

A STUDY OF MACROPHYTIC VEGETATION PRESENT IN THE LENTIC
WATERBODIES OF GADCHIROLI, M.S. (INDIA)

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Abstract:

Aquatic macrophytes are large; predominantly angiospermic plants inhabiting various aquatic ecosystems and are of considerable importance from the production point of view in shallow water bodies or in the littoral waters of the deep water bodies. They play an important role in providing food to fishes and other aquatic animals, provide shelter to algae and some animals and also play role in cycling the nutrients in the water bodies. There is no data available, on aquatic macrophytes present in this tribal district of Maharashtra, so that it was decided to study macrophytes at length. The lakes selected for the study are perennial and situated in rural areas except Gadchiroli lake. The study period for the present data is November 2003 to October 2005.

Key words : *Macrophyte, lentic waterbody and Gadchiroli*

Introduction:

Aquatic plants contribute to maintaining key functions and related biodiversity in freshwater ecosystems, and to provide the needs of human societies. In freshwater ecosystems, the production, community composition and life-history traits of macrophytes are governed by the availability of carbon, nitrogen and phosphorous. In Gadchiroli district (Maharashtra) the lakes are as small ponds and heavily dominated by phytoplankton communities. These waterbodies have also macrophytic vegetation all over their surface or at margins. The diversity and biomass of macrophytes contribute to primary productivity and complexity of food chain and webs. The weeds provide habitats for a host of the other organisms containing periphyton. Ecologically balanced ecosystem supports fairly wide diversity of weeds. Species like water hyacinth (*Eichhornia crassipes*) and blue green algae (Cyanophyceae) are indicator of organic enrichment of the water body. Their prolific growth renders an ecosystem useless and upsets the equilibrium of water and nutrients, imbalances DO budget, promotes decomposition and siltation, shelters predatory and weed fishes, mollusca, insects and obstructs netting organisms. The lakes which were investigated are Bothali (20° – 11' latitude and 80° – 04' longitude), Murkhala (20° – 39' latitude and 80° – 96 longitude) and Gadchiroli (20° – 11' latitude and 80° – 00' longitude). The lakes used for domestic activities, fisheries and irrigation purposes.

Materials and methods:

The macrophytes found in these water bodies were categorized according to their habit and habitat (Philipose, 1968). A cylindrical galvanized sampler was used at the margin up to a depth of one to one and half meter. The deeper plants were collected by the help of fishermen. The macrophytes present in and around the water bodies after collection, were identified according to relevant characteristics with the help of standard literature and then photographed at site during the survey.

Result & discussion:

In the present study, total fourteen (15) macrophytes were recorded from three fresh water bodies i.e. 3 free floating, 5 submerged, 4 emergent and 3 marginal weeds. The presence or absence of particular macrophyte indicates the productive nature of any water bodies and gives essential, useful basic information which will help in understanding, planning, fishery management and conservation of water resources available in this tribal region.

A few submerged aquatic plant species are perennial while all other species appear and disappear as the seasons progress. The perennial species which are not much affected by the seasonal change are heavily eaten by cattle. The emergent *Nymphaea* sp. and *Nymphoides* sp. were commonly observed in the water bodies present in district while *Nelumbo nucifera* predominantly found in Bothali and Murkhala lakes. Free floating *Eichhornia crassipes* (Water hyacinth) and *Pistia* sp. were found heavily only in Gadchiroli lake probably due to heavy nutrients loading while *Azolla* sp. observed in all the three lakes. Among submerged weeds *Vallisneria* sp. and *Hydrilla* sp. present in Bothali and Gadchiroli lakes. *Ceratophyllum demersum* and *Utricularia* sp. observed in Bothali and Murkhala lakes respectively. The marginal weed *Ipomea* sp. and *Marsilea* sp. found around the marginal area of all three lakes while *Typha angustata* observed only along the marginal area of Gadchiroli lake.

