

**MICRASTERIAS TORREYI BAIL. VAR. NURULISLAMII AZIZ VAR. NOV.
(CHLOROPHYCEAE) FROM BANGLADESH**

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Keywords: Micrasterias torreyi Bail. var. *nurulislamii* Aziz var. nov.; Desmid; Green alga; Bangladesh.

Substantial works have been carried out on desmids of Bangladesh (Islam, 1970; Islam and Haroon, 1980; Islam and Begum, 2004; Islam and Irfanullah, 2006). These include 51 species of *Micrasterias* Ag. in addition to many species and varieties of different genera (Ahmed *et al.*, 2008). Of the reported species of *Micrasterias*, 18 species, 22 varieties and 11 forma are new to science. The author came across a taxon of *Micrasterias* collected from a freshwater body which showed similarities and dissimilarities with *M. doveri* Biswas var. *curvata* (Krieger) Thomasson 1960, *M. rotata* (Grev.) Ralfs *ex* Ralfs and *M. torreyi* Bail. var. *sachlanii* Scott *et* Prescott 1961. Thorough studies revealed some characteristics which are unique and thus described as a new variety of *M. torreyi* Bail. in this paper.

Class: Chlorophyceae; Order: Zygnematales; Family: Desmidiaceae

***Micrasterias torreyi* Bail. var. *nurulislamii** Aziz var. nov. (Figs. 1&2)**

Cellulae quasi ovalis, 280-310 μm longa, 210-220 μm latus ad isthmus, longitudine-latitudo rationes 1.33-1.41. Semicellula cum 26 lobulis, lobus axiales columnararis, 95-100 μm longa, fere 47 μm latus ad basim, 35 μm proximus apicem. Chloroplasto lobus ad parietilobulis aptum, uni in quoque semicellula; pyrenoids 10-12 in quoque chloroplasto. Cellula parieti subtiliter verrucatus omnino.

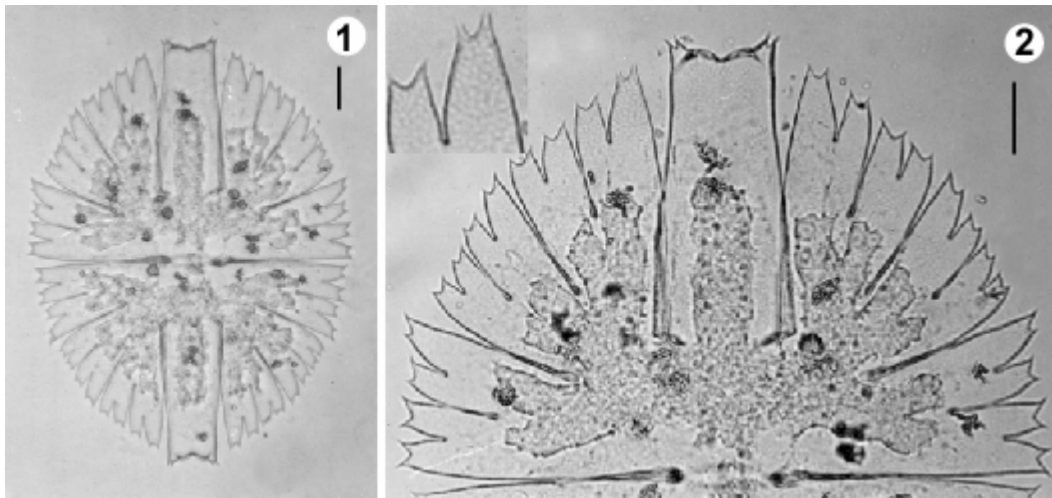
Cells oval, 280-310 μm long, 210-220 μm broad giving length-breadth ratio that varied from 1.33 to 1.41, with deep isthmus (31 μm). Each semicell heavily incised, lateral lobes divided into six lobes of order III, which is further divided into 12 lobules of order IV with two spines in each. Thus, there are 26 lobules in each semicell. Basal half portion of each lobe near the isthmus is parallel to the transverse axis, while others are radial to slightly convergent to poles. Axial lobes 95-100 μm long, columnar, about 47 μm broad at the base, 35 μm broad near the tip giving the length-breadth ratio that varied from 2.11 to 2.33. Cell wall with fine warts all through. Chloroplast single in each semicell and lobed with 10-12 pyrenoids. Each lobe of the chloroplast corresponds to one lobe of the semicell.

* The varietal epithet has been chosen after National Professor Dr. A.K.M. Nurul Islam who worked a lot on desmids and a pioneer on algal taxonomic researches in Bangladesh.

Locality: Ati-panchdana Beel, Dhaka, 15 January 1998.

Holotype: Photomicrographs, Figs. 1-2.

Note: The present material resembles *Micrasterias torreyi* var. *sachlanii* Scott and Prescott 1961 by having 26 lobules in each semicell and curvature of lobules but in the present organism length-breadth ratio of the axial lobe is much lower (2.11-2.33) giving a robust nature and that it does not project so much beyond the adjacent lobules. Islam and Haroon (1980) described a new var. *dacchense* of *Micrasterias torreyi* (by mistake the name *M. doveri* var. *dacchense* was given; personal communication National Prof. A.K.M. Nurul Islam). The new var. *dacchense* Islam *et* Haroon differs from the type by having two supra-isthmal median processes in each semicell. The present material resembles *M. doveri* var. *curvata* (Ling and Tyler, 2000) by 1.32 length-breadth ratio of cells and slightly by curvature of lobules, but the number of lobules is only 18 and axial lobes are more or less uniform in diameter from base to apex. *M. rotata* (Grev.) Ralfs *ex* Ralfs resembles the present material by having 26 lobules in each semicell and warted cell wall, but differs by cell shape, convergence of lobules and the shape of axial lobes (Růžička, 1981). However, in *M. torreyi* var. *sachlanii*, cell wall is without warts, base of the axial lobes are as wide as the tip giving length-breadth ratio that varied from 3.22 to 4.00. On the other hand, in the present organism cell wall is with warts, the axial lobes are much wider at the base appearing columnar, length-breadth ratio varied from 2.11 to 2.33 and supra-isthmal median processes are absent, the features distinct enough to consider it as the new variety under *Micrasterias torreyi* Bail.



Figs. 1 & 2. *Micrasterias torreyi* Bail. var. *nurulislamii* Aziz var. nov. 1. a cell; 2. a semicell enlarged, warts present on cell wall. Inset in the upper left is a part of the lobe enlarged showing warts. Bars = 30 μ m.

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