

EIGHT SPECIES OF *BLASTOCLADIA* REPORTED FROM BHOPAL (MADHYA PRADESH) INDIA

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ABSTRACT

Bhopal is situated in Madhya Pradesh and remarkable for number of lakes. Lower lake is one of these lakes and situated among the hills of Bhopal. During investigation period identification of some species of order Blastocladiales i.e *Blastocladia arborata*, *B.aspergilloides*, *B.angusta*, *B.globosa*, *B.incrassata*, *B.pringshemii*, *B.prolifera* and *B.sparrowii* done. It shows variation in size, shape, structure of zoosporangia and presence or absence of resting spores.

KEYWORD: Lake water, Blastocladiales.

INTRODUCTION

Present paper deals with largest family Blastocladaceae of order Blastocladiales. Species of this family are worldwide in distribution. They are characterized by a large tree-like thallus high or long in some species, which consist of short or long trunk or central axis, bearing branches at its apex and anchored to the substratum by a system of branched rhizoids or holdfast. Members of Blastocladiales are categorized by posteriorly uniflagellate planospore, which produced in thin - walled zoosporangia and germinate with papillae or short tubes. Details of each isolate are presented by camera lucida drawing and photos also.

METHOD

Fruits like apple, plum, pears, guava and leaves used as bait, placed in nylon bags for 15 to 30 days in the lake (S.B. Saksena and Raja Gopalan, 1958). Withdraw the sample i.e bait at regular intervals from the lake and brought to the laboratory. Wash the sample (bait) in sterile

distilled water. White and black coloured thick spots growth on the pericarp of fruit, pick up the spots from pericarp and spread carefully on sterile slide, stain with lactophenol, place cover slip with the help of needle. Press properly and mount with DPX, Now observed and identified with help of compound microscope. The fungal forms were identified up to species level with the help of monographs, manuals, relevant research papers and publication of eminent scientists.

DESCRIPTIONS OF SPECIES

1) *Blastocladia arborata* Das Gupta and John.

Indian Phytopathology 41(4) : 521-547, 1988.

A Manual of Aquatic Fungi, p. 15-16, 2001.

(Plate 1, Fig. 1; Plate 2, Fig. 1).

Whole thallus up to 385 μm high, thallus swollen at base and wide at crown, basal cell 120 μm long and 30 μm in diameter with swollen base, the distal end dividing dichotomously usually forming two divergent cylindrical appearing as cleft thallus, sporangia borne terminally on small protuberances, apex convex, 30 μm long and 15 μm in diameter, discharge pore forming at the tip.

2) *Blastocladia aspergilloides* Crooks.

Chytridiomycetearum Iconographia p. 354 -355, 1973.

(Plate 1, Fig. 2 ; Plate 2, Fig. 2).

Unbranched thalli with inflated apices bearing long and narrow cylindrical zoosporangia 21.87 μm long and 7.81 μm in diameter and a few sterile setae present.

3) *Blastocladia angusta* Lund.

Chytridiomycetearum Iconographia, p. 354, 1977.

Kgl Danske Seinile, Skrift, Naturv.

Math. Afd, **6**: 44,1934.

A Manual of Aquatic Fungi, p. 15, 2001.

(Plate 1, Fig. 3 ; Plate 2, Fig. 3).

Thallus cylindrical, branched 175 μm to 400 μm , proximal part swollen, bearing cylindrical long sessile smooth walled hyaline zoosporangia, basal cell cylindrical 110 μm -115 μm X 22 μm - 28 μm , rhizoids hairy branched.

4) *Blastocladia globosa* Kanouse.

Amer., J. Bot. **14** : 298,1927.

A Manual of Aquatic Fungi, p. 22-23, 2001.

(Plate 1, Fig. 4 ; Plate 2, Fig. 4).

