

Taxonomic exploration of Hydrophytes of Bamanwada Lake, District Chandrapur, Maharashtra (India).

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ABSTRACT

Present manuscript deals with the diversity of hydrophytes of a perennial water body situated in Bamanwada village of Chandrapur district, Maharashtra, India. The lake was regularly inspected for two years period from 2016 to 2018 for its macrophytic vegetation. From the water body, total 25 hydrophytes were isolated, photographed and identified. Among them one is algae, 2 are Pteridophytes and 22 are Angiosperms.

Key words: Water body, Macrophytic, Algae, Pteridophytes, Angiosperms.

INTRODUCTION

Hydrophytes are the plants which are adapted to survive in water or water lodged areas. They play important role in structure and function of the aquatic ecosystem as they influence physico-chemical factors of that particular habitat. The diversity of the hydrophytes is mainly depends upon the water quality, soil quality and environmental conditions.

Chandrapur is one of the highly industrial and polluted district of India and world. Constant monitoring and conservation of aquatic ecosystems is very essential in these ever changing environment. A considerable data on hydrophytes is available from Chandrapur district [1-5]. But the Bamanwada lake is still unexplored for its macrophytic diversity. So present investigation is carried out at Bamanwada lake to find out different hydrophytes present in it.

METHODOLOGY

Study site: The Bamanwada lake is a small perennial water body situated in Bamanwada village of Chandrapur district, Maharashtra, India. It covers about 12 acres of land between 19° 47.233' to 19° 47.371'N latitude and 79° 23.171' to 79° 23.051'E longitude (fig 1&2). The pond is perennial and surrounded by huge rice fields. Its water is used for irrigation purpose and also used for commercial cultivation of *Trapa* (fig. 3).

Data collection: present work is carried out during 2016-2018 period. For these two years, the lake is visited several times during every season. During every visit, different hydrophytes present in the lake

were examined, photographed and identified with the help of floras and other standard literature [6,7].

Herbarium specimen of all the hydrophytes were prepared and deposited at Shivaji College, Rajura's herbarium. The entire data collected during these two years was analyzed and stored in departmental data base.

RESULTS AND DISCUSSION

During present investigation, total 25 species of 24 genus and 18 families were recorded. Among these 25 species one is algae, 2 are pteridophytes and remaining 22 are angiosperms (Table 1).

Table 1. List of species available at Bamanwada lake

Sr.No.	Name of the plant	Family	Morpho-ecology
1	<i>Aponogeton natans</i> (L.)Engl. & Krause	Aponogetonaceae	Floating anchored
2	<i>Azolla pinnata</i> R.Br.	Salviniaceae	Free floating
3	<i>Blyxa octandra</i> (Roxb.) Planchon ex Thwaites	Hydrocharitaceae	Submerged anchored
4	<i>Ceratophyllum demersum</i> L.	Ceratophyllaceae	Submerged & floating
5	<i>Hydrilla verticillata</i> (L. f.) Royle	Hydrocharitaceae	Submerged anchored
6	<i>Ipomea carnea</i> Jacq.	Convolvulaceae	Emergent
7	<i>Ludwigia adscendens</i> (L.) Hara	onagraceae	Free floating
8	<i>Lemna minor</i> L.	Araceae	Free floating
9	<i>Limnophylla indica</i> Druce.	Plantaginaceae	Submerged anchored & Emergent
10	<i>Limnophyton obtusifolium</i> (L.) Miq.	Alismataceae	Emergent
11	<i>Marsilea quadrifolia</i> L.	Marsileaceae	Emergent
12	<i>Nitella</i> sp.	Characeae	Submerged anchored
13	<i>Najas indica</i> (Willd.) Cham.	Hydrocharitaceae	Submerged anchored
14	<i>Nelumbo nucifera</i> Gaertn.	Nelumbonaceae	Floating anchored
15	<i>Nymphaea nouchali</i> Burm. f.	Nymphaeaceae	Floating anchored
16	<i>Nymphoides hydrophylla</i> (Lour.) Kuntze	Menyanthaceae	Floating anchored
17	<i>Nymphoides indica</i> (L.) Kuntz.	Menyanthaceae	Floating anchored
18	<i>Oryza rufipogon</i> Giff.	Poaceae	Emergent
19	<i>Ottelia alismoides</i> (L.) Pers.	Hydrocharitaceae	Emergent
20	<i>Salvinia molesta</i> D. Mitch	Salviniaceae	Free floating
21	<i>Schoenoplectus</i> sp.	Cyperaceae	Emergent
22	<i>Spirodela polyrhiza</i> Seh.	Araceae	Free floating
23	<i>Trapa natans</i> L.	Lythraceae	Free floating
24	<i>Utricularia stellaris</i> L.f.	Lentibulariaceae	Free floating
25	<i>Wolffia arrhiza</i> Wimm.	Araceae	Free floating

