

# *Aphanochaete* A. Braun (Chaetophorales : Chlorophyta) from Midnapur district, West Bengal

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Keshri, J.P. & Sarma, P. 2004. *Aphanochaete* A. Braun (Chaetophorales : Chlorophyta) from Midnapur district, West Bengal. *Geophytology* 33(1&2): 35-37.

Three taxa of *Aphanochaete* A. Braun including a new variety (*Aphanochaete magna* Godward var. *inflata* var. nov.) have been recorded from West Bengal, India. The distribution of the taxa of *Aphanochaete* known from India has also been given. *A. polychaete* (Hansg.) Fritsch and *A. repens* A. Braun have been recorded as addition to the algal flora of West Bengal.

**Key-words**-*Aphanochaete*, New records, New variety, West Bengal.

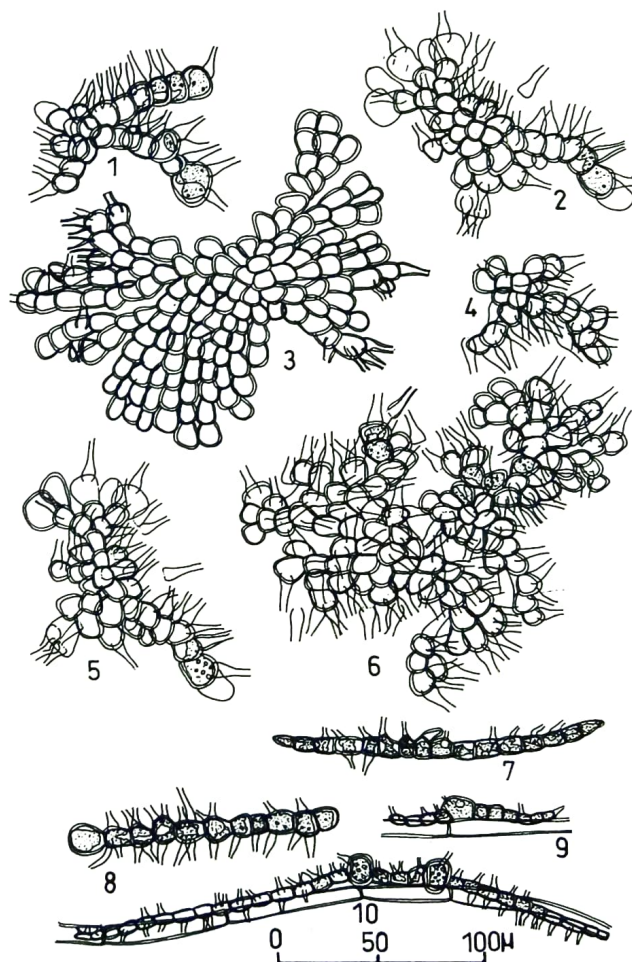
THE genus *Aphanochaete* A. Braun of order Chaetophorales, class Chlorophyceae is represented in India by four species: *A. magna* Godward, *A. pilosissima* Schmidle, *A. polychaete* (Hansg.) Fritsch and *A. repens* A. Braun (Biswas 1949, Krishnamurthy 2000, Prasad & Fatma 1981, Sarma & Khan 1980). During the taxonomic investigation on the algal flora of West Bengal the authors recorded, besides, *A. polychaete* (Hansg.) Fritsch and *A. repens* A. Braun, one new variety of *A. magna* (*A. magna* var. *inflata* var. nov.)

Algal samples were collected from a northern part of Midnapur district of West Bengal. The samples were preserved in FAA with glycerine (50ml/litre of preservative) and pH and temperatures were recorded at the collection spots. Camera lucida drawings were made from the preserved materials.

***Aphanochaete magna* Godward var. *inflata* var. nov.**

Figs. 1-6; 11-12

Thallus epiphytic, green, prostrate, closely branched, producing an irregular to subglobose pseudoparenchymatous disc; the cells in the centre are more or less cruciately arranged, cylindrical to subglobose, inflated, longer than broad, 12-20  $\mu\text{m}$  in diameter, 15-24  $\mu\text{m}$  long with one to three hairs per cell; hairs basally inflated; 10-12  $\mu\text{m}$  in diameter, 22-30  $\mu\text{m}$  long; chloroplast parietal lobed plate with two or more pyrenoids; cell wall moderately thick; oogonia 27  $\mu\text{m}$  in diameter, 40  $\mu\text{m}$  long.



Figs. 1-6. *Aphanochaete magna* var. *inflata* var. nov.

Thallus showing cruciately arranged cells at the centre, nature of thallus & profuse development of hairs.

