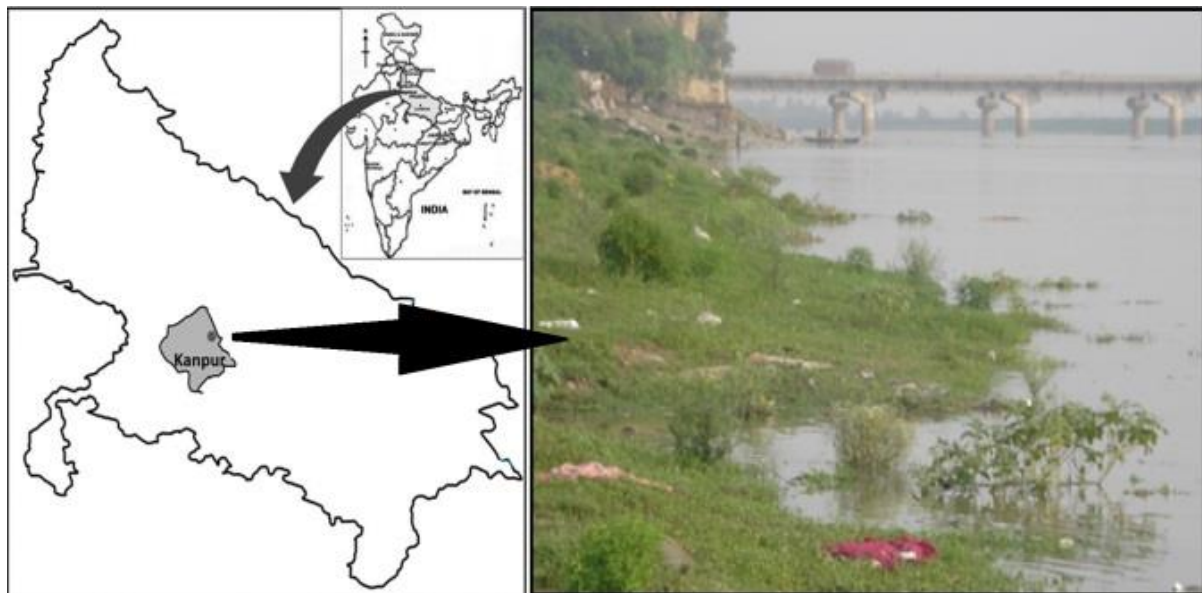


Short communication**Chroococcales in river Ganga at Jajmau Ghat, Kanpur****Archana Singh^{1*}, Vijay Tiwari¹ and Jitendra Mohan²**¹Department of Botany, D.G. (P.G.) College, Kanpur, Uttar Pradesh, India²Department of Botany, D.A.V. (P.G.) College, Kanpur, Uttar Pradesh, India*Corresponding Author: archanasingh248@gmail.com

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Kanpur is one of the highly polluted cities of Uttar Pradesh, India (Khwaja *et al.* 2001). The north boundary of the city is made by the river Ganga. The river receives domestic and sewage waste from the city with cremation of human body along its banks and shows high degree of pollution (Khwaja *et al.* 2001). In Jajmau a cluster of industrial units (mostly tanneries) discharged their industrial wastes in river Ganga which caused the higher degree of water pollution in here. This polluted water favors the growth of Cyanobacteria. A preliminary study to check the occurrence of Chroococcales (Cyanophyceae) was completed in river Ganga at Jajmau Ghat, Kanpur (Fig. 1). In this rapid survey nine species of Chroococcales (*i.e.* *Microcystis aeruginosa*, *Microcystis flos-aquae*, *Chroococcus minutus*, *Chroococcus varius*, *Chroococcus minor*, *Aphanocapsa grevilli*, *Aphanocapsa montana*, *Aphanothece microscopica*, *Coelosphaerium kuetzingianum*) were recorded from the study site (Fig 2). Identification of these Cyanophyceae members was carried out with the help of Desikachary (1959) Prescott (1964, 1976), Whitford & Schumacher (1973) and Anand (1998).

**Figure 1.** A view of Jajmau ghat, Kanpur.**Enumeration of the species****MYXOPHYCEAE****Chroococcales****Chroococcaceae****Microcystis Kuetzing**

1. *Microcystis aeruginosa* Kutz. Geitler, Kryptogamenflora, 137 Fig. 59d, 1932; Desikachary, cyanophyta, 93, Pl. 17, Figs. 1,2,6 and Pl. 18, Fig. 10, 1959. (**Fig. 2A**)

Planktonic, young colonies round, old colonies clathrate; cells spherical with gas-vacuoles.

