



## Oocystacean algae at Jayakwadi (Paithan), Maharashtra State, India.

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**Abstract:** The members of Oocystaceae family from Jayakwadi Bird Sanctuary (Nathsagar water reservoir), Paithan, Maharashtra, India were investigated from 2008 to 2011. Algal samples were collected from 4 different locations on southern side of the water body. Present paper reports the diversity of Oocystaceae family including 09 species of *Oocystis* at the water reservoir.

**Key words:** Oocystaceae; Jayakwadi; Paithan

### Introduction

Jyakwadi project constructed on River Godavari at Paithan is about 50 kms away from Aurangabad. The water reservoir of the dam is known as “Nathsagar”, which is about 55 kms in length and 27 kms in width. The water body has large number of algae, aquatic angiosperms, fishes and other aquatic animals. Every year during winter season, a large number of migratory birds of different types visit the water body. Considering this fact, the Government of Maharashtra has declared the Nathsagar water reservoir as “Jayakwadi Bird Sanctuary”. A survey of the algae was carried out at four locations of Nathsagar water reservoir, during the years 2008-2011. The members of Oocystaceae observed during the investigation are described in this paper.

### Materials and Methods

Random sampling technique has been used for the collection of algal samples. Four locations of the Nathsagar water body viz Dahiphall (75°15'650" E longitude and 19°26'221" N latitude), Pravara Sangam (75°00'801" E longitude and 19°36'281" N latitudes), Ramdoh (75°01'148" E longitude and 19°35'549" N latitudes) and Sonewadi (75°20'750" E longitude and 19°26'431" N latitudes); situated on southern side of the water reservoir were selected for the present study. Sample collections were made during the period for 3 consecutive years (2008-2011). The algal samples were preserved in 4% formalin. Identification of taxa carried out by using Philipose (1967), Prasad and Misra (1992), Prescott (1951), Dhande (2013) and other relevant literature.

### Results and Discussion

**Family:** Oocystaceae

**Sub Family:** Oocystoideae

**Genus:** *Oocystis* Naegeli

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#### *Oocystis borgei* Snow

Philipose, 1967, p 183, f 93

Cells broadly ellipsoid with rounded ends. Poles not thickened. Chloroplast 1-4, parietal, each with a pyrenoid. Cells 12.5 μ broad, 15 μ long, usually in 2-8 celled colonies, the enclosing envelope being more or less round and narrow.

**Locality:** Dahiphall

Coll. No. and Date: JD-240 (07/02/10)

#### *O. crassa* Wittrock

Philipose, 1967, p 181, f 91(b)

Cells solitary or in colonies of 2-4, ellipsoid, nearly twice as long as broad and with mammillary thickenings at the poles. Chloroplast parietal, fairly large, each cell with a pyrenoid. Cell 20 μ broad and 25 μ long.

**Locality:** Ramdoh; Sonewadi

Coll. No. and Date: JR-306 (18/04/10); JS-97 (22/03/09)

#### *O. ecballocystiformis* Iyengar

Philipose, 1967, p 186, f 99 (a)

Cells oblong, ellipsoid with broadly rounded ends. Cell membrane thick and without polar thickenings. Chloroplast parietal and disc shaped, each with a minute pyrenoid. Cells 22.5 μ broad, 15 μ long.

**Locality:** Dahiphall; Ramdoh

Coll. No. and Date: JD-111 (05/04/09); JR-248 (14/02/10)

#### *O. elliptica* W. West

Philipose, 1967, p 186, f 100 (b)

Colony 4 celled with envelope narrow and rarely solitary. Cells elongate-ellipsoid with broadly rounded ends which are not thickened. Chloroplast



numerous and in the form of parietal discs without pyrenoid. Cells 12.5  $\mu$  broad, 20  $\mu$  long.

**Locality:** Pravara Sangam; Ramdoh

Coll. No. and Date: JPS-50 (18/01/09); JR-250 (14/02/10)

***O. gigas*** Archer

Prasad and Misra, 1992, p 20, pl 2, f 3

Colonies of 4 cells; cells broadly ellipsoid with rounded ends poles not thickened; chloroplast parietal, discoid, pyrenoid not seen. Long cell. 25  $\mu$ m; lat cell 15  $\mu$ m.

**Locality:** Dahiphall; Pravara Sangam; Sonewadi

Coll. No. and Date: JD-245 (07/12/10); JPS-66 (15/02/09); JS-295 (04/04/10)

***O. irregularis*** (Petkof) Printz

Philipose, 1967, p 184, f 95

Cells irregularly ellipsoid to round and usually crowded towards one side. Cell wall thin and without apical thickenings. Chloroplast single, parietal, covering the cell completely and without a pyrenoid. Cells 17.5  $\mu$  broad, 25  $\mu$  long.

**Locality:** Dahiphall; Pravara Sangam

Coll. No. and Date: JD-267 (07/03/10); JD-111 (05/04/09); JPS-68 (15/02/09)

***O. naegelii*** A. Braun

Prasad and Misra, 1992, p 20, pl 2, f 11

Colonies 4 celled with closely fitting envelope; cell ovoid to oblong, without polar nodules; cell membrane thick; Chloroplast one in form of parietal plate, lacking pyrenoid. Long cell 22.5  $\mu$ m; lat cell 15  $\mu$ m.

**Locality:** Ramdoh; Sonewadi; Dahiphall

Coll. No. and Date: JR-84 (08/03/09); JS-116 (20/06/09); JD-270 (07/03/10)

***O. pyriformis*** Prescott

Prescott, 1951, p 246, pl 54, f 8

Cells broadly pyriform-ovoid, with a prominent apiculation at one pole, the other end broadly rounded; united in families of two or four; chloroplast massive and parietal with one pyrenoid; cells 15  $\mu$  in diameter, 17.5  $\mu$  long; colony 35  $\mu$  in diameter, 47.5  $\mu$  long.

**Locality:** Dahiphall; PravaraSangam; Sonewadi; Ramdoh

Coll. No. and Date: JD-361 (25/06/10); JPS-70 (15/12/09); JS-119 (20/06/09); JR-184 (09/01/11)

***O. solitaria*** Wittrock

Philipose, 1967, p 180, f 89 (a)

Cells solitary or in colonies of 2-4 or 8 cells, enclosed within the old mother cell wall; ovoid to ellipsoid, thick walled and with markedly thick polar nodules. Chloroplast numerous, parietal and discoid. Cells 17.5  $\mu$  broad, 25  $\mu$  long.

**Locality:** Dahiphall; Ramdoh; Sonewadi; PravaraSangam

Coll. No. and Date: JD-267 (07/03/10); JR-220 (17/01/10); JS-137 (25/06/09); JPS-130 (11/10/10)

## Conclusion

Genus *Oocystis* has been recorded from all 04 different locations of study area. *Oocystis pyriformis* and *O. solitaria* were present at all 04 locations of reservoir; *O. gigas* and *O. naegelii* were present at 03 locations; *O. ecballocystiformis*, *O. elliptica*, *O. crassa* and *O. irregularis* were present at 02 locations while *Oocystis borgei* was present at only one location of the reservoir

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