Basal cell globosa 240 μm long and 120 μm in diameter with large irregular expanded lobe 85-95 μm wide and 10-12 μm in diameter, whole plant 240 μm long, sporangia 110-130 μm long by 35-40 μm broad, resting spores not observed.

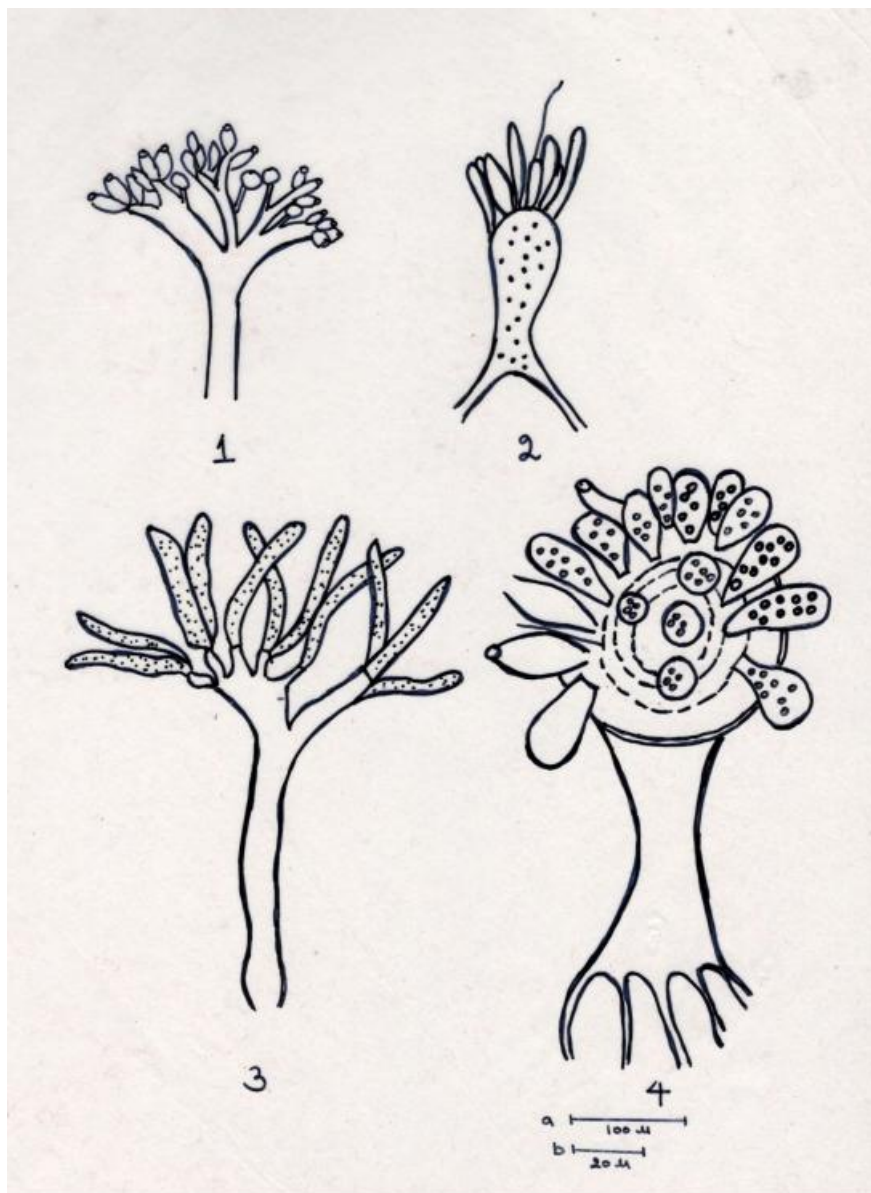
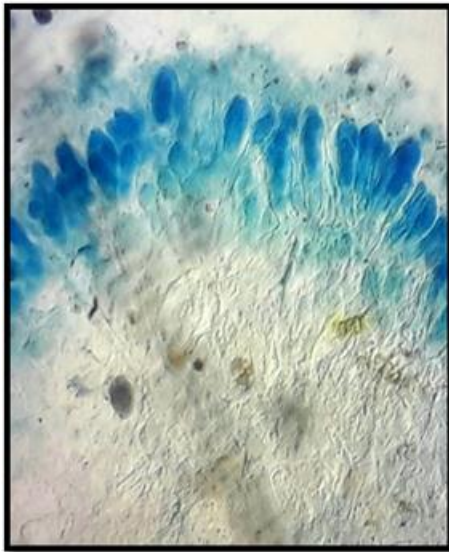
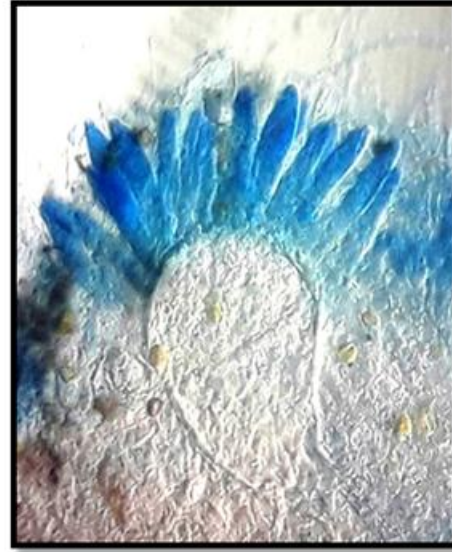
PLATE – 1

