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Study on new record of *Draparnaldiopsis indica* Bharadwaja from North Bihar

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Abstract

Draparnaldiopsis indica Bharadwaja has been collected from Rajnagar, Madhubani (Bihar). It was growing on *Chara* species in a pond during the month of August. This report stands new to the State of Bihar.

Keywords: *Draparnaldiopsis indica*, Bharadwaja *Chara* species

Introduction

Draparnaldiopsis indica is a green alga belonging to the order Chaetophorales, family Chaetophoraceae, and subfamily Chaetophorae. This is most common alga reported from various parts of the country by different workers. (Bharadwaja 1933, Parukutty 1939, Adhya and Santra 1977, Agarkar 1963, Sinha 1943 and Khan and Mathur 1976) [3, 1, 2, 4, 5, 6]. Sinha & Noor (1962) reported this alga from Chhotanagpur Palatu, Jharkhand.

Observations

Thallus of this alga is macroscopic, amorphous, enveloped in pale green mucilage with threads projecting freely in water. Its main axis is differentiated into short nodal and long, cylindrical or barrel-shaped internodal cells, alternating with each other in a regular fashion (Fig.-1). There are two types of branching i.e. long and short arising from nodal cells of main axis. Long laterals in turn produce short laterals. Short laterals arise at right angles to axis in opposite pair. They are produced in whorls of four and are circular in outline with triangular basal cell. Distal end of laterals prlong into hairs. Chloroplast parietal, reticulate with entire margin and several purenoids occupying the whole cell length. Rhizoids long, thin-walled, branched, hyaline with elongated cells and developing copiously in the basal portion of the plant as well as on nodes of long laterals. Sometimes short laterals of main axis fall off leaving only scar of branch on nodal cells. Internodal cells 23.04-50µm broad and 26.88-84 µm long. Nodal cells 18.5-50µm broad and 10-26.88 µm long. Cells of short laterals 4-8.2 µm broad and 11-15.36 µm long. Thickness of wall of long laterals 3.84 µm.

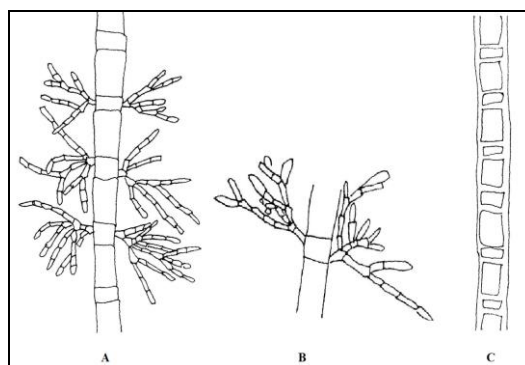


Fig 1: (A-C): *Draparnaldiopsis indica*

A. A portion of long showing short laterals arising from Nodal cells in opposite pairs.
 B. A portion of long lateral showing short lateral arising in whorl from nodal cell.
 C. A portion of long lateral showing alternate arrangement of nodal and internodal cells.
 Magnification Fig. A –C 1cm = 19µm

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Habitat

Alga was growing on *Chara* Sp. in a pond at Raj Nagar, Madhubani during the month of August, 2015.

Discussion

The dimension of the cells recorded in the present study has been presented below in tabular form along with those reported by previous workers.

Table 1: The dimension of the cells

Parameter	Bharadwaja (1933) [3]	Saxena (1962)	Randhawa & Venkataraman	Present author
Internodal cells	20-60 µm broad 28-63 µm long.	20-60 µm broad, 28-63 µm long.	26.8-68.4 µm broad, 20.9-76 µm long.	23.04-50 µm broad 26.88-84 µm long.
Nodal cell	16-60 µm broad 2-31 µm long.	16-60 µm broad 8-31 µm long.	15.2-68.4 µm broad, 7.6-30.4 µm long.	18.5-50 µm broad and 10-26.88 µm long.
Cells of short lateral	4.2-8.4 µm broad.	4.2-8.4 µm broad.	5.6-9.5 µm broad.	4-8.2 µm broad and 11-15.36 µm long.

It is evident from the above table that the dimension of the cells as well as other morphological features observed are in agreement with those described by Bharadwaja (1953), Randhawa and Venkataraman (1962) [8], Saxena (1962) [9] except for minor differences in length and breadth of cells, the reasons of which are obviously ecological variations.

From the available literature it appears that this alga has not been reported, so far from Bihar and hence it stands a maiden record from the state.

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