

***PEDIASTRUM HABIBII* SP. NOV., AN INTERESTING NEW ALGA**

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Abstract

A new species of *Pediastrum* Meyen (Chlorococcales, Chlorophyta) has been described from India. The collection was made during November 1990 from Shankha river, Bareilly district, Uttar Pradesh, India. *Pediastrum habibii* sp. nov. consists of 15 cells only with inner cells having inter cellular spaces in between them.

Introduction

Recent studies on the taxonomy of *Pediastrum* reveal that about 16 species of the genus have been reported so far from different places in India (Pandey *et al.*, 1981, 1983; Sharma *et al.*, 1985; Habib *et al.*, 1988; Habib & Pandey, 1990). During the algal survey of Shankha river at Bareilly in the state of Uttar Pradesh, India, the authors came across a new species of *Pediastrum* Meyen. The taxonomic consideration of this new taxon, *P. habibii* is presented herewith, and the differences with other species are reviewed. Brief notes of the locality of its occurrence are also included.

Description of the area: Bareilly is one of the important districts of Rohilkhand commissionerary of Uttar Pradesh State in India. The district is located in the Upper Gangetic Plain and is bound by the Kumaon Hills on the North. It is situated at a distance of 12 kms from the west bank of the river Bhankha at 79.5°E longitude and 28.5°N latitude at 172.21 meters above sea level. The area of the district is 4089.61 sq. kms. Besides the river Ram Ganga which is the main river of Bareilly, there are nearly a dozen of rivers and their tributaries, lakes and several ponds. The district is placed in the interior of subtropical continental region, therefore, the climate is typically monsoonal. There is a seasonal rhythm of weather too. The climate of the area is very suitable for the luxuriant growth of algae.

Materials and Methods

The algal sample was collected in November 1990 from Shankha river, Bareilly in polythene vials and preserved in 4% formalin solution for further study. Camera lucida diagrams were made and measurements taken. Identification of the taxon is based on the standard works by Fritsch (1935-45), Tiffany & Britton (1952), Wilson & Hoffmeister (1953), Prescott (1962), Philipose (1967), Stein (1973) and Salam (1979). The algal materials have been deposited at Laboratory of Phycology, Department of Botany, Bareilly College, Bareilly alongwith accession number, IH-7.

SYSTEMATIC ACCOUNT

***Pediastrum habibii* Habib et Chaturvedi (Figs. 1a & b):**

Coloniae circulares 15-cellulares; cellulae in annulis duobus dispositae; annulus interior constans ex 4 cellulae periphericae 11, cum pariete exterioris libero projecturis