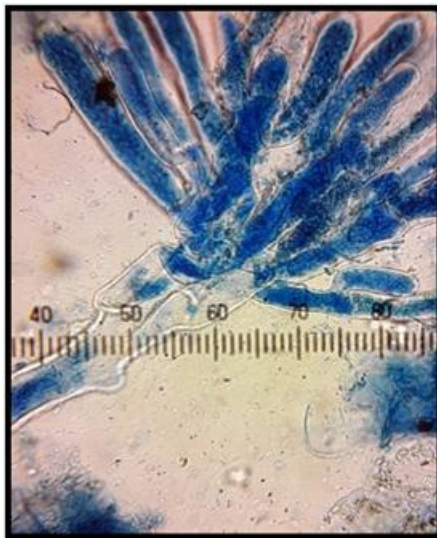
PLATE - 2



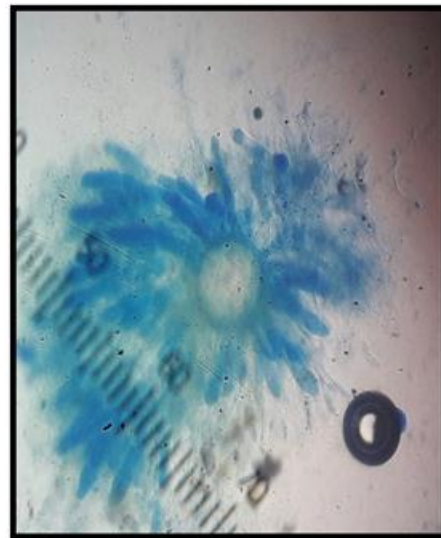
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5) *Blastocladia incrassata* (Indoh) Das Gupta and John.

Science Report, Tokyo Bunrika Daigu, Sect. B, 4: 232, 1940.

A Manual of Aquatic Fungi, p. 24-25, 2001.

(Plate 3, Fig. 5 ; Plate 4, Fig. 5).

Whole thallus up to 450 μm in length, basal body cylindrical, smooth thin walled 365 μm long X 40 μm in diameter, end divides dichotomously into 3-4 main axes, each 25-35 μm wide, holdfasts arising from the basal end, sporangia terminal 52 μm long with 25 μm in diameter, resting spore not found.

6) *Blastocladia pringsheimii* Reinsch.

Iconographia Chytridiomycetearum p. 348-350, 1973.