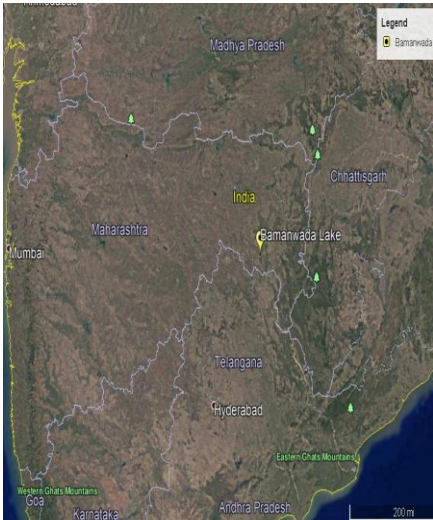


Fig.1. Location of the lake



Fig.2. Satellite view of the lake

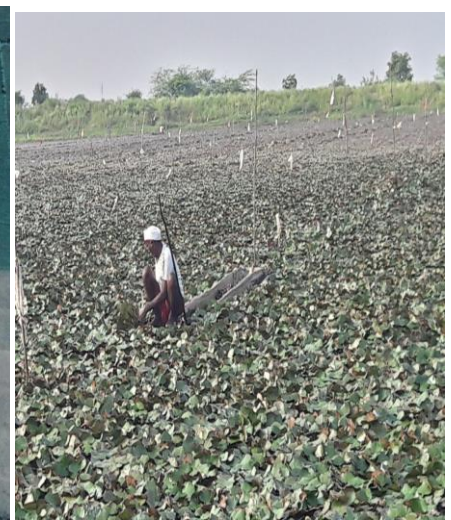


Fig.3. *Trapa* cultivation



Fig.4. *Aponogeton natans*



Fig.5. *Azolla pinnata*

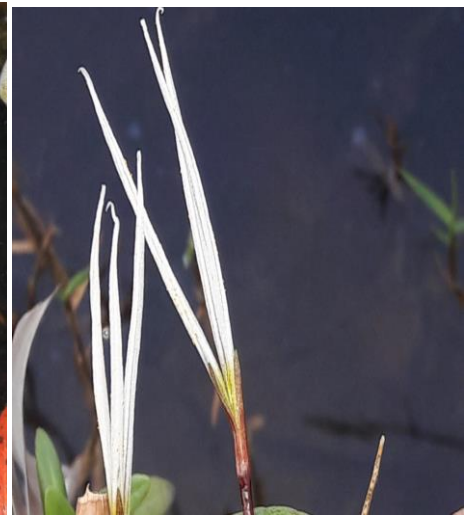


Fig.6. *Blyxa octandra*



Fig.7. *Ceratophyllum demersum*



Fig.8. *Hydrilla verticillata*



Fig.9. *Ipomea carnea*



Fig.10. *Ludwigia adscendens*



Fig.11. *Lemna minor*



Fig.12. *Limnophylla indica.*



Fig.13. *Limnophyton obtusifolium*

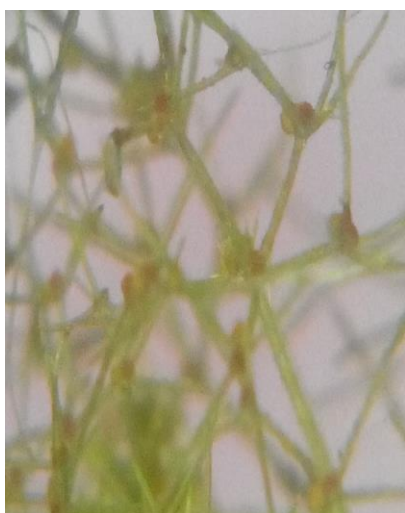


Fig.14. *Nitella sp.*

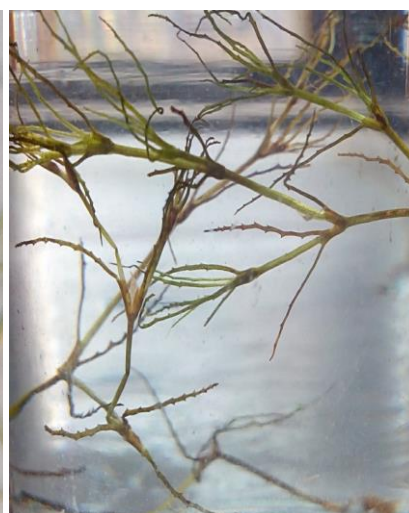


Fig.15. *Najas indica*



Fig.16. *Nelumbo nucifera*



Fig.17. *Nymphaea nouchali*



