



OSCILLATORIACEAE AT NATHSAGAR WATER RESERVOIR PAITHAN - MAHARASHTRA

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ABSTRACT:

Aquatic plant diversity at Nathsagar water reservoir, Paithan, (Maharashtra) was carried out from Nov.2008 to Nov.2010. The samples were collected from 4 different locations on southern side of the water body. Algal species belonging to family Oscillatoriaceae were observed during the survey. The present paper reports the diversity of species of Oscillatoriaceae from the water reservoir. The species observed include species *Oscillatoria acuta*, *O. chlorine*, *O. cortiana*, *O. curviceps*, *O. formosa*, *O. limosa* and *O. proboscidea*.

KEYWORDS: *Oscillatoriaceae*, Nathsagar, Paithan, Maharashtra.

INTRODUCTION

Nathsagar water reservoir is located at Paithanon River Godavari, which is about 50 km's away from Aurangabad. The water reservoir is about 55 km's in length and 27 km's in width. The water body has large number of algae, aquatic angiosperms, fishes and other aquatic animals. In winter season large number of migratory birds of different types visits the reservoir every year, taking this fact into consideration the Government of Maharashtra has declared the water reservoir as "Jayakwadi Bird Sanctuary".

A survey of the algal diversity of the Nathsagar water reservoir was carried out at four locations during the years 2008-2010. Several algal species were noted from the water reservoir during the survey.

MATERIAL AND METHODS:

Algal species were collected from 4 locations of the water reservoir. These were Dahiphal (75°15'650" E longitude and 19°26'221" N latitude), PravaraSangam (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. The collections were made for two years 2008-09 and 2009-10 during months of November to March. The species were collected from the water reservoir and preserved in 1 liter capacity bottles with 4% formalin for further taxonomic investigations.

The identification was done with help of available literature such as floras and monographs [Ashtekar, (1980), Desikachary (1959), Dwivedi, *et. al.*, (2008), Kamat, (1963), Prasad and Srivastava, (1992), Prasad and Khanna, (1987), Rath and Adhikary, (2005), Shukla *et. al.*, (2009),]

RESULTS AND DISCUSSION

During present investigation 07 species of *Oscillatoria* were observed which are described as under.

Order: Nostocales

Family: Oscillatoriaceae

Genus: *Oscillatoria* Vaucher

Trichome of genus *Oscillatoria* Vaucher is single or forming a flat or spongy free-swimming thallus. Sheath is absent and rarely with more or less very delicate which is motile and mostly by a creeping movement causing rotation on the longitudinal axis. End of trichome is distinctly marked, pointed, bent like a sickle or coiled and more or less like a screw.

1) *Oscillatoria acuta* Bruhlet Biswas, orth. mut Geitler
Desikachary, 1959, p 240, pl 39, f 5

Trichomes are solitary, hardy, brittle not constricted at the cross walls; 90 μ long, usually quite straight, narrow at the apex, which may be straight but is more often abruptly bent aside; cells 3 μ long, contents bluish green, finely granular, sometimes with some larger granules close to the surface.

Locality : Dahiphal; Pravara Sangam; Ramdoh
Coll.No. and Date: JD- 165 (15/11/09); JPS- 319 (24/04/10); JR- 63 (08/02/09)

2) *Oscillatoria chlorina* Kuetz. ex Gomont
Desikachary, 1959, p 215, pl 40, f 4

Thallus very thin, green, trichome straight or curved, unconstructed at the cross walls; gas vacuoles absent; cells somewhat longer than broad, 7.5 μ long, cross walls not granulated; calyptra absent.

Locality : Dahiphal; Pravara Sangam; Sonewadi
Coll.No. and Date: JD-219 (11/01/10); JPS-65 (15/02/09); JS-181 (29/11/09)

3) *Oscillatoria cortiana* Meneghini ex. Gomont
Desikachary, 1959, p 233, pl 38, f 14

Thallus dull blue green; trichome straight, slightly constricted at the joints, gradually tapering at the ends, bent, not capitate, cells as long as broad, 7.5 μ long, septa not granulated; end cells obtuse, without calyptra.

Locality : Dahiphal; Pravara Sangam; Ramdoh
Coll.No. and Date: JD-187 (13/12/09); JPS-69 (15/02/09); JR-272 (14/03/10)

4) *Oscillatoria curviceps* Ag. ex Gomont
Desikachary, 1959, p 209, pl 38, f 2

Thallus light green; trichomes straight, bent at ends; very little attenuated; 15 μ broad; cells not constricted at cross walls, sometimes granulated; end cells flat rounded, not capitate.

Locality : Ramdoh; Sonewadi
Coll.No. and Date: JR-193 (20/12/09); JS-178 (19/11/09)

5) *Oscillatoria formosa* Bory ex. Gomont
Prasad and Srivastava, 1992, p 62, pl 9, f 5

Trichomes elongated, solitary or aggregated to form dark blue green masses almost straight, very gently attenuated towards slightly bent apices; cells quadrate or up to half times as long as broad, 5 μ long; cell contents bright blue green, homogenous without granules and gas vacuoles; end cell obtuse or bluntly rounded, non capitate, calyptra absent; cell wall thick, smooth.

Locality : Dahiphal; Pravara Sangam; Sonewadi
Coll.No. and Date: JD-168 (15/11/09); JPS-88 (15/03/09); JS-117 (20/06/09)

6) *Oscillatorialimosa* Ag. ex Gomont

Desikachary, 1959, p 206, pl 42, f 11

Thallus dark blue-green, trichome straight, not constricted at cross walls, commonly 15 μ broad; cells 1/3 to 1/6 as long as broad, 5 μ long, cross walls frequently granulated; end cells flatly rounded with slightly thickened membrane.

Locality : Ramdoh; Sonewadi

Coll.No.and Date: JR-62 (08/02/10); JS-203 (27/12/09)

7) *Oscillatoriaproboscidea* Gomont

Prasad and Srivastava, 1992, p 69, pl 8, f 9

Trichomes single, dark blue green; not constricted at cross walls, 6-12 μ in diameter, cells 1/4 times as long as broad, 2.5 μ long; cell contents light blue green, homogenous, without gas vacuoles, granules distributed irregularly throughout but usually towards septa; end cells almost truncate, capitate with thick convex outer membrane; cell wall thick and smooth.

Locality : Dahiphal; PravaraSangam; Ramdoh

Coll.No.andDate: JD-214 (11/01/10); JPS-205 (03/01/10);JR-46 (11/01/09)

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