

SOME FRESH WATER RED AND YELLOW-GREEN ALGAE FROM NORTH-EASTERN UTTAR PRADESH, INDIA

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ABSTRACT

The present paper deals with morpho-taxonomic descriptions of three fresh water algae belonging to classes Rhodophyceae and Xanthophyceae. These are *Compsopogon* Montagn, *Batrachospermum* Roth and *Vaucheria* De Candolle. They are rare in occurrence and are represented by one taxon each. All these forms have been recorded from Gonda and bahraich districts of North-Eastern Uttar Pradesh.

Key words: Algae, Rhodophyceae, Xanthophyceae, N.E. U.P.

INTRODUCTION

In the class Rhodophyceae only few genera like *Porphyridium* Naeg., *Compsopogon* Montagn, *Thorea* Bory, *Batrachospermum* Roth are known from fresh water habitats. According to Sheath and Hambrook (1988) majority of fresh water Rhodophyceae algae are found in running waters of small to mid size stream and rivers with a minimum current requirement of approximately 30 cm/sec (*Compsopogon* Montagn occurs at a flow rate of 24-36 cm/sec and *Batrachospermum* Roth at 44-58 cm/sec). The notable contribution on the genus *Compsopogon* Montagn and *Batrachospermum* Roth of India are by Bruehl and Biswas (1927), Krishnamurthy (1953, 1958), Patel and Francis (1968), Panday *et al.* (1973, 1976), Panday (1978), Chaugle (1980), Balakrishnan and Chaugle (1980), Sankaran (1984), Desikachary *et al.* (1990), Tewari and Chauhan (2000). Rintoul *et al.* (1999) have worked on the systematics and biogeography of class Rhodophyceae in North

America. Ahamad and Rawheya (1999) have discovered a new species *C. helwaii* from Egypt.

The Xanthophyceae are a scarce group in India and so far only seven genera including *Vaucheria* De Candolle are known to occur in this country (Prasad and Mehrotra 1970). The Xanthophyceae algae from India have been reported by Venkatraman (1961), Prasad and Srivastava (1963, 1964), Srinivasan (1965), Prasad and Misra (1979), Shah *et al.* (1992) and Suseela and Dwivedi (2001).

In present paper 3 taxa have been described of which 2 taxa belong to the class Rhodophyceae and 1 taxon belong to class Xanthophyceae. These algae have been collected from the districts Bahraich and Gonda of North-Eastern U.P., earlier Misra *et al.* (2002), Misra and Srivastava (2003 a, b, 2004, 2005) have reported the member of Chlorophycean algae belonging to order Oedogoniales, Chaetophorales, Zygnematales and some Cyanophycean algae from this area.