Dimensions: Cells 2.8–4.5 micron in diameter.**Distribution:** Free-floating in Ganga water.

2. *Microcystis flos-aquae* (Wittr.) Kirchner. Forti in De Tony, Sylloge Algarum, 5:86, 1907; Geitler, op. cit., 138, Figs. 59, e, f, 1932; Desikachary, op. cit., 94, Pl. 17, Fig. 11 & Pl. 18, Fig. 11, 1959. (**Fig. 2B**)

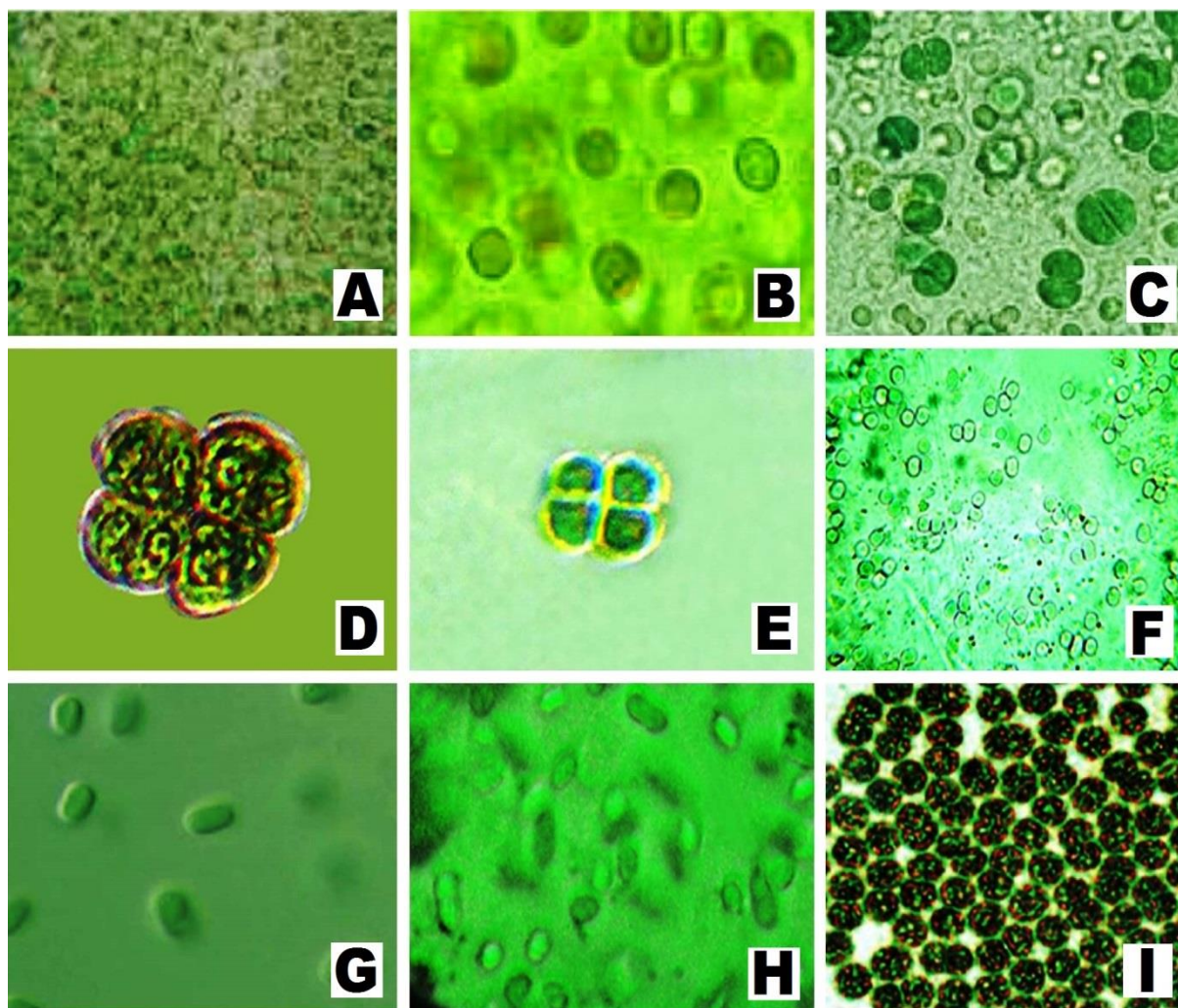


Figure 2. A, *Microcystis aeruginosa*; B, *Microcystis flos-aquae*; C, *Chroococcus minutus*; D, *C. varius*; E, *C. minor*; F, *Aphanocapsa grevillei*; G, *A. Montana*; H, *Aphanothece microscopica*; I, *Coelosphaerium kuetzingianum*.