Jahrb, wiss Bot. II: 298, 1878.

A Manual of Aquatic Fungi, p. 27, 2001.

(Plate 3, Fig. 6 ; Plate 4, Fig. 6).

Thallus 560 - 700 μm , stout, variable in size, basal cell 310 μm long x 85 μm in diameter, generally cylindrical with swollen lobes on its distal part, zoosporangia 110 μm long X 22 μm in diameter not proliferating, empty sporangia, sporangia on the tip of the branches cylindrical, 244 μm long and 35 μm in diameter, abundant resting spores, spherical with 42.5 μm in diameter, long setae present.

7) *Blastocladia prolifera* Minden.

Chytridiomycetearum Iconographia, p. 352-353, 1977.

(Plate 3, Fig. 7; Plate, 4 Fig. 7).

Thallus 450-650 μm with proliferating zoosporangia, basal cell branched at apex, zoosporangia cylindrical in shape 350 μm long by 10-60 μm in diameter, the zoosporangia proliferate up to 5 times occurs commonly planospores vary in size.

8) *Blastocladia sparrowii* Indoh.

Chytridiomycetearum Iconographia, p. 354 -356, 1977.

Science Rept. Tokyo Bunrika Daigake. Sec. B,4 :259, 1940.

A Manual of Aquatic Fungi, p. 30, 2001.

(Plate 3, Fig. 8 ; Plate 4, Fig. 8).

Whole plant is 452-504 μm long, basal cell cylindrical, 132 μm long and 6 μm in diameter wall smooth expanded giving rise to cylindrical sub dichotomously arranged lobes, setae absent, two types of sporangia bigger empty ones and smaller ones filled with content, smaller sporangia 90 μm long and 32 μm diameter, bigger ones cylindrical narrow tips having prominent apical papillae 120 μm long and 25 μm in diameter, resting spores not observed.

