4 µm in diameter

Habitat: Coll. Nos. 123,295

Conclusion

Present communication deals with the taxonomic enumeration of 14 taxa representing 07species, 02 varieties and 05 forms of genus *Tetraedron* (Chlorococcales) which are recorded first time from study area.

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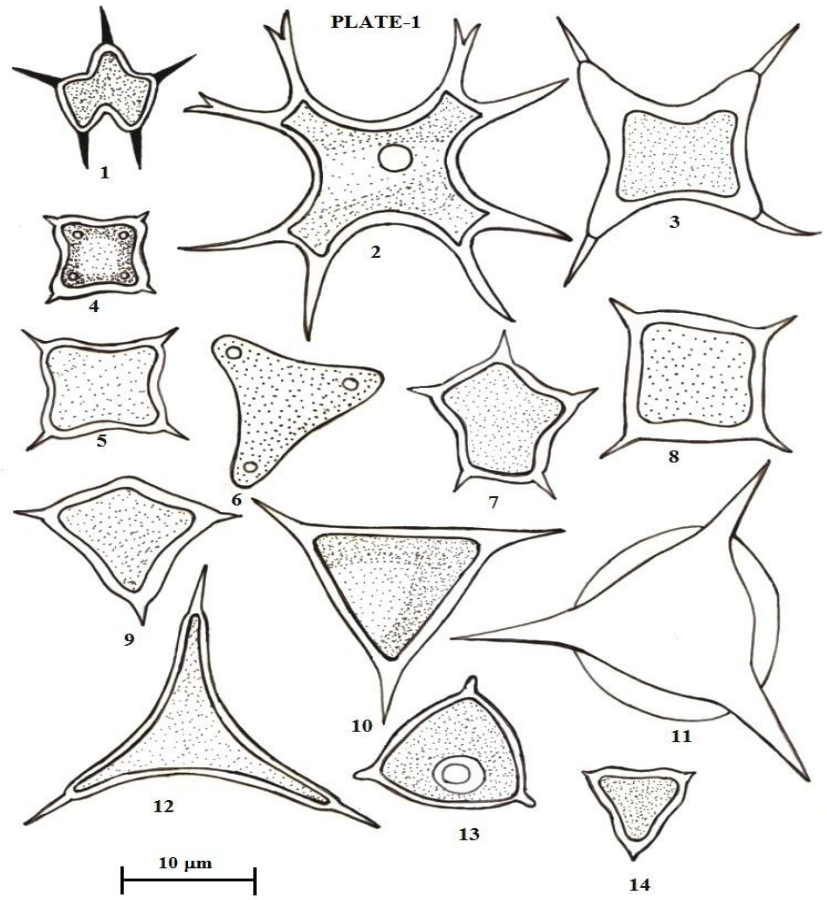

Figs: - 1. T. caudatum, 2. T. gracile, 3. T. incus, 4. T. minimum, 5. T. minimum f. apiculatum 6 T. muticum, 7. T. pentaedricum, 8. T. quadratum, 9. T. regulare var. incus, 10. T. trigonum, 11. T. trigonum f. crassum, 12. T. trigonum f. gracile, 13. T. trigonum f. minus 14. T. trigonum var. papilliferum.