Colonies roughly spherical or somewhat elongate not clathrate; cells spherical, with gas-vacuoles.

Dimensions: Cells 3.1–3.2 micron in diameter.

Distribution: Planktonic in Ganga water.

Chroococcus Nag.

3. *Chroococcus minutus* (Kutz.) Nag. Forti in De Toni op. cit., 5:14, 1907; Geitler, op. cit., 232, Fig. 112a, 113c, 1932; Desikachary, op. cit., 103, Pl. 24, Fig. 4, 1959. (**Fig. 2C**)

Cells spherical or oblong; single or in groups of 2-4, light blue-green; sheath not lamellated, colourless.

Dimensions: Cells 4.0–8.9 micron in diameter; cells with sheath 6.2–12.8 micron in diameter.

Distribution: In stagnant Ganga water in ditches.

4. *Chroococcus varius* A.Br. Forti in De Toni, op. cit., 5:21, 1907; Geitler, op. cit., 236, Fig. 114a, 1932; Desikachary, op. cit., 107, Pl. 24, Fig. 5, 1959. (**Fig. 2D**)

Thallus gelatinous, dirty olive green; cells globular sheath apparently thick, indistinctly lamellated; colourless or yellowish.

Dimensions: Cells without sheath 2.2–3.4 micron in diameter; with sheath 6.0–8.4 micron in diameter.

Distribution: On walls of the Ganga Bridge.

5. *Chroococcus minor* Forti in De Toni, op. cit., 5:23, 1907; Geitler, op. cit., 240, Fig. 116g, 1932; Desikachary, op. cit., 105, Pl. 24, Fig. 1, 1959. (**Fig. 2E**)

Thallus slimy-gelatinous, dirty blue-green; cells spherical, singly or in pairs; sheath colorless, very thin.

Dimensions: Cells with sheath 4.0–4.2 micron in diameter, cells without sheath 3.0–3.4 micron in diameter.

Distribution: In stagnant Ganga water, in sand and water culture.

Aphanocapsa Nag.

6. *Aphanocapsa grevillei* (Hass) Rabenhorst Prescott. op. cit., Pl. 101, Figs 15,16, 1951. (**Fig. 2F**)

Colony free-floating, spherical or in age irregularly shaped; cells in pairs, in groups of four and crowded, evenly dispersed through colourless mucilage blue-green with pseudovacuoles.

Dimensions: Cells 3.8–5.0 micron in diameter.

Distribution: In Ganga water.

7. *Aphanocapsa montana* Cramer. Forty in De Toni, op. cit., 5:72, 1907; Geitler, op. cit., 159, 1932; Desikachary, op. cit., 135, Pl. 20, Fig. 8, 1959. (**Fig. 2G**)

Thallus of no definite shape, gelatinous, yellow-green, or blue-green, cells spherical; mucilage colourless diffluent.

Dimensions: Cells 2.8–3.2 micron in diameter.

Distribution: On submerged objects in Ganga water.

Aphanothece Nag.

8. *Aphanothece microscopica* Nag. Forti in De Toni, op. cit., 5:83, 1907; Geitler, op. cit., 172, Fig.79, 1932; Desikachary, op. cit., 142, Pl. 22, Figs. 4,5,9, 1959. (**Fig. 2H**)

Thallus small, gelatinous; cells oblong cylindrical.

Dimensions: Cells 4.2–4.5 micron broad; 7.8–8.4 micron long.

Distribution: On submerged soil on the banks of River Ganga.

Coelosphaerium Nag.

9. *Coelosphaerium kuetzingianum* Nag. Forti in De Toni op. cit., 5:100, 1907; Geitler, op. cit., 253, Fig. 121c,d 1932; Desikachary, op. cit., 148, Pl. 28 Figs. 7,8, 1959. (**Fig. 2I**)

Colony more or less spherical with a thin colonial mucilage envelope; cells spherical or sub-spherical, cells loosely arranged.

Dimensions: Colony 45.0–50.1 micron in diameter; Cells 2.3–2.8 micron in diameter.

Distribution: Mix with other algae in muddy places on the bank of river Ganga.

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