

**SHORT COMMUNICATION****Survey of Aquatic Macrophyte diversity in Yavatmal District, Maharashtra, India****Dhore Mukund Manohar\* and Lachure Paresh Shyaam***Department of Botany, B. B. Arts, N. B. Commerce & B. P. Science College, Digras, Yavatmal, MS, India- 445203**\*Corresponding Author Email : dhore\_mm@yahoo.co.in***Manuscript details:**

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**ABSTRACT**

The present investigation concerns the survey of diversity of aquatic macrophytes in Yavatmal district. Aquatic macrophytes play a prominent role in water ecosystems. The aquatic plants contribute to maintaining key functions and related biodiversity in fresh water ecosystems and to provide the needs of human societies. Aquatic vegetation is important part of aquatic ecosystem as they contribute in no small measure to the well being of other components of dynamic ecosystem. Aquatic plant provide directly or indirectly food, shelter and habitat for a large number of aquatic organisms which includes economically important fish species, they also enrich the pond water with oxygen during the photosynthetic activity. Macrophytes play a significant role in maintaining the growth of fauna in water bodies. The present survey was carried out at monthly intervals during January 2011- December 2013.

**Keywords:** Aquatic macrophyte, ecosystem.

**INTRODUCTION**

The Yavatmal district is situated in the western part of Vidarbha region of Maharashtra state. The climate of this district is characterized by a hot summer and general dryness throughout the year except during south west monsoon. This region has good number of fresh water lakes and dams with wetlands harboring a great variety of aquatic macrophytes. Generally, aquatic plants are found to grow on permanent or semi-permanent water surfaces such as ponds, ditches, lakes, rivers, irrigation canals and dam. Aquatic plant provides directly or indirectly food, shelter and habitat for a large number of aquatic organisms. Wetlands are well known for high diversity in class in class, composition and four broad categories of function viz. physical/hydrological, chemical, biological and socio-economic (Wetland supports plant species intermediate between true aquatic and terrestrial habitats. Information on phytosociological data for aquatic macrophytes in any water body is of immense importance to understand the wetland ecosystem. Several works have been done on the phytosociology of different aquatic macrophytic species in

different freshwater bodies of India and abroad (Billore and Vyas, 1981; Biswas and Calder, 1984; Mishra 1974; Unni, 1971; Dhote and Dixit, 2007). There is very little literature is available about the aquatic macrophytes of Yavatmal district, Maharashtra. The present investigation was, therefore, undertaken to study the species composition of aquatic macrophytes in Yavatmal district (M.S.) The present survey was carried out at monthly intervals during January 2011- December 2013.

## MATERIAL AND METHODS

The Yavatmal district region is blessed with a good number of fresh water lakes and dams harbouring a great variety of aquatic macrophytes. Information on phytosociological data for aquatic macrophytes in any water body is of immense importance to understand the wetland ecosystem. Much work has been done on the phytosociology of different macrophytic species in different freshwater bodies of India and abroad (Billore and Vyas, 1981; Biswas and Calder, 1984). The present survey was carried out at monthly intervals during January 2011- December 2013. Collection of specimen with the help of hook are thoroughly washed and excess water soaked with a filter paper, kept in polythene bag and brought to the laboratory. Identify and classify the Macrophytes into floating emergent, emergent etc. and identify with the help of literature. In each water body, the aquatic macrophytes were analyzed and specimens were identified up to genus/species level.

## RESULTS AND DISCUSSION

In present survey some commonly occurring macrophytes were studied during January 2011- December 2013 to provide basic information on diversity of macrophyte in Yavatmal district . Aquatic macrophytes shows some advantages like, they maintain O<sub>2</sub> – CO<sub>2</sub> balance, provide food to some herbivorous fishes and they also provide protection to tiny fishes from aggressive varieties. The aquatic vegetation of the study area were collected and identified. Vegetation consisted of 15 species of plants belonging to 11 families. The most abundant aquatic macrophyte is *Chara spp.* which is macroscopic algae and belonging to family Characeae. This is followed by *Ceratophyllum demersum L.*, *Vallisneria spiralis L.* which belonging to shallow water submerged species category based on the life form classification. Of these *Eichornia crassipes*, *Vallisneria spiralis*, *Hydrilla verticillata*, *Ipomoea aquatica*, occurs throughout the year. During monsoon, floating species of aquatic macrophytes viz. *Eichornia crassipes*, *Vallisneria spiralis*, *Hydrilla verticillata*, *Ipomoea aquatic.* Conversely, the monsoon varieties of aquatic macrophytes were succeeded by the winter emergent species viz. *Lemna minor*, *Ottelia alismoides*. Significant phytosocial association had been recorded among the different aquatic macrophytes. *Hydrilla verticillata*, *Vallisneria spiralis*, *Chara sp.*, *Nitella sp.* were found to be association with others. *Vallisneria spiralis*, *Potamogeton*, *Ceratophyllum demersum* were found to be associated with other.

**Table 1: List of some commonly occurring aquatic macrophyte in Yavatmal district.**

Scientific name	Family	Common Name and Type
<i>Hydrilla verticillata</i> (L.F.)Royle	Hydrocharitaceae	Hydrilla and rooted submerged
<i>Chara spp.</i>	Characeae	Stoneworts/Macroscopic algae
<i>Nitella spp.</i>	Characeae	Stoneworts/Macroscopic algae
<i>Potamogeton pectinatus</i> L.	Najadaceae	Pond weed / shallow water rooted submersed species
<i>Ipomoea aquatica</i> Forsk.	Convolvulaceae	Morning Glory / Rooted hydrophyte with floating leaves.
<i>Ceratophyllum demersum</i> L.	Ceratophyllaceae	Common hornworts /Coontail
<i>Ottelia alismoides</i> (L.)Pers.	Hydrocharitaceae	Shallow water rooted with floating leaves hydrophyte
<i>Typha angustata</i> Bory and Chaub.	Typhaceae	Cat-tail (Common cat-tail) / Marginal hydrophytes species.
<i>Vallisneria spiralis</i> L.	Hydrocharitaceae	Eel grass or Tape grass / shallow water submerged species.
<i>Limnophylla sessiflora</i> L.	Plantaginaceae	Asian ambulia / Asian marshweed
<i>Lemna minor</i> L.	Araceae	Common duckweed / floating on the water surface
<i>Eichornia crassipes</i> (Mart.) Solms.	Pontederiaceae	Common water hyacinth/ Free floating
<i>Nelumbo nucifera</i> Gaertn.	Nelumbonaceae	Indian Lotus/ Rooted floating
<i>Limnophylla sessiflora</i> L.	Plantaginaceae	Emergent
<i>Polygonum glabrum</i> Willd.	Polygonaceae	Emergent

*Ottelia allismoides*, *Valisneria spiralis* found to be associated with each other. The study represents the aquatic vegetation of different wetlands in Yavatmal district.

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