



BIODIVERSITY OF AQUATIC WEEDS IN LAKE OF KONSARI IN CHAMORSHI TEHSIL OF GADCHIROLI DISTRICT IN MAHARASHTRA, INDIA.

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ABSTRACT:

The present research was carried out to find the diversity of aquatic weeds in Konsari lake of Chamorshi tehsil of Gadchiroli district of Maharashtra state (India) in the year 2020. In all total 16 different species of aquatic weeds were found to be present in Konsari lake. The aquatic weeds were represented by six different types as, free floating, submerged floating, Rooted floating, rooted submerged, rooted emergent and marginal weeds. In present study rich biodiversity of aquatic weeds indicate its enriched status on which a lot of migratory birds are visitors in winter season.

Keywords: Aquatic weeds, biodiversity, Konsari Lake, Gadchiroli district, Maharashtra state.

INTRODUCTION:

Aquatic weeds referred to as macrophytes are a part of aquatic vegetation including macroalgae and angiosperms resident of aquatic habitats. Aquatic weeds are present in places of marshy land and water logged areas in the whole world. The weed biodiversity varies continuously due to presence of nutrients in water and organic pollution around marshy places. The weeds are disturbing to production of fish fauna in any sort of water body. Macrophytes of freshwater ecosystems play important roles in the structure and functioning of ecosystems. Different forms of macrophytes present seasonal and variable growth patterns. The aquatic macrophytes are classified as free floating, rooted floating, submerged and emergent hydrophytes based on their characteristics. Proper identification of aquatic weeds is of utmost importance for their proper control. They are classified according to

various habitats which form their living environment.

Aquatic weeds are essential parts of natural aquatic systems and form the basis of a water body's health and productivity. Species of macrophytes are of great importance today as far as natural food supply to fish species is concerned. Macrophytes of different water bodies in India are studied by different researchers like Arya, M. et. al.(2018), Chambhare et. al. (2008), Chudamani and Siddhi (2004), Deka and Sarma (2014), Parvenn, M et al(2014), Shashikumar and Chelak Prasad (2015), Murkute and Chavhan (2016), Sharma and Singh.(2017), Shende et al (2016), Maitreya (2015), Chunne and Nasre (2018), Arya, et al, (2018), Singh et al (2018), Sharma and Dwivedi (2016), Shende et al (2016), Sitre (2013), Wahane, et. al. (2017), Mahajan and Harney (2018). The freshwater ecosystems of Chamorshi tehsil in Gadchiroli district of Maharashtra state are still un- investigated till

date. So an attempt is made here to study them, with respect to aquatic weeds in a one year span.

MATERIAL & METHODS:

STUDY AREA: Konsari village is located in Chamarshi taluka of Gadchiroli district in Maharashtra state in which this perennial freshwater lake is situated. It located between 19.75993 latitude and 79.80174 longitude. Total area covered by lake 89,086.31 m² 196 mt above the mean sea level. The lake harbours different types of macrophytes.



Fig. 1. Satellite Map of Konsari Lake



Fig.2. Weed Diversity in Konsari Lake

Collection of Macrophytes and their Analysis

Macrophytes in shallow water were collected directly by hand while those from deeper water were collected with the help of long handled hook

and wherever possible using local fishermen community. On collection the specimen were thoroughly washed, excess water soaked with filter paper, kept in polythene bags lined with filter paper brought to the laboratory and identified using Standard literature (Cook 1996, Lancer 2002, Sharma 2013).

RESULT & DISCUSSION:

The aquatic macrophytes in lake of konsari village were observed, classified and presented in Table 1. In all 16 aquatic weed species were recorded belonging to six different groups viz. free floating, submerged floating, rooted floating, rooted submerged rooted emergent and marginal weeds. One free floating, 6 submerged floating, 2 rooted floating, 3 rooted submerged, one rooted emergent and 02 marginal weed were found to be present in lake basin.

Bhute and Harney (2017) recorded 15 different species of macrophyte in Nagrala lake of Bhadrawati. Deka and Sarma (2014) observed 137 macrophytic species belonging to 114 genera and 53 families from the wetlands of the Nalbari district of Assam. Sharma and Singh (2017) studied Emergent weeds in the Himalayan Lake of Dodi Tal. Singh *et al.*, (2018) studied the Biomass variation of *Ceratophyllum demersum* in Poiroupat Lake, Manipur, Northeast India. These studies support our work on biodiversity of weeds which is a unique aspect of biodiversity of the world wetlands. Arya, *et al* (2018) found total of 16 species of macrophytes, Out of 16 species, 5 species were sub-dominant, 6 species were common and 5 species were un-common in Sakhya Sagar lake Shivpuri in Madhya pradesh. Sharma, and Dwivedi, (2016) recorded 09 macrophytic species *Eichhornia crassipes* (70 % F), *Ipomoea aquatic* (60% F), *Spirodela polyrhiza* (60% F), *Lemna trinervis* (65% F), *Limnophila sessiliflora* (50 % F), *Elodea sp.* (20 % F), *Wolffia arrhiza* (40 % F), *Typha angustifolia* (40% F),

Ipomoea fistulosa (30 % F) in Govardhan Sagar water body. Wahane *et al* (2017) studied 32 macrophyte species in Sakharwahi reservoir belonging to 24 families and 27 genera. The works support the findings of present work on similar lines.

CONCLUSION:

The aquatic macrophytes vary in different habitats based on nutritional components present in water bodies across the globe. The Konsari Lake in Chamorshi tehsil of Gadchiroli district is a serene water body harbouring different macrophytes and their biodiversity of weeds support a large number of fauna too in all the seasons.

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Table 1 : Biodiversity of Aquatic Weeds in Konsari Lake

Sr.No.	Type of Weed	Name of Weed	Family
1	Free floating	<i>Nymphoidis cristata</i>	Nymphaeaceae
2	Submerged floating	<i>Nymphaea sp.</i>	Nymphaeaceae
3	Submerged floating	<i>Myriophyllum sp.</i>	Holorhagaceae
4	Submerged floating	<i>Utricularia sp.</i>	Lentibulariaceae
5	Submerged floating	<i>Vallisneria spiralis</i>	Najadaceae
6	Submerged floating	<i>Najas minor</i>	Najadaceae
7	Rooted floating leaved	<i>Nelumbo lutea</i>	Nymphaeaceae
8	Rooted emergent	<i>Sagittaria sp.</i>	Alismataceae
9	Rooted emergent	<i>Alternanthera philoxeroides</i>	Amarantheceae
10	Rooted submerged	<i>Potamogeton pectinatus</i>	Potamogetonaceae
11	Rooted submerged	<i>Hydrilla sp.</i>	Hydrocharitaceae
12	Rooted submerged	<i>Ipomoea aquatic</i>	Convolvulaceae
13	Submerged floating	<i>Nelumbo nucifera</i>	Nymphaeaceae
14	Submerged floating	<i>Marsilea sp.</i>	Marsileaceae
15	Marginal weeds	<i>Ipomoea indica</i>	Convolvulaceae
16	Marginal weeds	<i>Eleocharis dulcis</i>	Cyperaceae



Ipomoea aquatica



Marsilea mutica



Nymphoides



Nelumbo lutea



Eleocharis dulcis



Hydrilla Verticillata