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RESEARCH ARTICLE

Macrophytes diversity of Ghodpeth lake near Bhadrawati, District- Chandrapur (M.S.), India

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ABSTRACT
Aquatic macrophytes play an important role in structuring communities in aquatic environments. These plants provide physical structure, increase habitat complexity and heterogeneity and affect various organisms like invertebrates, fishes and water birds. The present paper describes the diversity of macrophytes of Ghodpeth lake near Bhadrawati of Chandrapur district of Maharashtra State from February 2014 to January 2016 in which 17species belonging to4 groups such as 6 Free floating suspended submerged, 5 Rooted floating leaves weeds, 2 Rooted submerged hydrophytes and 4Submerged floating weeds. Among different macrophytes, *Pistia sp.* and *Salvenia sp.* were found in abundance in all the sites of lake.

Keywords: Macrophytes, Ghodpeth lake, biodiversity.

INTRODUCTION

Aquatic plants are plants that have adapted to living in aquatic environments (saltwater or freshwater). They are also referred to as hydrophytes or macrophytes. These plants require special adaptations for living submerged in water, or at the water's surface. The most common adaptation is aerenchyma, but floating leaves and finely dissected leaves are also common. Aquatic plants can only grow in water or in soil that is permanently saturated with water. They are therefore a common component of wetlands.

The Ghodpeth lake is located near the Bhadrawati town in Chandrapur district of Maharashtra State, India. It is 6 km away and situated on the east side of Bhardawati at about 205 m. above mean sea level and is at 20° 03' 51.93'' N latitude and 79° 09' 55.47'' E langitude.

The depth of water-30 feet (mansoon) and 7 feet (summer). During the last few decades considerable studies on aquatic macrophytes from different fresh-water bodies of India and abroad have been carried out by researchers like, Unni [1], Crowder *et al.*,[2], Zutshi *et al.* [3], Billore and Vyas [4], Islam [5], Kodarkar [6], Dey and Kar [7], Bhaumik *et al.*, [8], Kumar and Pandit [9], Ghavzan *et al.*, [10], Devi and Sharma [11].

However very little information is available about the aquatic macrophytes of this area. This work has therefore undertaken of document the aquatic macrophytes of Ghodpeth lake of Bhadrawati tehsil.

METHODOLOGY

The aquatic macrophytes were collected for the period of 2 years i.e. February 2014 to January 2016. Macrophytes in shallow waters were collected directly while those from deeper water with the help of long handled hook. On collection the specimen were thoroughly washed, excess water soaked with filter paper, kept in polythene bags lined with filter paper and brought to the laboratory and preserved in 10% formalin and observed. The specimens were identified up to species level as per the guidelines of Kodarkar [12].

RESULT AND DISCUSSION

Aquatic plants serves as a good source of food to mankind and animals thus forming a palatable food for water birds and a best for aquatic wild life conservation practices [13]. Aquatic vesicular plants are important indicator of water pollution [14]. Aquatic plants are important as they serve as substratum to different micro and macrofauna [15]. A decline in a macrophyte community may indicate water quality problems and changes in the ecological status of the water body. Such problems may be the result of excessive turbidity, herbicides, or salinization. Conversely, overly high nutrient levels may create an overabundance of macrophytes, which may in turn interfere with lake processing.

In the present study altogether 17 species belonging to 4 groups such as 6 Free floating suspended submerged, 5 Rooted floating leaves weeds, 2 Rooted submerged hydrophytes and 4 Submerged floating weeds and the data is tabulated in Table 1. Several workers have conducted macrophytes survey in lakes from different parts of India viz. Alwarlakes, Alwar, Rajasthan, Sagarlake, Sagar, Madhya Pradesh [16], Sharma and Singhal [17] recorded 11 species of macrophytes from a trophical lake. Sarrornagar lake, Hyderabad,

Table 1 : Biodiversity of Macrophytes of Ghodpeth lake.

Sr. No.	Types	Name of macrophytes
1	Submerged floating weeds	*Ceratophyllum echinatum*
2	Submerges floating weeds	*Nymphaea odorata*
3	Submerges floating weeds	*Eutricularia Sp.*
4	Submerges floating weeds	*Vallisneria ameriacana*
5	Rooted floating leaves weeds	*Marsifea quadrifolia*
6	Rooted floating leaves weeds	*Nelumbo nucifera*
7	Rooted floating leaves weeds	*Nymphaea tuberosa*
8	Rooted floating leaves weeds	*Trapa natans*
9	Rooted floating leaves weeds	*Ninfea azzura*
10	Free Floating Suspended submerged	*Lemna minor*
11	Free Floating Suspended submerged	*Azolla carolimana*
12	Free Floating Suspended submerged	*Salvinia rotunditolia*
13	Free Floating Suspended submerged	*Pistia stratiates*
14	Free Floating Suspended submerged	*Salvinia Sp.*
15	Free Floating Suspended submerged	*Nymphidis Sp.*
16	Rooted submerged hydrophytes	*Hydrilla Sp.*
17	Rooted submerged hydrophytes	*Ipomoea aquatic*