Fig. 8. *Aphanochaete polychaete* (Hansg.) Fritsch

Nature of thallus showing setae arising from the dorsal surface.

Figs. 7,9,10. *Aphanochaete repens* A. Braun

Nature of thallus, oogonia & zygote.

*Holotype No.*- JPK 199, December 23, 1987, Bhogpur; growing on other aquatic weeds in a pond (pH 6.5, temp. 28°C). Kept in the algae herbarium of the Department of Botany, Burdwan University, West Bengal, India (BURD).

*Other collection* - JPK 90, November 13, 1987, Balichak; growing on leaves of *Jussiaea repens* L. in pond (pH 6.5 temp. 26°C); JPK 186, December 23, 1987, Bhogpur; growing on aquatic weeds in a pond (pH 6.5, temp. 28°C).

This new variety differs from the type in having (i) larger cells; (ii) basal inflation of hairs; (iii) 1-3 hairs per cell; and (iv) profuse development of hairs. It differs from *A. magna* Godward var. *mazibarii* Islam (Khan & Islam 1999) in its much longer cells and presence of setae on all the cells including the terminal cells.

#### Latin diagnosis

*Aphanochaete magna* Godward var. *inflata* var. nov.

*Thallus* epiphyticus, viridis, prostratus, arcte ramosus, discum unum irregularem ad subglobosum, pseudoparenchymatum producens, cellulae in centro plusminusve cruciatim ordinatae, cylindricae ad subglobosae, inflatae, longiores quam latae, 12-20  $\mu\text{m}$  in diametro, 15-24  $\mu\text{m}$  longae, cum pilis 1-3 per cellulam, pili inflati ad basin, 10-12  $\mu\text{m}$  in diam, 22-30  $\mu\text{m}$  longi; chloroplastus parietalis lobatus laminatus, cum 1-2 pyrenoidibus; cellulae paries modice crassus; oogonia (?) 27  $\mu\text{m}$  in diametro, 40  $\mu\text{m}$  longa.

*Holotypus*-JPK 199 lectus ad locum Bhogpur, die 23.12.87; alga crescens affixa in plantis aquaticis in stagno (pH 6.5, temp. 28°C), positus in Herbario algarum Sectionis botanices, Universitatis Burdwanensis (BURD), Burdwan Benghala Occid, India.

*Aphanochaete polychaete* (Hansg.) Fritsch 1902

Fig. 8

Thallus filamentous, creeping, unbranched consisting of rounded, oblong rectangular or polygonal cells 15-20  $\mu\text{m}$  in diameter, 15-25  $\mu\text{m}$  long, with 1-4 setae; appear to be laterally arranged, arising from the

dorsal wall of each cell, chloroplast parietal, laminate or girdle shaped with 1-2 pyrenoids.

JPK 239, January 6, 1988, Narain-Pakuria-Murail; growing attached on aquatic weeds in a stagnant water canal (pH 6.5., temp 26°C).

In the present specimen cells are broader than the type and setae (1-4 per cell) appear to be laterally arranged. This is the first record of the taxon from West Bengal.

*Distribution*-Maharashtra (Kamat 1974)

*Aphanochaete repens* A. Braun 1851

Figs. 7, 9, 10

Thallus, filamentous creeping, often branched, composed of inflated cylindrical cells, 5-10  $\mu\text{m}$  in diameter, 7-15  $\mu\text{m}$  long with one or two setae arising from the dorsal wall of each cell, chloroplast parietal, laminate with one or two pyrenoids; oogonia one or