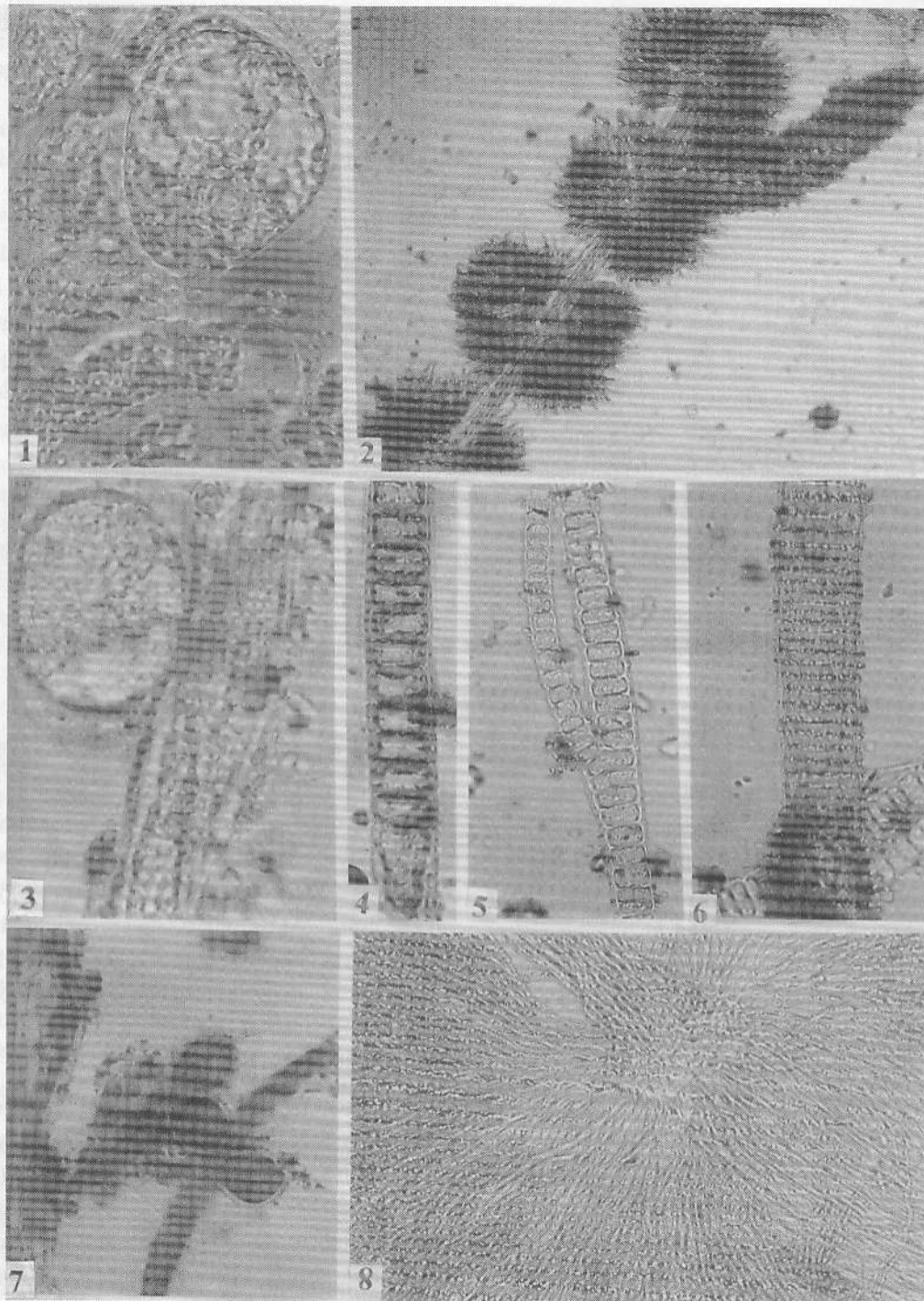


Plate 1. (Fig. 1. *Vaucheria geminata* De Candolle x 600, Fig. 2. *Batrachospermum moniliforme* Roth x 100, Fig. 3. *V. geminata* De Candolle x 500, Fig. 4. *Compsopogon iyengarii* Krishnamurthy x 400, Figs. 5, 6. *C. iyengarii* Krishnamurthy x 500, Fig. 7. *V. geminata* De Candolle x 100, Fig. 8. *B. moniliforme* Roth x 200).

MATERIAL AND METHODS

Algal collections were made with the help of net fitted on extension rods. Collected materials were preserved in 4% formalin. Algae were stained with iodine and mounted in glycerine, detailed study was made under Nikon labophot II microscope.

MORPHO-TAXONOMIC DESCRIPTION

Class: Rhodophyceae

Order: Erithropeltidiales

Family: Compsopogonaceae

Genus: *Compsopogon* Montagn

Compsopogon iyengarii Krishnamurthy

(Pl. 1, figs. 4, 5, 6)

Younger uniserrate portion 28-30 μm broad, cells 10-12 μm long and discoid. Cortical cells of older filaments 12-13 μm in diameter.

Localities: Golua ghat, Barua ghat, Belser road pond

Collection no. and date: BAH - 25, 99 (12.01.99), GON - 202 (05.05.2002).

Order: Batrachospermale

Family: Batrachospermaceae

Genus: *Batrachospermum* Roth

Batrachospermum moniliforme Roth

(Pl. 1, Figs. 2, 8)

Node 60-110 μm broad, inter nodal region 450-495 μm long, branch let cells 9-11 μm long, 6-7 μm broad.

Locality: Shiv temple - Radha kund

Collection no. and date: BAH - 46 (25.01.99)

Remark: According to Desikachary *et al.* (1990) this species has rare tendency to develop unilateral branching but present taxon frequently show unilateral branching on either side of the main axis.

Class: Xanthophyceae

Order: Heterosiphonales

Family: Vaucheriaceae

Genus: *Vaucheria* De Candolle

Vaucheria geminata De Candolle

(Pl. 1, figs. 1, 3, 7)

Filaments 38-42 μm in diameter, Oogonia 1-3, 60-71 μm in diameter, Oospore 48 μm in diameter.

Localities: Mirzapurpond

Collection no. and date: BAH - 44 (24.01.99)

RESULTS AND DISCUSSION

Ecologically district Bahraich has a characteristic transition zone of Tarai and North-Eastern plain type of Agro-Ecological Situation (AES). Thus all the three species (two Rhodophycean and one Xanthophycean) were present in Bahraich as transition zone favoured the diversity of life, while district Gonda has a distinct North-Eastern plain zone, only one species viz. *Compsopogon iyengarii* Krishnamurthy was present in this district. Rich collection of *Batrachospermum* Roth was made from Radhakund whereas *Vaucheria* De Candolle was luxuriantly growing at the bank of Mirzapur pond. Genus *compsopogon* Montagn was rare in collection from both the districts.

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