SOME CHLOROCOCCEAL ALGAE FROM JAYAKWADI BIRD SANCTUARY OF MAHARASHTRA

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Twenty two taxa of fresh water algae belonging to Class Chlorophyceae (order- Chlorococcales) have been described from four different locations of Jayakwadi Bird Sanctuary at Paithan, Maharashtra State. These taxa belong to 6 genera viz Oocystis, Selenastrum, Ankistrodesmus, Actinastrum, Coelastrum and Scenedesmus. All these taxa are being reported for the first time from the Sanctuary.

Key words: Algae, Chlorophyceae, Chlorococcales, Jayakwadi Bird Sanctuary, Maharashtra.

About 50 kms away from Aurangabad (Maharashtra), at Paithan is a dam, known as Jayakwadi project. The water body known as ‘Nathsagar’ has been declared by Govt. of Maharashtra as ‘Bird Sanctuary’ in 1986. The water body is about 55kms in length and 27 kms in width with 25-28% area is shallow, depth is less than one meter. This region of water body is biologically active, having large number of flora and fauna. Several angiospermic plants and large number of unexplored algae were observed in this area. Therefore, the study of vegetation of the water body was undertaken during years 2005-2008.

MATERIALS AND METHODS

Random sampling technique has been applied for algal collection. Four locations of the Nathsagar water body viz. Kaigaon, Bramhganam, Dhakephal and Nathasagar North were selected. Sample collections were made during 3 consecutive years (2005-2008), from November to March. The algal samples were preserved in 4% formalin and slides were prepared by staining with iodine and mounted in glycerine.

Systematic descriptions
Identification of taxa carried out using Philipose (1967) and other relevant literature.

Order - Chlorococcales
Family- Oocystaceae
Subfamily- Oocystoideae

1) Oocystis borgei Snow
Cells 9-13µ broad, 9-18µ long. Usually in 2-8 celled colonies. (Pl. 1, Fig. 1) Collection Number and Date: JK-48/3 (15-12-07), JNN-7/2 (25-12-05) Locality-Kaigaon, Nathsgar North.

2) O. solitaria Wittrock
Cells 15.7-17.6 in size. (Pl. 1, Fig. 2) Collection Number and Date: JD-32/3 (10-03-07) Locality- Dhakephal

Family: Selenastraceae

3) Selenastrum bibraianum Reinsch
Cells 5-8µ broad, 16-38 µ long. Colonies of 2-4-8-16 or more cells. (Pl. 1, Fig. 3) Collection Number and Date: JB-16/3 (04-12-05) Locality- Bramhganam
4) *Ankistrodesmus falcatus* (Corda) Ralfs.
   Cells 6.3 µ broad, 113.4 µ long. Colony of 4 cells. (Pl.1, Fig. 4) **Collection Number and Date**: JB-184/5 (02-03-08), JK-4/2 (20-11-05) **Locality**: Bramhgavan, Kaigaon

5) *A. falcatus* (Corda) Ralfs v. *radiatus* (Chod.) Lemmermann
   Colonies of 8 cells, 2.5 µ broad and 94 µ long. (Pl.1, Fig. 5) **Collection Number and Date**: JB-14/4 (04-12-05) **Locality**: Bramhgavan

6) *A. spiralis* (Turner) Lemmerman v. *fasciculatus* G. M. Smith
   Colonies of 8 cells, Cells 6 µ broad, 65 µ long, and colonies 140 µ in diameter. (Pl.1, Fig.6) **Collection Number and Date**: JD-5/2 (13-01-08) **Locality**: Dhakephal

7) *Actinastrum hantzschii* Lagerheim
   Cells 3-5µ broad, 5-25µ long, colonies up to 45 µ in diameter. (Pl.1, Fig. 7) **Collection Number and Date**: JB-5/4 (06-11-05), JNN-22/5 (26-03-06) **Locality**: Nathsagar North

**Family: Coelastraceae**

8) *Coelastrum cambricum* Archer v. *intermedium* (Bohlin) West
   Cells 20 µ and colonies upto 100 µ in diameter. Colonies coenobial, free floating, with 32 globose cells. (Pl.1, Fig.8) **Collection Number and Date**: JB-276/5 (3-2-08), JD-18/5 (12-3-06) **Locality**: Bramhgavan, Dhakephal

9) *C. microporum* Naegeli
   Cells 6-20 µ and colonies 30-90 µ in diameter. Colonies of 8-32 cells. (Pl.1, Fig. 9) **Collection Number and Date**: JK-5 (20-11-05), **Locality**: Kaigaon

10) *Scenedesmus arcuatus* (Lemm.) Lemmermann
    Cells 3.8µ broad, 8.8 µ long. Colonies of 8-celled. (Pl.1, Fig.10) **Collection Number and Date**: JB- 11 (06-11-05), **Locality**: Bramhgavan