Fig.18. *Nymphoides hydrophylla*



Fig.19. *Nymphoides indica* (L.)



Fig.20. *Oryza rufipogon*



Fig.21. *Ottelia alismoides*

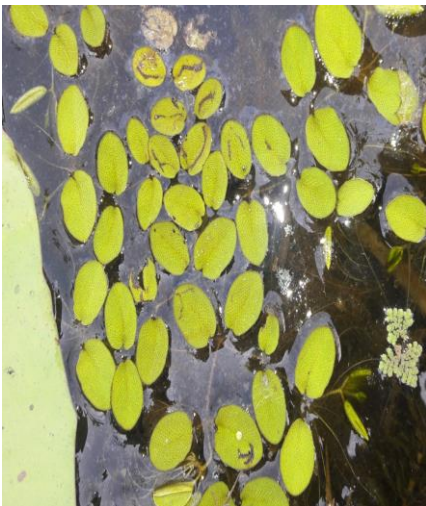


Fig.22. *Salvinia molesta*



Fig.23. *Spirodela polyrhiza*

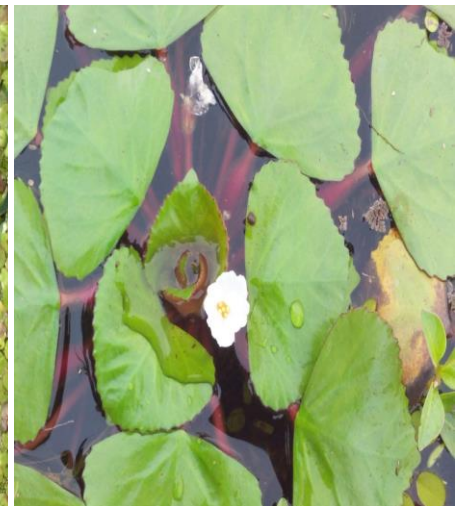


Fig.24. *Trapa natans*



Fig.25. *Utricularia stellaris*



Fig.26. *Wolfia arrhiza*



Fig.27. *Schoenoplectus* sp.

CONCLUSION

The lake is rich in biodiversity. It is covered with vegetation and a large area of it is under the cultivation of Singada (*Trapa natans*) crop. This perennial body also attracts large number of avian fauna.

Conflicts of interest: The authors stated that no conflicts of interest.

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