



# ALGAL FLORA IN WATER RESERVOIR (JAL-KUMBHA) OF ASHTA CITY OF MAHARASHTRA , INDIA

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## ABSTRACT:

Water reservoir (Jal-Kumbha) in Ashta city are under maintenance and are not properly covered with lid. The open Jal-kumbha usually promotes algal growth leads to the development of green slimy layer of algae on inner walls of the Jal-Kumbha. Present study deals with algal species found in water reservoir of Ashta Municipal corporation during the years 2022-2023. In this attempt 15 algal taxa were detected from Gandhinagar Jal-kumbha of Ashta city.

Key Words: Municipal Jal-kumbha, Algal flora, Ashta city.

## INTRODUCTION:

Ashta city Jal-kumbha get filled by water released through treatment plant. Ashta city does not water supply daily during summer. Water treatment plants as per expectations are also not maintained satisfactorily and regularly .When such water stored in municipal tanks are not covered by proper lids, the water gets exposed to air and sunlight leading to algal growth. Fresh water algae from Dhuly city was previously studied by Nandan (1993). In addition, More et al (2005) studied algal diversity of river Panzara and Chaudhari (2022) studied phytoplankton diversity in Gondur water reservoir.

## MATERIAL AND METHODS:

The municipal *Jal-kumbha* located in Gandhinagar area from Ashta city was selected for present study. Some part of Ashta city gets supply from this Jal-kumbha. The tank lid was not well maintained and water become exposed to open air as well as sunlight. The Jal-kumbha was visited regularly during the years 2022-2023 for collection of algae. Inner wall of the Jal-kumbha with slimy layer was also taken by scrapping it with sharp scalpel, Labelled samples were preserved in 5% formalin and microscopic observations was made to identify

the taxa with relevant literature Sarode and Kamat (1984), Desikachary (1959), Philipose (1967) and Kamat (1973).

### **OBSERVATIONS:**

1. *Chroococcus minutus* (Kuetz.) Nag.

Cells in groups 2-6, light blue, sheath 5µ in diameter cell 4-5µ in diameter, colonies 10×12µ.

2. *Chroococcus minor* (Kuetz.) Naeg

Slimy gelatinous aggregations, dirty olive green, cells spherical, 2.25-3 µ in diameter, 4-10 celled colony, with sheath 8 µ in diameter, sheath very thin.

3. *Merismopedia aeruginea* Breb.

Colonies 4-33, cells 4-6 µ broad, blue green in colour, cells closely packed.

4. *Merismopedia glauca* (Ehr.) Nag.

Small colonies with 30-60 cells, 50-100 µ in diameter, cells closely arranged, 5 µ broad, pale blue green in colour

5. *Phormidium fragile* Gomant

Trichomes constricted at cross walls, attenuated at ends, 1-2µ broad, pale green, 12 µ long, apical cell acute.

6. *Cosmarium granatum* Breb.

Cells small, slightly longer than broad, sub-rhomboid to elliptic, deeply constricted, sinus linear with a dilated extremity, semi cells truncate, pyramidal, basal angles rounded, sides straight or slightly convex, apex narrowly truncate, cell wall finely punctate. Cells 15µ broad, 20µ long, isthmus 4 - 4.5µ broad.

7. *Cosmarium reniforme* (Ralfs) Arch

Cells of medium size, slightly longer than broad, constriction deep, sinus narrow and linear with widely dilated extremity, semi cells reniform, cell wall granulate, granules fairly regular, horizontal. Cells 40 µ broad, 50- 55 µ long, isthmus 20 µ broad.

8. *Scenedesmus dimorphous* (Turp.) Kuetz.

Colony of 5-8 cells arranged in single or double alternate rows, cells fusiform 4-6 µ broad, 16- 20 µ long.

9. *Fragilaria intermedia* Grun.

Valves 80-85 µ long, 6-8µ broad linear with parallel margin ends tapered, rounded rectangular in girdle view, striae 10-11 in 10µ. distinct.

10. *Fragilaria leptostauron* Ehr. Hustedt

Frustules attached together to form long chain, broadly rectangular in girdle view, valves 8  $\mu$  long, 3 -4  $\mu$  broad, striae 8-10 in 10  $\mu$  thick.

11. *Synedra ulna* (Nitz.) Ehr. Var. subaequalis Grun.

Valves 80-120  $\mu$  long. 7-8 $\mu$  broad, long linear with constricted ends, sub capitate, striae 9-10 in 10 u, distinct.

12. *Navicula cuspidata* Kuetz. Var. ambigua Ehr.

Valves 90-100  $\mu$  long, 15-17 $\mu$  broad, lanceolate, capitate ends, raphe thin, straight, striae 20-22 in 10 u fine.

13. *Cymbella tumidula* Grun.

Valves 40-50  $\mu$  long, 8-10  $\mu$  broad, asymmetric lanceolate, dorsal margin convex, ends constricted rounded, raphe thick, eccentric, punctuate distinct, striae 10-12 in 10  $\mu$ .

14. *Gomphonema constrictum* Ehr. Var Indica Gandhi

Valves 40  $\mu$  long 10-12  $\mu$  broad, clavate with constricted broadly rounded apex, straight raphe, central area rhomboid, axial area narrow, striae 10-12 in 10 u, radial.

15. *Gomphonema lanceolate* Ehr

Valves 50  $\mu$  long, 12  $\mu$  broad, clavate with broad rounded apex and narrow base, straight thick raphe, central area linear, strise 10-12 in 10  $\mu$ , linear.



## RESULTS AND DISCUSSION:

Algal growths are located on inner walls of Jal-kumbha of Municipal of Ashta city. There is provision of daily water supply to some part of Ashta city. Water is distributed area wise every day for drinking water. The algal spores get chance to germinate in open tanks due to exposure of sunlight. The time gap with stagnancy of water in the tank coupled with availability of sunlight exposure promotes algal growth. During present study, total 15 taxa of algae belonging to Cyanophyceae Chlorophyceae and Bacillariophyceae was observed in Gandhinagar area Jal-kumbha of Ashta city.

This Investigation alarms need of regular cleaning of the Jal-kumbha.

## REFERENCES:

Chaudhari Archana (2022) Int. J. of Researches in Biosciences, Agri. and Technology X(III):144

Desikachary T.V. (1959): "Cyanophyta" ICAR, New Delhi.

Kamat N.D. (1973).J.of Nat. Hist. Soc.72:616 More Y.S., Mali M.D.and Nandan S.N.(2005) Eco. Env.and Cons.11:319

Nandan S.N. (1993) Indian Bot. Rept. 12:61 Philipose M.T.(1967): "Chlorococcales ICAR. New Delhi.

Sarode P. T.and Kamat N. D.(1984) Fresh water Diatoms of Maharashtra", Saikripa Prakashan, Aurangabad.