Andhra Pradesh [6], Meshram and Dhande [18] also recorded the aquatic macrophytes in Wadali lake, Amravati and stated that the macrophytes stimulate the growth of phytoplankton and help in the recycling of the organic matter. Narayana *et al.*,[19] study the aquatic macrophytes of Husain sagar, Karanataka. Kiran *et al.*, [13] recorded 15 species of macrophytes the fish culture ponds at Bhadra fish farm, Karnataka. Game and Salaskar [20] recorded the macrophytes on Malchmali lakes, Thane, Maharashtra. Dhore and Luchare [21] recorded 15 species of macrophytes in Yevatmal district. Kiran [22] recorded 13 species of macrophytes belonging to 11 families in Jannapura tank of Bhadravathi taluk, Karnataka.

REFERENCES

1. Unni, KS. An ecological study of the macrophytic vegetation of Doodhadharilake, Rajpur, M.P. India I. Distribution and seasonal changes in aquatic plants. *Hydrobiol*. 1971; 37: 139-155.
2. Crowder, AA, Bristow, JM, King, MR, Vander, KS. Distribution, seasonality and biomass of aquatic macrophytes in lakeOpnicon. *Naturaliste*.1977; *Can* (104): 441-456.
3. Zutshi, DP, Subla, BA, Khan, MA, Wanganeo, A. Comparative limnology of nine lakes of Jammu and Kashmir, Himalaya. *Hydrobiol*.1980; 72: 101-112.
4. Billore, DK,Vyas, LN. Int. *J. Ecol. Sc*. 1981; 7: 45.
5. Islam, M. "Advance in plant sciences" 1990;12:35
6. Kodarkar, MS. "Conservation of Lakes", 1996; IAAB Publication No. 3, IAAB, Hyderabad.
7. Dey, SC, Kar, D. *Environ. Eco*.1989;7: 253.
8. Bhaumik, U, Das, P, Paria, T. Environment and Ecology. 2004;22 (Spl-2): 371.
9. Kumar, R., Pandit, AK. Community architecture of macrophytes in Hokarsar wetland, Kashmir, Ind. *J. Environ. And Ecoplan*. 2005; 10: 565-573.
10. Ghavzan, NJ, Gunale, VR, Mahajan, DM, Shrike, DR. Effect of environmental factors on ecology and distribution of aquatic macrophytes.*Asian journal of Plant Sciences*, 2006;5(5): 871-880.
11. Devi, CG, Sharma, BM. Studies on the diversity of the macrophytes in Awangsoipat Lake (Bishnupur), Manipur, India. In: (Eds. A.K. Kandya and Asha Gupta) Biodiversity conservation and Legal aspect. Aviskar Publishers, DistributorsJaipur.2007; 62-71.
12. Kodarkar, MS. Conservation of Saroornagar lake. Hyderabad Bachao.1994; 3 (9) : 21.
13. Kiran, BR., Patel, AN., Vijaya K, Puttaiah, ET. Aquatic macrophytes in fish culture ponds at Bhadra fish farm, Karnataka.*J. Aqua. Biol.* 2006; 21(2): 27-29.
14. Shimoda, M. (1984) Macrophytic communities and their significance as indicator of water quality in two ponds in the Saijo basin, Hiroshima prefecture, Japan, Hikobia 1984; 9: 1-14.
15. Raut, N, Pejawar, M. Survey of diversity of plankton attached to macrophytes from weed infested lake in Thane, Maharashtra. *J. Aqua. Biol.* 2005; 20(1): 1-7.
16. Joshi, G., Adoni,AD, Vaishya, AK. Ecology of Sagar Lake, Hyderabad IV 1987;(29): 151-155.
17. Sharma, A, Singhal, PK. Impact of floating and emergent vegetation on the trophic status of a trophical lake.The macrophytes and physico-chemical status.*J.Enviro. Biol*. 1988; 9(3 suppl.): 303-311.
18. Meshram, CB, Dhande, RR. Algae diversity with respect to pollution status of Wadali Lake, Amravati, Maharashtra, India.*J. Aqua Biol.* 2000;15 (1 &2): 1-5.
19. Narayana, J., Purushothama, R., Kiran, BR. Ravindrakumar, KP, Puttah, ET. Investigation of drinking water quality of Basavanahole Tank with reference to physical chemical characteristics.*Fundamental of limnology,* 2005; 201-206.
20. Game, AS, Salaskar, PB.Environmental impact of macrophytes on Makhmali Lakes, Thane, Maharashtra. *J. Aqua. Biol.* 2007; 22(2): 203-204.
21. Dhore, MM, Luchare, PS. Survey of aquatic macrophytes in Yevatmal district, Maharashtra, India.*Int. J. Life Sciences*.2014; (3): 273-275.
22. Kiran, BR Distribution and diversity of aquatic macrophytes in Jannapura tank of Bhadravathi taluk, Karnataka. *Int. J. Plant, Animal and Environmental Sciences. 2015;*5(2); 32 to 35.