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Some fresh water filamentous green algae from Faizabad district of Uttar Pradesh, India

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Present communication deals with Morphotaxonomic descriptions of ten taxa belonging to order Chaetophorales, Ulotrichales, Cladophorales and Zygnematales of class Chlorophyceae. Number of Species of each genus given in Parenthesis *Stigeoclonium* Kuetzing (1), *Schizomeris* Kuetzing (1), *Mougeotia* Agardh(1), *Pithophora* Wittrock (1) and *Spirogyra* Link (5). Mamximum species richness occurres in genus *Spirogyra* Link, all these forms have been collected from lentic water bodies of Faizabad district of U.P

Biodiversity has gain its importance as many flora and fauna are disappearing without documentation, with this regards algal flora of Faizabad district of Uttar Pradesh have explore and investigate to give a clear algal composition.

Contribution in diversity status of Indian fresh water algae has recently been made by Sen and Gupta (1988), Tewari *et al*. (1999) Kant and Vohra (1999), Misra *et al* .(2001, 2002, 2003, 2004, 2005), Singh and Srivastava (2002), Prakash *et al*. (2005) and Srivastava and Misra (2007).

In the present communication Morphotaxonomic description of nine taxa are given in detail.

Random sampling methods have been applied in Algal sampling from tributaries of Rapti and Saryua rivers. Sampling have been done by means of planktonic net . Samples were preserved in 4% formalin. Detailed studies were made by staining the materials by Iodine and mounting in glycerine.Microphotograph have been taken by Nikon Labophto II microscope with camera attachment.

Morphotaxonomic description:

Stigeoclonium farcatum Berthold (Fig. 9):

Nurul islam (1963), P. 53, Pl. 32, Fig. 3 – 4, Prasad and Misra (1992), P. 61, Pl. 9, Fig. 8

Thallus attached, forming cushion like prostrate system from which erect filament develop, prostrate filament branched with lateral filament developing adjacent to each other, erect filament develop from cell, unbranched, slightly constricted at septa, cells cylindrical to some what barrel shaped apices usually blunt. Cell of erect filament 5.5-6.5µm broad, 6-7µm long

Locality- Saryua tributaries Faizabad

Collection No. and Date- FZB (9.06.08).

Schizomeris leibleinii Kuetz (Figs. 9):

Prescott (1951), P. 105, Pl. 7, Fig. 11, 12 and 13, Tiffany and Britton (1952), P. 102, Pl. 29, fig. 276.

Filaments cylindrical and sometime constricted at the intervals of few cell, uniserrat filament, with acuminating apices and basal hold fast cell, cross wall extended upto the margin of longitudinal wall, older filament multiseriate with brick like quadrangular cells, each cell with one parietal, band shaped or massive chloroplast; vegetative cell 46-47µm broad, 38-65µm long, older filament have cell 52-53µm broad.

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Pithophora varia Wille (Fig. 3):

Prescott (1951), P. 140, Pl. 24, Fig. 56, Tiffany and Britton (1952), P. 48, Pl. 12, Fig. 87-88, Prasad and Misra (1992), P. 55-56, Pl. 7, Fig. 9-10

Filament long, branching solitary, cell cylindrical, cell wall thin, terminal akinete elongated, ovoid with blunt conical apex. Cell of main filament 48-49µm broad, 400-730µm long, cell of bra scalariform and lateral conjugation nch, 28-30µm broad, 660-665µm long, akinete 70-71µm broad, 210µm long.

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Spirogyra biformis jao (Fig. 1):

Randhawa (1959), P. 317 Fig. 293

Vegetative cells 48µm broad, 45-75µm long chloroplast 2 making 1.5-4.5 turn, conjugation scalariform, tubes formed by both the gametangia. Zygospore ellipsoid with rounded ends, zygospore 48µm broad.

