



GENUS- GLOEOTRICHIA AG. (CYANOPHYCEAE) FROM HARTALA LAKE, MAHARASHTRA.

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ABSTRACT

While exploring algal flora of Hartala lake (latitude $21^{\circ} 00' 20.56''$ north and longitudes $76^{\circ} 01' 31.31''$ east), district Jalgaon, M.S. authors collected members of Cyanophyceae. Present communication deals with five taxa of *Gloeotrichia* AG. Of these *Gloeotrichia kurziana* Zeller first time reported from Maharashtra while *Gloeotrichia raciborskii* Wolosz. var. *maharashtrense* var. nov. and *Gloeotrichia raciborskii* Wolosz. var. *spherica* var. nov. are new to science.

KEY WORDS

Gloeotrichia, Hartala, Jalgaon, Tapi, *raciborskii*

INTRODUCTION

Hartala lake is oldest lake located on a small tributary of river Tapi at latitude $21^{\circ} 00' 20.56''$ north and longitudes $76^{\circ} 01' 31.31''$ east. The lake has a capacity of 140 millions of cubic feet water and commands an area of 584 acres.

Present investigation includes 05 taxa of *Gloeotrichia* which belongs to 02 species and 03 varieties. Of which 01 species first time reported from Maharashtra and 02 varieties are new to science.

From available literature it seems that very less attention was given on study of *Gloeotrichia* except Dixit, 1936; Gonzalves and Joshi, 1943; Kamat, 1961-62.; 1968; 1974; Vasishta, 1968; Nandkar, 1979; Mahajan and Mahajan 1990; Mahajan, 2001; Kumawat, 2002.

MATERIALS AND METHODS

The collections were made early in the morning between 7.00 to 10.00 am during 2018-2019 from Hartala lake (M.S.). All the collected samples were studied fresh as far as possible and later preserved in 4 % formalin for further studies. Camera Lucida drawings were made with the help of mirror type of camera Lucida. The identification of taxa is based on

the monograph Desikachary (1959) and relevant research paper publications. The material is deposited in the Department of Botany, Smt. P. K. Kotecha Mahila Mahavidyalaya, Bhusawal, Dist. Jalgaon, (M.S.).

OBSERVATIONS AND RESULTS

Genus *Gloeotrichia* Ag., 1842

Gloeotrichia kurziana Zeller

Pl. 1, Fig. 1

T.V. Desikachary, *Cyanophyta*, p.562, 1959.

Thallus globose; trichome blue green, 7.7 µm broad at the base, half as long as broad, sheath about 15.3 µm broad, colourless, spore brownish, ovate, slightly swollen at the base, 11.5 µm broad, 39.9 µm long; heterocyst, spherical, 10 µm broad. (Coll. No. H-230).

Gloeotrichia raciborskii Wolosz.

Pl. 1, Figs. 2, 3

T.V. Desikachary, *Cyanophyta*, pp.562-563, Pl. 118, Fig. 14, 1959. Thallus spherical, soft, trichome 8.4-10.8 µm broad; ending into long hair, constricted at the cross-walls; cells barrel shaped, as long as broad at above while shorter than broad at base; heterocyst spherical 4.5-11.5 µm broad, 6.2-11.5 µm long, basal, single, spore ellipsoidal, 14.4 µm broad, 39.2 µm long, yellowish. (Coll. Nos. H-190, H-197, H-245).

Gloeotrichia raciborskii Wolosz. var. *conica* Dixit

Pl. 1, Fig. 4, Pl. 2, Fig. 1

T.V. Desikachary, *Cyanophyta*, p.563, Pl. 117, Figs. 10-12, 1959.

Filaments 29.2-35 µm broad, up to 35.0 µm long; trichomes 8.8-9.2 µm broad; cells 2.3-6.9 µm long, trichome ends into hair; heterocyst terminal, 9.2-11.3 µm broad, 9.0-10.0 µm long, sheath thin; spore cylindrical, 11.5-15.0 µm broad, 33.8-52.3 µm long. (Coll. Nos. H-134, H-217).

Gloeotrichia raciborskii Wolosz. var. *maharashtrense* var. nov.

Pl. 1, Fig. 7, 8

Thallus spherical; trichome 11.5 µm broad, ending into hair, hair at the tip 5.0 µm broad, trichome constricted at the cross walls; cells barrel shaped, 8.75-12.5 µm long; heterocyst spherical, 11.3-13.1 µm in diameter. (Coll. No. H-217).

This variety is close to *Gloeotrichia raciborskii* Wolosz. var. *kashiense* Rao, C.B. but differs from it in having two layered sheath instead of many layered and slightly smaller cells. Therefore here it is treated as a new variety (Desikachary, 1959).

Gloeotrichia raciborskii Wolosz. var. *spherica* var. nov.

Pl. 1, Fig. 5, 6, Pl. 2, Figs. 2, 3

Thallus soft, up to 200 µm long; trichome 8.4-10.7 µm broad, ending into long hair, sheath faint brown or yellowish, spherical, circles 1-3, sheath 20.8-34.6 µm broad, cells 4.2-8.5 µm long, 1/2 as long as broad; spore cylindrical or oval, one or twos, 10-10.8 µm broad, 18.6-28.5 µm long. (Coll. No. H-217).

The present taxon agrees with *Gloeotrichia raciborskii* Wolosz. but differs from all its varieties in having spherical sheath in 1-3 circles, hence it is considered as a new variety.

