



ORIGINAL RESEARCH PAPER

Botany

ADDITION TO THE EUGLENIDS FLORA-II OF MARATHWADA, MAHARASHTRA

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ABSTRACT

While working on algal taxonomy of Latur district during January 2017 to December 2018 the author came across some interesting members of Euglenoids i.e. *Euglena*, *Lepocinclis*, *Phacus* and *Trachelomonas*. A total of 60 taxa under 4 genera of Euglenoids have been encountered from the various habitats like pools, ponds, streamlets, streams, polluted water passages (gutter) and puddles. Euglenoids were most dominant in polluted water passages, followed by pools, streams, ponds, puddles, and streamlets. As far as seasonal variation, the members of Euglenoids were recorded in all seasons; maximum numbers of species were found in summer season followed by winter and monsoon. The present paper deals with the systemic enumeration of *Phacus* (25).

INTRODUCTION:

Review of literature reveals that, studies on algal taxonomy in abroad and in India have been done extensively by many research workers. India has a very rich and diversified algal flora. In Maharashtra tremendous work has been done on algal taxonomy by various workers. In Marathwada region of Maharashtra except few reports (Ashtekar 1979a, Anshale 2008, Talekar 2009) very rare attention has been paid towards algal taxonomy, although the climatic conditions of Marathwada region are most suitable to grow algae luxuriantly and in diverse form, therefore to fulfil this lacuna, it has been decided to work on algal taxonomy of Latur district in Marathwada region of Maharashtra.

MATERIALS AND METHODS:

The present investigation was carried out by visiting various selected habitats like pools, ponds, streamlets, streams, polluted water passages (gutter) and puddles. The algal samples were collected during January 2017 to December 2018. The algal collections were made regularly from selected sampling stations. Acid washed collection bottles were used for the collection of algal samples. On return to the laboratory from field, the collections were carefully observed under the microscope and important points were noted. All collections were preserved in 4% commercial formalin added with 5% glycerine. Identification of algal taxa was performed by referring to the standard literature on algae. Collins (1928), Philipose (1967), Prescott (1951), Smith (1951), Tiffany and Britton (1952), Scott and Prescott (1961).

SYSTEMIC ENUMERATION: PHACUS Dujardin, 1841

***Phacus acuminatus* Stokes:**

Cells broad ovoid; broader in the posterior part, posterior part suddenly tapering in a short wedge shaped tail; periplast longitudinally striated; chromatophores many, small, discoid; paramylon 1-2, ring like discs; cells 23.8-25.2µ in diameter, 32.5-35µ long.

***Phacus acuminatus* Stokes v. *granulata* (Roll) Huber Pestalozzi:**

Cells broad ovoid; broader in the posterior part, posterior part suddenly tapering in a short, curved, pointed tail; periplast longitudinally striated, striations with granulations; chromatophores numerous, discoid; paramylon bodies 2, ring like discs; cells 28-29µ in diameter, 32-35µ long.

***Phacus acuminatus* Stokes v. *megapyrenoidia* (Roll) Pochmann:**

Cells broadly suborbicular, flattened with rounded notched; anterior end broad, posterior part suddenly tapering in a short, blunt, wedge-shaped inclined tail; periplast longitudinally striated; chromatophores many, discoid; paramylon ring single, large filling the maximum space of the cell; cells 19-21.2µ in diameter, 25-27.2µ long.

***Phacus aenigmaticus* Drez:**

Cells pyriform; anterior end rounded with a notch, middle region of cell broad, posterior part narrowed into a short, sharp tail; periplast spirally striated; chromatophores many, small, discoid; paramylon bodies 2, lateral, mussel-shaped; cells 10-11.5µ in diameter, 22.5-24.8µ long.

***Phacus anacoelus* Stokes:**

Cells broadly ovoid; narrowed abruptly posteriorly to form a short tail; periplast longitudinally striated; chromatophores many, small, discoid; paramylon bodies 1-2, circular plates; lateral margins of cells with 2-3 creases, the membrane convex between the indentations; cells 20-22µ in diameter, 30-32.5µ long.

***Phacus angulatus* Pochmann:**

Cells nearly triangular; posterior end inflated, inclined, anterior end gradually attenuated; periplast longitudinally striated; chromatophores many, discoid; paramylon bodies 2-4, disc-like; cells 25-26.5µ in diameter, 29-31.5µ long.

***Phacus ankylonoton* Pochmann:**

Cells oval in outline, with a dorsal notch; Posterior part abruptly narrowed ending into a sharp, slightly curved tail; periplast longitudinally striated; chromatophores many, discoid; paramylon bodies 2, ring like, anterior one large, centrally located, other one towards tail; margins with several notches; cells 10-12.6µ in diameter 25-27.5µ long.

***Phacus anomalus* Fritsch et Rich:**

Cells wedge shaped; posterior part ending in a short tail, anterior end with a groove; periplast longitudinally striated; chromatophores numerous, discoid; paramylon bodies 2-3, rod shaped; cells 17.5-18.8µ in diameter, 22.5-25µ long.

***Phacus arnoldii* Swir.**

Cells roundish oval; anteriorly rounded, posteriorly narrowed with slightly curved tail; periplast more or less spirally striated; chromatophores many, small, discoid; paramylon bodies 2, oppositely and laterally placed towards the tail; cells 14-16.5µ in diameter, 22.5-23µ long.