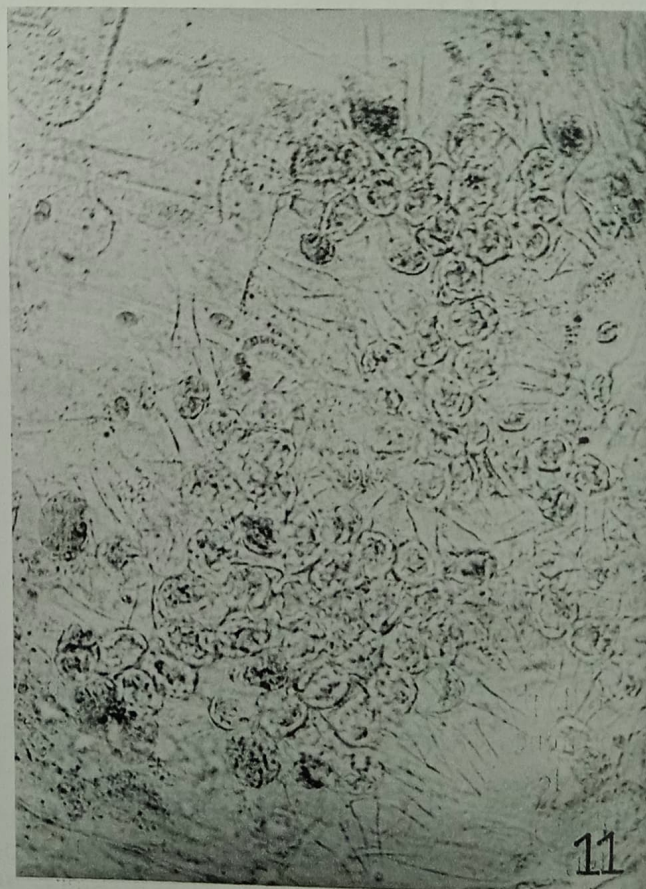


Fig. 11 *Aphanochaete magna* var. *inflata* var. nov. (x 400)  
Thallus showing cruciately arranged cells at the centre, nature of thallus and profuse development of hairs

## ACKNOWLEDGEMENT

Thanks are due to Dr. N.C. Majumdar for Latin diagnosis of the new variety, to the UGC, New Delhi for financial assistance and to Head of the Department of Botany, Burdwan University for laboratory facilities.

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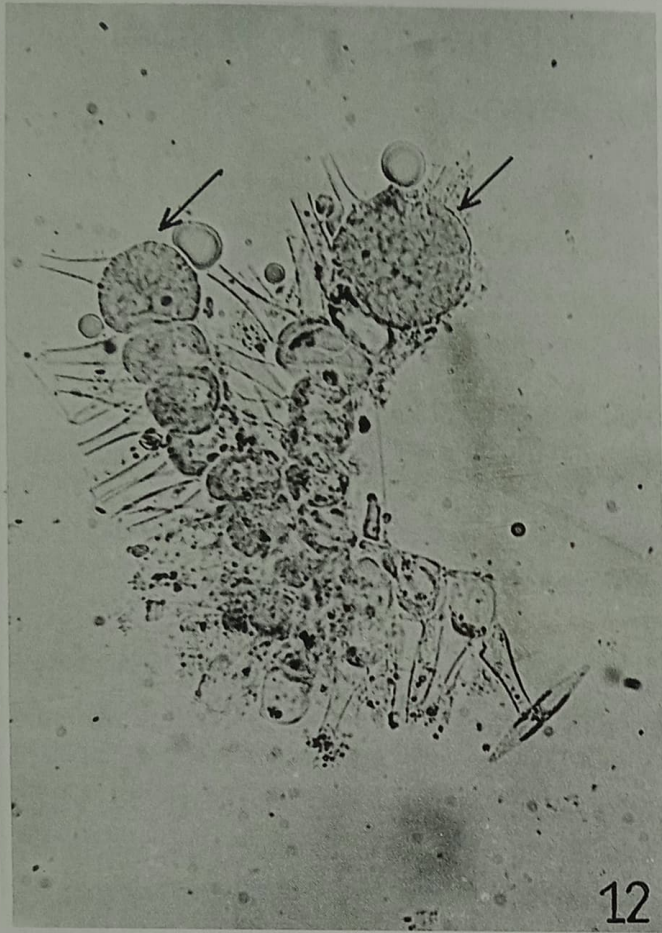


Fig.12. *Aphanochaete magna* var. *inflata* var. nov. (x 450)  
Thallus showing profuse development of hairs and oogonia (arrow marked)

two subglobose 20  $\mu\text{m}$  in diameter, 20-22  $\mu\text{m}$  long; zygote thick walled 17  $\mu\text{m}$  in diameter, 17-19  $\mu\text{m}$  long.

No. JPK 507, December 27, 1988, Bhogpur; growing on the submerged leaves of *Schumannianthus dichotoma* (Roxb.) Gagnep. in a marshy place (pH 7, temp. 21°C). Tupa (1974), however, prefers to call it *A. confervicola* (Nag. ex Futz.) Rabenh.

**Distribution**-Andaman & Nicobar Islands (Prasad & Misra 1984, 1992), Assam (Carter 1926), Bihar (Kargupta 1987), Delhi (Randhawa & Venkataraman 1962), Himachal Pradesh (Gupta 1950), Kerala (Suxena *et al.* 1973), M.P. (Agarkar 1975, Habib 1992, Habib & Pandey 1992), Maharashtra (Gonzalves & Joshi 1946), Punjab (Randhawa & Venkataraman 1962), U.P. (Carter 1926, Venkataraman 1957, Saxena 1962).

This is the first record of taxon from West Bengal.

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