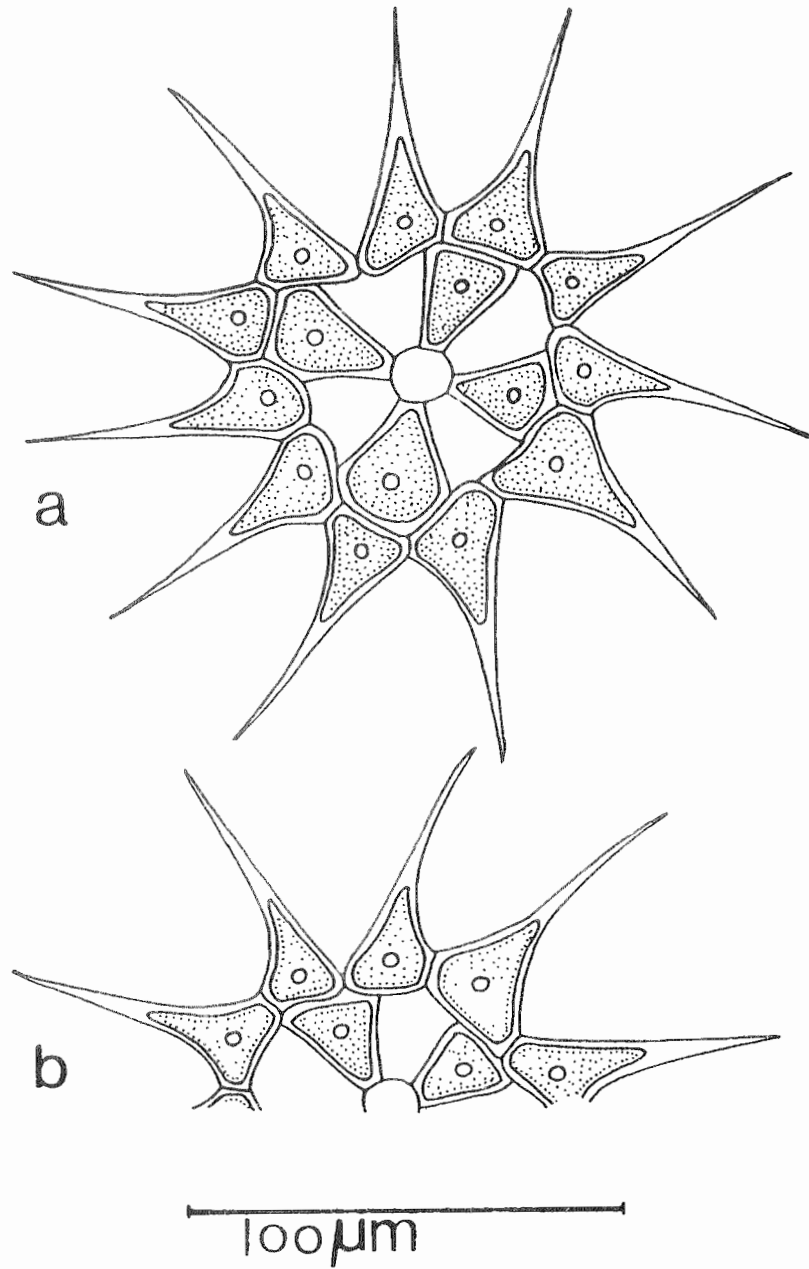


Fig. 1a & b. *Pediastrum habibu* sp. nov.

acuminatis; 4 cava prassentia inter annulos duos; cellulae interiores, 27-28.2 μm longae, 22-24.3 μm latae, callulae periphericae 50-57 μm longae, 24-26.5 μm latae; colonia 116 μm in diameter. Cellulae paries laevis et chloroplastus parietalis praesens in cellula.

***Pediastrum habibii* sp. nov. (Figs. 1a & b):**

Colony circular 15-celled, cells arranged in two rings; inner ring consists of 4 cells, which are triangular in shape enclosing a central cavity; peripheral cells 11 in number with outer free wall having acuminate projections; 4 cavities present between the two rings of the colony. Inner cells 27-28.2 μm long 22-24.3 μm broad; peripheral cells 50-57 μm long, 24-26.5 μm broad. Colony 168 μm in diameter, cell wall smooth, parietal chloroplast is present per cell.

Type locality: Planktonic in river Shankha, Bareilly (U.P) India.

Type specimen: The type material (IH-7) is deposited in Botany Department, Bareilly College, Bareilly (U.P) India.

Discussion

The present species is unique in several features. The alga differs from *Pediastrum simplex* Mayen in the presence of sharp pointed and long peripheral cells. The inner cells are arranged in a ring, triangular in shape and are not polygonal as in the type species. Inner cells are not in contact with the adjacent cells due to the presence of large inter-cellular spaces. The peripheral cells of *P. simplex* Mayen are usually up to 30 μm long (Philipose, 1967, p. 114, fig. 36g), while in the present taxon they are 50-57 μm long. It also differs with *P. ovatum* (Ehr.) A. Br. in the number and shape of cells (Philipose, 1967, fig.s 37b & g). Only 15 celled colonies were observed in the present material, which is an unusual feature to the genus *Pediastrum*. Therefore, it is considered as a new species under the name *Pediastrum habibii*. The epithet is named after Mr. Habibullah, father of one of us (Iqbal Habib), to whom the species has been dedicated.

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