***Phacus brachykentron* Pochmann:**

Cells nearly ovoid or oblong, posterior part tapering suddenly into a slightly inclined, short tail; periplast longitudinally striated; chromatophores many, discoid; paramylon body 1, disc like; cells 17.2-18.8µ in diameter 25-26.5µ long.

***Phacus brevicaudatus* (Klebs) Lemmermann:**

Cells broad ovoid; posterior end with a very short acute, blunt-tail; periplast longitudinally striated; chromatophores numerous, small, discoid; paramylon bodies 2, ring-like discs; cells 27.5-28.8µ in diameter, 30-34.8µ long.

Phacus carinatus Pochmann:

Cells broadly ovoid; posterior part ending into a sharp-pointed tail; periplast longitudinally striated; chromatophores many, small, discoid; paramylon bodies 2, disc-like, anteriorly situated; cells 20-22.5µ in diameter 25-28.2µ long.

Phacus caudatus Huebner:

Cells ovoid-pyriform, spirally twisted; posteriorly forms a straight sharp, tail; broadly rounded anteriorly; periplast longitudinally striated; paramylon body 1, large, disc like; cells 15-16.5µ in diameter 32-35µ long.

Phacus granum Drezepolski:

Cells approximately cylindrical, slightly flattened, posterior part ending in to a blunt, tail, anterior end with very much short furrow; periplast longitudinally striated; chromatophores numerous, small, discoid; paramylon bodies 2, short-cylindric; cells 6.8-11.5µ in diameter 15.2-18.5 µ long.

Phacus helicoides Pochmann:

Cells elongate fusiform, twisted anterior end narrowing bilobed; posterior end tapering into a spirally twisted, long, straight, tail; margins entire with 2-3 bulges of twisted part; periplast longitudinally striated; chromatophores many, small discoid; paramylon body single, large, central ring; cells 19-21.2µ in diameter, 55-57.8µ long.

Phacus longicauda (Ehrenb.) Dujardin:

Cells broadly ovoid to pyriform; posteriorly tapering gradually in to a long, straight or curved, sharply pointed tail; anteriorly broadly rounded; periplast longitudinally striated; chromatophores many, discoid; paramylon body 1, large, circular plate; cells 25-28; 2µ in diameter, 74-78.2µ long.

Phacus longicauda (Ehrenb.) Dujardin v. insecta Huber-Pestalozzi:

Cells broadly ovoid; anterior end broadly rounded; posterior end tapering into a long, short, pointed tail; margins usually with 2 deeply notches at the anterior region with undulations, posteriorly; periplast longitudinally striated; chromatophores many, small, discoid; paramylon body single, large, central ring; cells 30-32.5µ in diameter, 70-77.5µ long.

Phacus longicauda (Ehrenberg) Dujardin v. rotunda Pochmann:

Cells ovoid; anterior end rounded posterior end tapering into a long straight, pointed tail; margins entire; periplast longitudinally striated; chromatophores many, small, discoid; paramylon body single, large, central; cells 25-27.5µ in diameter, 75-81.2µ long.

Phacus onyx Pochmann:

Cells asymmetrical ovoid, trapezium like, broader in the posterior part, ending in a short curved, pointed, tail, anterior end with a notch; periplast longitudinally striated; chromatophores many, small, discoid; paramylon body 1, cylindrical; cells 24-25.8µ in diameter 27-28.8µ long.

Phacus orbicularis Huebner:

Cells orbicular in outline, with a short, curved tail; broadly rounded anteriorly; periplast longitudinally striated; chromatophores many, small, discoid; paramylon bodies 2, large, disc, like; cells 29-32.2µ in diameter, 35.5-40µ long.

Phacus pleuronectes (O.F.M.) Dujardin

Cells broadly suborbicular; anterior and rounded, posterior end tapering into sharp, pointed tail; periplast longitudinally striated; chromatophores many, small, discoid; paramylon bodies two, circular; cells 20-26.5µ in diameter 30-36.2µ long.

Phacus pyrurum (Ehrenb.) Stein

Cells ovoid; narrowed gradually posteriorly to a long, straight, finely pointed tail; anteriorly broadly rounded, with 2 papillae;

periplast spirally ribbed; chromatophores many, small, discoid; paramylon bodies 2, ring like plates, laterally situated; cells, 10-12.2µ in diameter, 20-25.2µ long.

Phacus tortus (Lemm.) Skvortzow

Cells broadly fusiform or napiform; broadest in the middle portion, conically rounded at the anterior end; spirally twisted in the posterior part to from a long, straight tail; periplast spirally striated; chromatophores many discoid; paramylon bodies 1-2, large, centrally located, circular plates; cells 30-33.2µ in diameter 60-68.5µ long.

Phacus trypanon Pochmann

Cells elongated, oval and twisted; anterior end broadly rounded with a median notch; posterior end tapering into a long tail; periplast spirally striated, running to right; chromatophores many, small, discoid; paramylon bodies 2, cup shaped discs, lateral, cells 13-14.8µ in diameter 25-30.2µ long.

Phacus undulatus (Skv.) Pochmann

Cells broadly ovoid; posterior part with short, strong slightly curved tail anterior end broadly rounded, bilobed; periplast longitudinally striated; chromatophores many, small, discoid; paramylon bodies 1-2, large, ring-like; lateral margins with 2-3, creases; cells 30-33.2µ in diameter 40-45.3µ long.

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