PLATE – 3

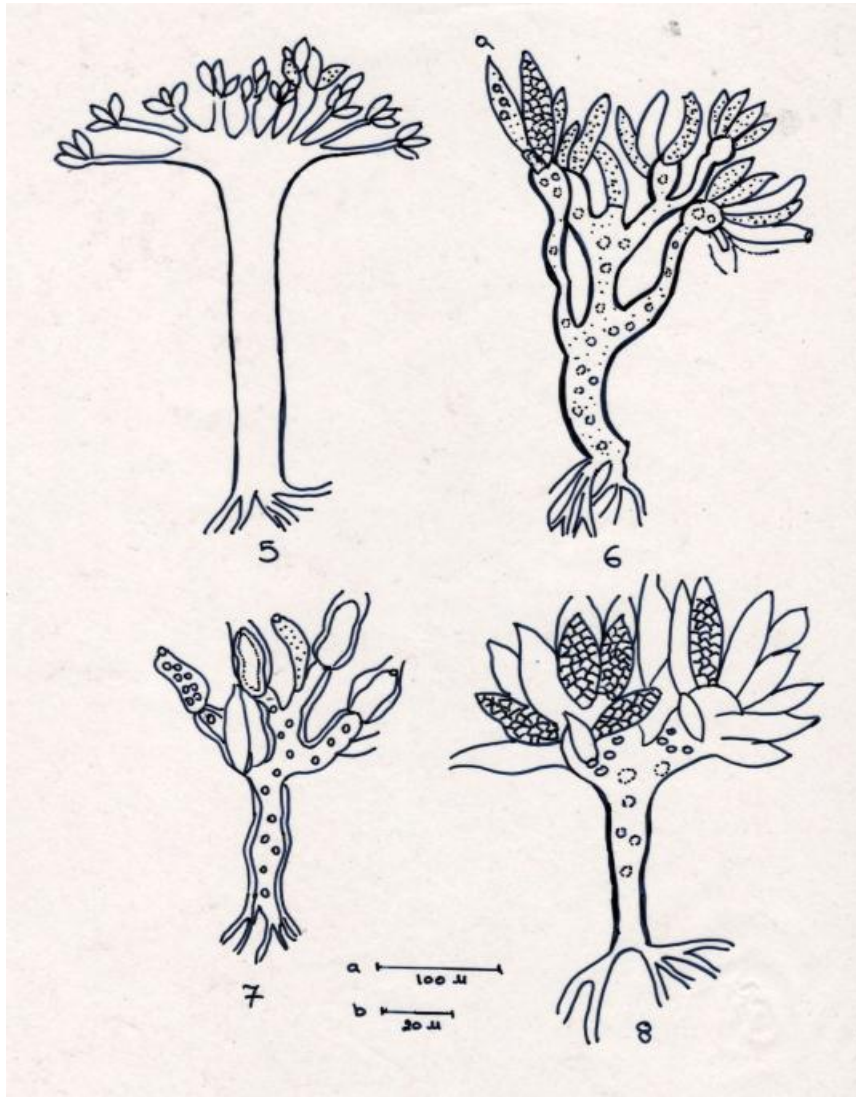
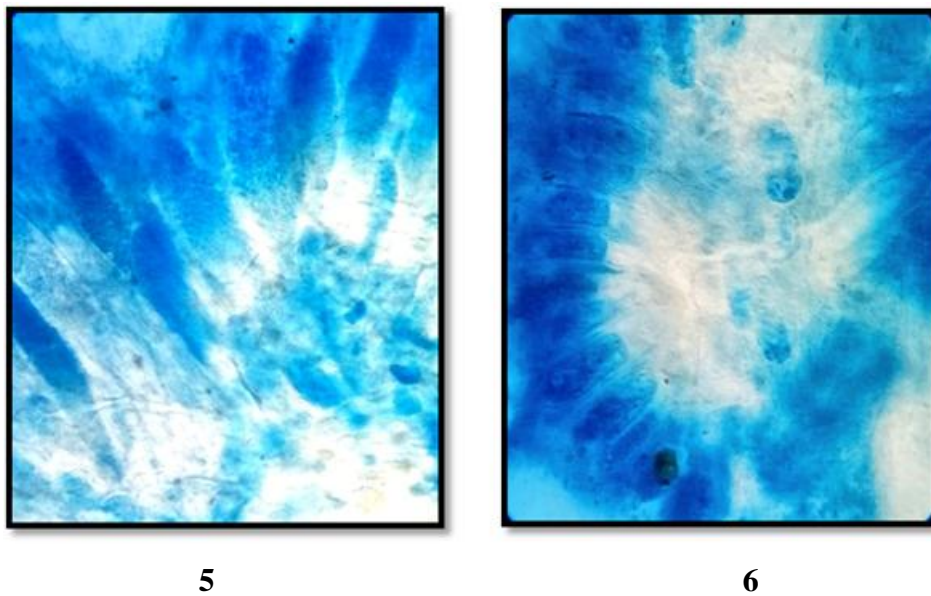
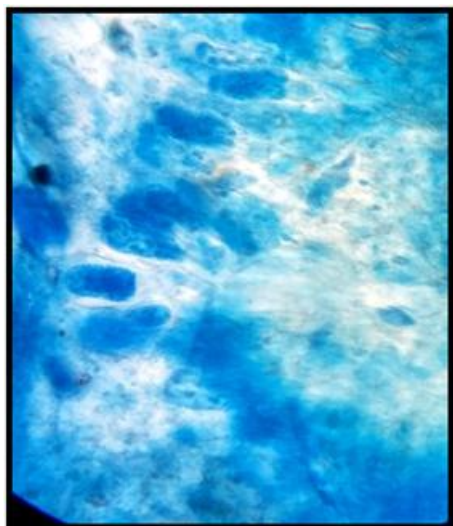


PLATE - 4





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