

New records of Diatoms from India

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Abstract

The present paper deals with the taxonomic description of two new diatom species recorded for the first time from India. *Nitzschia sinuata* var. *tabellaria* (Grunow) and *Stauroneis smithii* (Grunow) were recorded from Ganol river and Warribok stream respectively, both located in West Garo Hills district of Meghalaya which is a state in North Eastern region of India.

Key words: Ganol river, Garo Hills, New report, Warribok Stream.

Introduction

India is very rich in algal biodiversity. A total of 7310 species belonging to 855 genera, 10 classes, 95 orders and 252 families are reported from India (BSI ENVIS 2016). Many workers like Ahmad (1972); Anand and Kant (1976); Gandhi (1998); Hosmani (2012); Murulidhar and Murthy (2014); Das and adhikary (2014); Roy and Kashri (2016) had contributed in fresh water algal ecology and their distributions in the country. From Meghalaya, some work is available on algal diversity from Khasi and Jaintia Hills but from Garo Hills very less work has been done so far. The work include that of Biswas (1934); Alfred (1978); Ghosh (1991); Rout (1991); Rout and Gaur (1994); Most recent work on this context are that of Das and Ramanujam (2011); Shylla and Ramanujam (2013); Siangbood and Ramanujam (2014).

Ganol river and Warribok stream are two important water bodies of West Garo Hills district of Meghalaya, India. Ganol river (latitude 25° 34'53"N and longitude 90°14'84" E) is the main sources of drinking water in capital Tura town. The river starts from Tura peak and runs towards the west through Damalgre, Garobadha, Rangapani before it enters Goalpara district (Assam). Warribok stream (latitude 25° 36'67"N and longitude 90°18'64"E) is a comparatively clean stream known as a picnic spot.

Materials and methods

Sediment samples were collected during 2015-2017 from both lotic water bodies. For extraction of diatoms, sediments samples were homogenised with acid by following the procedure of Hendey (1974). Digested samples were observed under a trinocular microscope, photographed (using Olympus B41) and identified with help of monograph of Tiffany and Britton (1952) and <http://westerndiatoms.colorado.edu>.

Results and discussion

Along with 78 diatom species, *Nitzschia sinuata* var. *tabellaria* (Grunow) was recorded from the sediment sample of Ganol river and *Stauroneis smithii* (Grunow) was recorded along with other 54 diatoms species from sediment sample of Warribok stream in West Garo Hills, Meghalaya. These two diatoms species have been first time reported from India. *Nitzschia sinuata* var. *tabellaria* (Grunow) is a fresh water diatom, reported mostly from temperate countries Britain, Czech Republic, France, Germany, Hungary, Ireland, Spain, Turkey, Ice land, Alaska, United States of America, Iraq, Taiwan, Australia, New Zealand (Guiry and Guiry 2018). *Stauroneis smithii* (Grunow) is also a freshwater diatom. It has been reported from Albania, Baltic Sea, Britain, France, Czech Republic, Germany, Ireland,

Italy, Netherland, Poland, Russia, Turkey, Alaska, California, Canada, United States of America, Isreal, China and Mongolia (Guiry and Guiry 2018).

Classification

Class Bacillariophyceae

Order Bacillariales

Family Bacillariaceae

Genus *Nitzschia*

Species *Sinuata*

Taxonomic description of *Nitzschia sinuata* var. *tabellaria* (Grunow)

Valves are rhombic to lanceolate, swollen at the centre, with apices nearly capitates to rounded. The fibulae of the raphe are distinct, elongate. Fibulae are 6 in number in 10 μ m. Striae 22 in 10 μ m. A central nodule is absent.

Size: length 26 μ m, width 8.8 μ m (Plate no 1. A).

Classification

Class Bacillariophyceae

Order Naviculales

Family Stauroneidaceae

Genus *Stauroneis*

Species *Smithii*

Taxonomic description of *Stauroneis smithii* (Grunow)

Valves are elliptic-lanceolate with triundulate margins and short apiculate apices. A pseudoseptum is present at each apex.

Size: length 25.5 μ m, width 5.9 μ m (plate no 1. B).

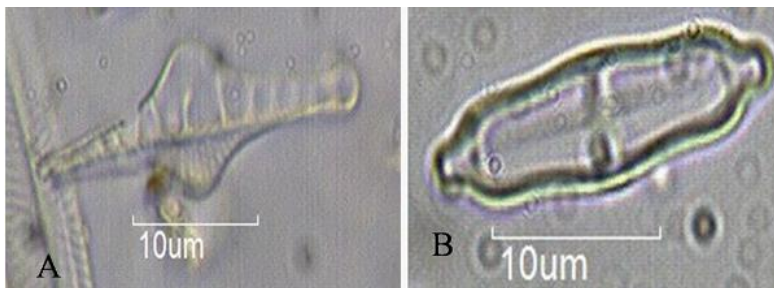


Plate no 1. A. *Nitzschia sinuata* var. *tabellaria* (Grunow), B. *Stauroneis smithii* (Grunow)

Acknowledgement

The authors are thankful to UGC for financial support and to the Head of Botany Department North –Eastern Hill University, for providing us all the laboratory facilities.

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