11) *S. arcuatus v. capitatus* G.M. Smith
    Cells 9.4µ broad, 15µ long. Colonies curved 8-celled (Pl.1, Fig.11) **Collection Number and Date**: JB- 50 (06-01-07), **Locality**: Bramhgavan

12) *S. armatus v. major* G.M. Smith
    Cells 8.1µ broad, 25.2µ long, spines 17.6µ long, Colonies 4-celled. (Pl.1, Fig. 12) **Collection Number and Date**: JB-57/2 (03-02-07), **Locality**: Bramhgavan

    Cells 3.4µ broad, 7.5µ long. Colonies 8 celled. (Pl.1, Fig. 13) **Collection Number and Date**: JD-2/3 (13-11-05) **Locality**: Dhakephal

14) *S. diamorphus* (Turp.) Kuetz.
    Cells 9.4µ broad, 31.5µ long. Colonies 4-celled. (Pl.1, Fig. 14) **Collection Number and Date**: JD-49/2 (10-02-08) **Locality**: Dhakephal

15) *S. diamorphus f. tortus* G.M.Smith
    Cells 6.3µ broad, 25.6µ long. Colonies 4-celled. (Pl.1, Fig. 15) **Collection Number and Date**: JD-49/3 (10-02-08) **Locality**: Dhakephal

16) *S. falcatus* Chodat v. *maior* Kamat
    Colony composed of 8 cells. Cells 8µ in diameter, 32µ long. (Pl.1, Fig. 16) **Collection Number and Date**: JD-49/3 (10-02-08) **Locality**: Dhakephal

17) *S. opoliensis* P. Richter
    Cells 5.2 µ broad, 19.3 µ long, and spines 14.6 µ long. Colonies 2-celled. (Pl.1, Fig. 17) **Collection Number and Date**: JD-49/4 (10-02-08) **Locality**: Kaigaon

18) *S. opoliensis v. mononensis* Chodat
    Cells 5 µ broad, 22 µ long. Spines of terminal cells 18.9µ long. Colony 8 celled. (Pl.1, Fig. 18) **Collection Number and Date**: JK-34/3 (20-01-
07). **Locality**- Kaigaon

19) **S. protuberans** Fritsch et. Rich f. *minor* Ley
   Cells 5µ broad, 18.9µ long. Colonies usually
   4-celled. *(Pl.1, Fig. 19)* **Collection Number and**
   **Date:** JK-62/4 (17-02-08), **Locality**- Kaigaon

20) **S. quadricauda** v. *bicaudatus* Hansg.
   Cells 4-5 µ broad, 8-12 µ long, Colonies 4-
   celled. *(Pl.1, Fig. 20)* **Collection Number and**
   **Date:** JNN-38/1(27-01-07), **Locality**- Nathsagar North

21) **S. quadricauda** v. *longispina* (Chodat.)
    G.M. Smith
   Cells 3.7µ broad, 12.6µ long. Colonies
   usually 4-celled, rarely 8-celled. *(Pl.1, Fig. 21)*
   **Collection Number and Date:** JNN-92/1 (24-
   02-08), **Locality**- Nathsagar North

22) **S. quadricauda** v. *quadrispina* (Chodat.)
    G.M. Smith
   Cells 7.5 µ broad, 22 µ long, and spine 7 µ
   long. Colonies 2-celled, *(Pl.1, Fig. 22)* **Collection Number and**
   **Date:** JNN-95/4 (23-
   03-08), **Locality**- Nathsagar North

**DISCUSSION**

From Marathwada area studies on algae
were carried out earlier by Kamat (1973, 1974),
Sarode and Kamat (1979, 1980 and 1983) and
Ashtekar (1980). However, the algal flora of
Jayakwadi Bird Sanctuary has not been studied
so far and this is the first report. Earlier the
authors (2008) have described 16 species of
**Pediastrum** belonging to Chlorococcaceae from
this water body.

In the present study, twenty two taxa,
represented by 6 genera of Chlorococcaceae
have been reported from this water body. Genus
**Oocystis**, **Ankistrodesmus**, **Actinastrum**,
**Coelastrum** and **Scenedesmus** have been
recorded from two different locations of study,
while genus **Selenastrum** is recorded from one
location only. Genus **Scenedesmus** is represented
by 8 species, 7 varieties and 3 forms. **Oocystis**, **Ankistrodesmus** and **Coelastrum** are represented
by 2 genera each. Genus **Ankistrodesmus** is
represented by 2 varieties, while **Coelastrum** is
represented by 1 variety. **Actinastrum** and
**Selenastrum** are represented by 1 species each.
All these taxa are being reported for the first time
from this area.

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