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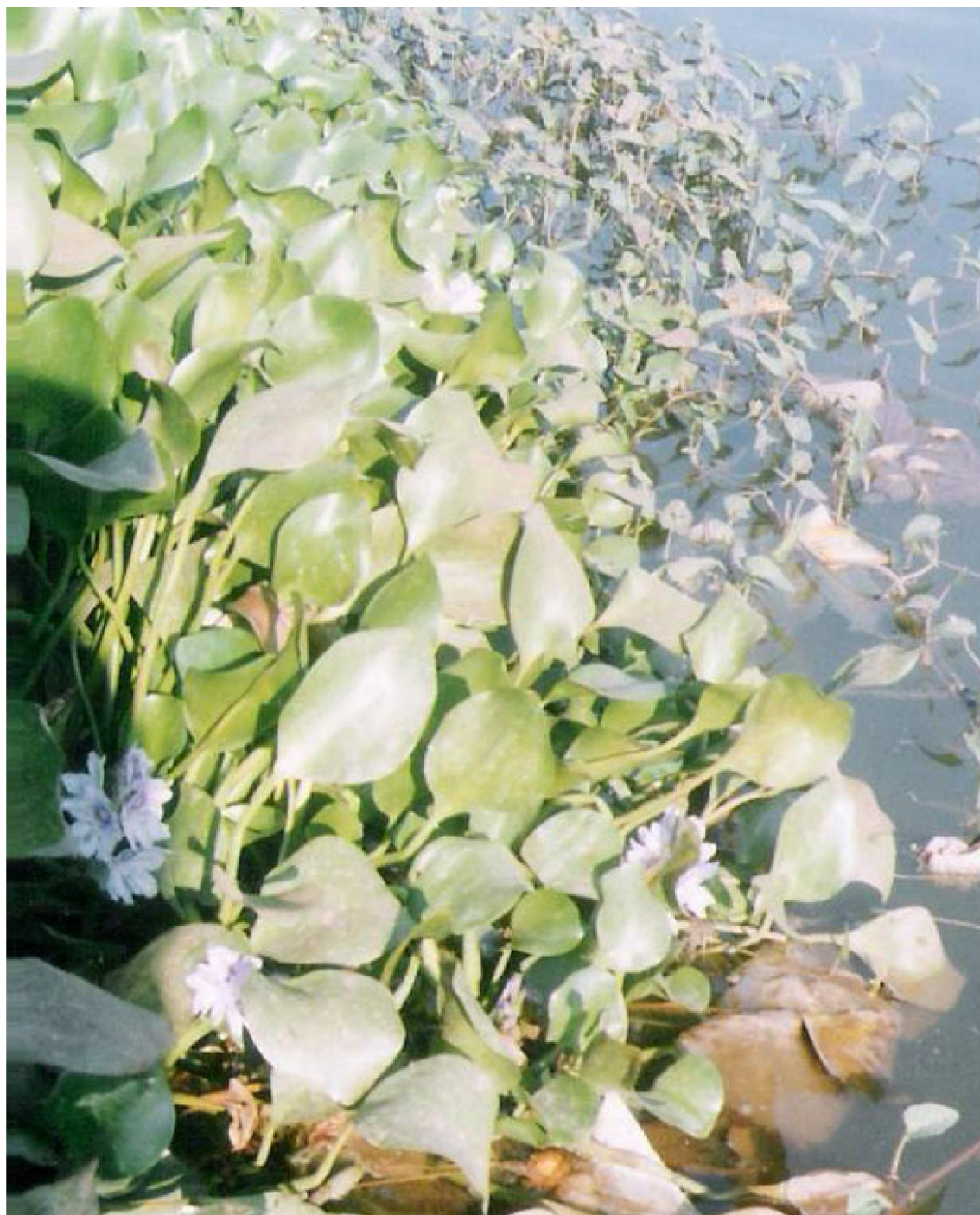
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Macrophytes found in Lakes of Gadchiroli

S. No.	Group	Genera	Lake		
			Bothali	Gadchiroli	Murkhala
1	Floating weeds	1) Eichhornia crassipes	--	++	--
		2) Azolla pinnata	++	++	++
		3) Pistia statiotis	--	++	--
2	Emergent weeds	1) Nymphaoides sp.	++	++	++
		2) Nymphaea sp.	++	++	++
		3) Nelumbo nucifera	++		++
		4) Cyperus sp.	++	-- ++	++
3	Submerged weeds a) Rooted	1) Ottellia	++	++	++
		2) Vallisneria spiralis	++	++	--
	b) Rootless (free floating)	1) Hydrilla verticillata	++	++	--
		2) Ceratophyllum sp.	++	--	--
		3) Utricularia sp.	--	--	++
	4	Marginal weeds	1) Ipomea aquatica	++	++
2) Typha sp,			--	++	-- ++
3) Marsilea quadrifolia			++	++	

Macrophytes found in Lakes of Gadchiroli



Eichhornia crassipes



Ipomea aquatica



Hydrilla verticillata



Utricularia sp.



Nymphoides sp.



Nymphaea sp.



Marsilea quadrifolia



Typha angustata