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PLATE –1

1.*Gloeotrichia kurziana* Zeller

2,3.*Gloeotrichia raciborskii* Wolosz.

4.*Gloeotrichia raciborskii* Wolosz. var. *conica* Dixit

5,6.*Gloeotrichia raciborskii* Wolosz. var. *spherica* var. nov.

7,8.*Gloeotrichia raciborskii* Wolosz. var. *maharashtrense* var. nov.

Scale bar A : 25 µm

Scale A : Fig. 4,7,8

Scale bar B : 25 µm

Scale bar B : Fig. 1,2,3,5,6

PLATE -1

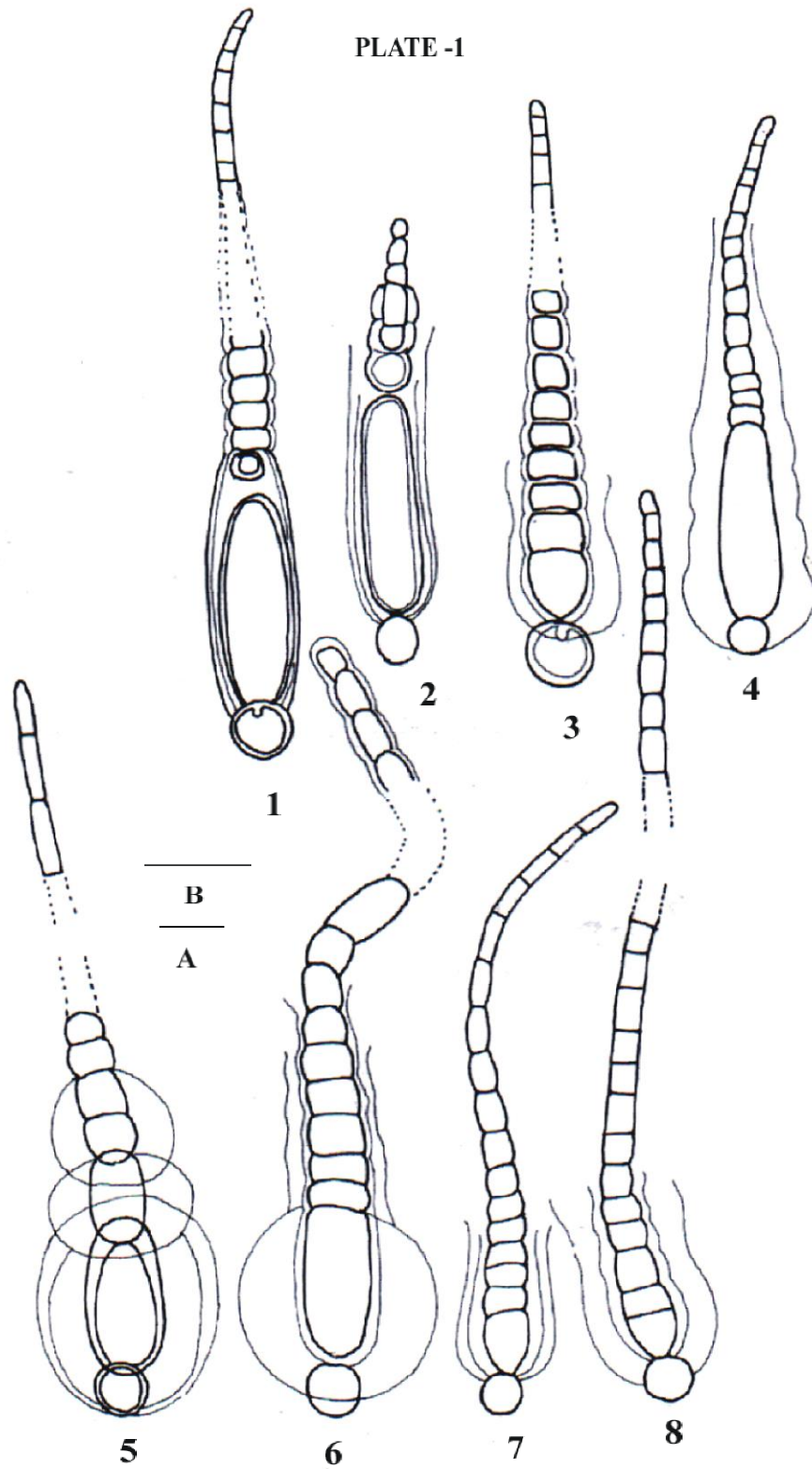


PLATE - 2

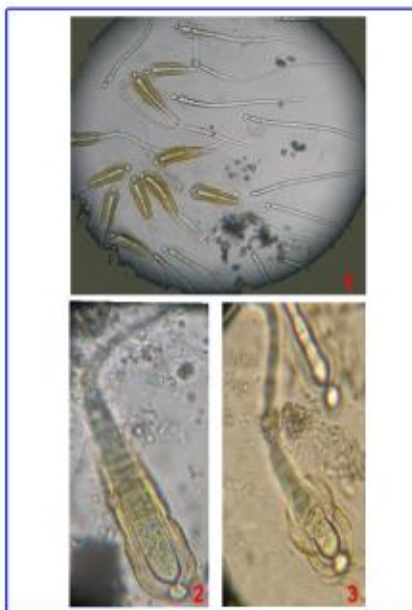


Plate 2

1. *Gloeotrichia raciborskii* Wolosz. var. *conica* Dixit
2,3. *Gloeotrichia raciborskii* Wolosz. var. *spherica* var. nov.