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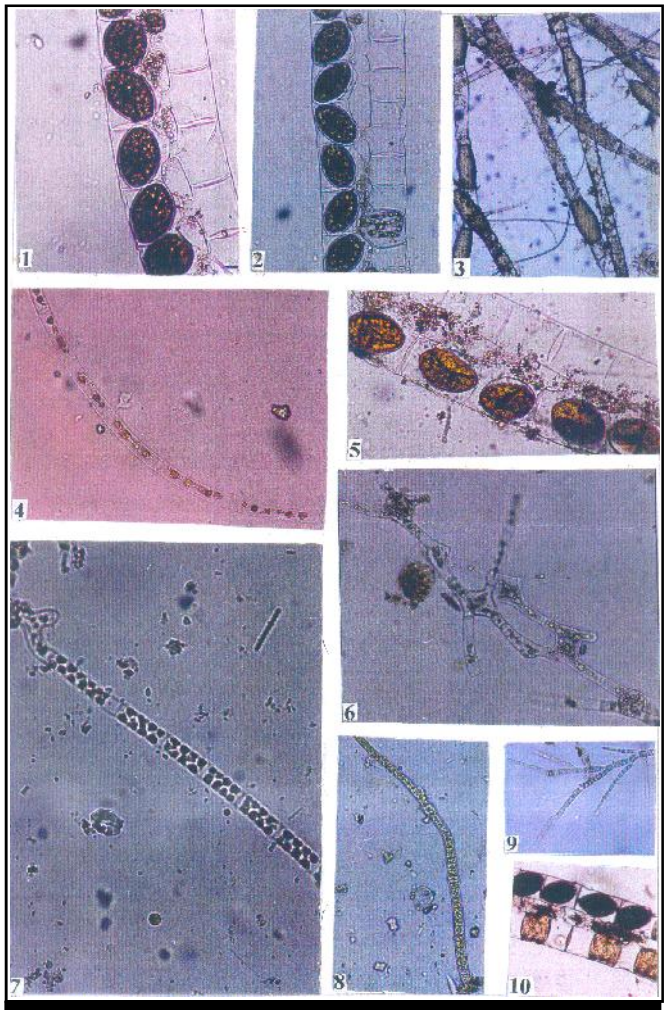

Fig. :

Spirogyra bichromatophora (Randhawa) Transeaw (Fig. 2):

Randhawa (1959), P. 328 Fig. 315,Prasad and Misra (1992), P. 78, Pl. 14, Fig. 16-17

Vegetative cell 62-64µm broad, and 75-80µm long, 2 chloroplast making 4-6 turn, conjugation scalariform, fertile cell enlarged. Zygospore ellipsoid 55-58µ broad median spore wall smooth brown.

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Spirogyra hymerae Britton and Smith (Fig. 10):

Randhawa (1959), P. 321 Fig. 300, Prasad and Misra (1992), P. 83-84, Pl. 13, Fig. 9-13

Vegetative cell 90µm broad, 100-110µm long, chloroplast 2-4 making .5-2 turn in the cells, conjugation scalriform, tubes formed by both gametangia receptive gametangia cylindric or slightly enlarged.

Zygospore mostly ellipsoid, 88µm broad.

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Spirogyra parvula (Trans) Czurda (Fig. 5):

Randhawa (1959), P. 288-300, Fig. 259 a and b

Vegetative cell 15-17µm broad, 125µm long, septa plane each cell with a single spiral chloroplast, lateral conjugation with single zygospore, separated by vegetative cell, female cell look like flask shaped, empty male cell may be seen adjoining to the female cell containing zygospore. Zygospore ellipsoid to oval in shape, 26-28µm broad and 55µm long.

Locality- Saryua tributaries Faizabad

Collection No. and Date- FZB (9.06.08).

Remark- Randhawa, 1959 has reported both scalariform and lateral conjugation in *Spirogyra parvula* Czurda, but present taxon shows only scalariform conjugation

Spirogyra sp.(Fig. 4,7):

Vegetative cell 110µm broad, 238µm long 5, chloroplast making 2-5 turn, end wall plane.

Locality- Saryua tributaries Faizabad

Collection No. and Date- FZB (9.06.08).

Remark- Present taxon shows similarity in cell dimension and chloroplast number with *Spirogyra verruculosa* Jao. Radhawa (1959) reported vegetative cell 105-120µm broad, 259-400µm long and 5 chloroplast making 2-5 turn in *S. verruculosa* Jao. But here zygospores are not seen in present taxon, so specific determination is not possible.

Mougeotia sp. (Fig. 6):

Vegetative cell, 17µm broad, 80-85µm long, chloroplast axile plate like with 6-7 pyrenoid, in a single row, conjugation scalariform, conjugating tube formed by both gametangia. Zygospore immature, 30µm in diameter.

Locality- Saryua tributaries Faizabad

Collection No. and Date- FZB (9.06.08).

Remark- Cell dimensions of present taxa are similar with species *Mougeotia quadrangulata* Hassall as described by Tiffany and Britton (1952), due to lack of mature zygospore specific name not assigned.

Due to low land area, aquatic habitats are abundant in these district, the collction were made from lotic habitats of tributaries which are least pollutants. Genus *Pithophora* Wittrock *Stigeoclonium farcatum* Berthold showed luxurious growth while maximum species richness occurred in genus *Spirogyra* Link with five species. Specific identification is mainly based on size and shape of zygospore.Variations in vegetative cell dimension of taxa probabely due to climatic factor of the region.

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