

AQUATIC AND WETLAND BIODIVERSITY OF LAKHANI VILLAGE, BHANDARA DISTRICT, M. S. INDIA

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ABSTRACT

The present investigation revealed that is to the aim of aquatic and wetland plant biodiversity of Lakhani village, Bhandara district of M.S. India. Floristic surveys were carried out during 2005-2016, Herbarium specimens prepared and identify by a confirmed floras. Aquatic and Wetland conservation needed to conserve the plant species to protect rare endemic and endangered plant species of this village. There are about 88 plant species of hydrophyte belonging to different families and with different genera where found by Author during field visit.

KEYWORDS: Aquatic and Wetland, Biodiversity, Hydrophytes.

INTRODUCTION

Lakhani is popularly known as the Pune of Vidharbha because of its cultural and educational concern from last 50 year. Today Lakhani village among the top cities in Bhandara district. The district is known about the lake of district, there are about 2000 small and big reservoirs are Malgajari tank and constructed by forefather of inhabiting people. Lakhani village is also known for the lake with near a picnic spots called Oxygen Park. The lake is in a central area surrounded by paddy field. It is a perennial earthen ponds occupying a land about 13 hector area and the height of lake is about 06 meter. Water storage capacity is 07 M.Cum. Hydrocere mean the water bodies composed by earth in the form of Ocean, Rivers, Ponds, and Lakes Ditches etc. The lake of lakhani village is natural water resources, which fully depend upon the annual rainfall and the rainfall recorded in this village is about 1800 m.m. in the year 2011. But due to rapid industrialization, urbanization and abundance population growth the water bodies of this area are polluted, its disturbed the growth of flora and fauna (lavania et.al.). The floristic study on hydrophytes composition is carried out by different

workers in India like Agharkar (1923), Ghosai (1993). The aquatic and wetland area of the village are unexplored, so it is urgent need to conduct such a study.

MATERIALS AND METHOD

From the year 2005-2016 field visit are conducted. The study area explored thoroughly during field visit and detail observation on hydrophytes plant are noted in field book, field visit conducted in different seasons, to collect the plant species which are going to identify by using different floras, Saldana & Nicolson (1978), Matthew (1998), Cooke (1908), Sharma (1996). The field books are used to elicit complete information about plant. Unidentified plants are kept aside for expertise identification. Aquatic and wetland plant are collected by conventional herbarium technique Jain & Rao (1976).

OBSERVATION

Enumeration of taxa include with Botanical name and Family. The general vegetation, in most perennial ponds is of seasonal, submerged, rooted, aquatic hurb like water lilies and similar plants such as *Aponogetan natans* (L.) Engl. – *Aponogetanaceae*.

Nympoides cristata (Roxb.) Kuntze – *Menyanthaceae*.

The vegetation show a more or less intergrading stratification of plant communities. The well-marked strata are mentioned below.

a) Submerged aquatics with linear or dissected leaves: Most of which have narrow grass like leaves these are partially absent in deep water and usually cluster along the margin of shallow water to cover exposed surface area.

Ceratophyllum demersum (L.) – *Cratophyllaceae*

Hydrilla verticillata (L. F.) Royle, *Vallisneria spiralis* L., *Najas graminea* L.N. Minor L.,

Nechamandra alternifolia L., *N. roxburgi* – *Hydrocharitaceae*.

Utricularia stellaris L.F., *U. exoleta* R.Br. – *Lentibulariaceae*.

Potamogeton pectinatus L., *P. crispus* L., *P. nodosus* Poir., *Zannichellia palustris* L., - *Potamogetonaceae*

b) Submerged aquatic rooted in mud with broad floating leaves: From the major vegetation in large lakes forming a dominant cover on the water surface.

Nymphaea pubescens L., *N. nouchali* Burm.F., *N. stellate* – *Nymphaceae*.

Nelumbo nucifera Gaertn. – *Nelumbonaceae*, is abundance in lake.

Apogetan natus L. – *Apogetonaceae*. *Ipomoea aquatic* Forsk. – *Convolvaceae*.

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Caldesia parnassiifolia L. Parl and *Lemna paucicostata* Hagelm. – Lemnaceae.

c) **Free floating aquatic:** Plant of these strata include tiny and delicate plant like *Lemna paucicostata* L., *Pistia stratiotes* L., *Wolffia arrhiza* L. Harkel ex Wimmer – Araceae. *Spirodela polyrhiza* L. Schleiden. – Lemnaceae, *Azolla pinata* R.Br.- Pteridophyte. *Trapa natanus* L. – Trapaceae.

d) **The Marginal:** Member of species growing along margin of lake. These can be further classified in to 04 categorized depending upon there emergence from water.

1. **Major portion under water but flowering above water** – These are marginal appear to be submerged aquatic but invariably send out flowering branches above the water surface.

Limnophila heterophylla (Roxb.) Bentham. and *L. indica* (L.) Druce. – Scrophulariaceae.

Ottelia alismoides L. – Hydrocharitaceae.

Eriocaulon cinereum R.Br. – Eriocaulaceae., *Sagittaria trifolia* L. – Alismataceae.

2. **Major portion above water: (red swamp association)**

Typha angustata Glub & Bri. – Typhaceae.,

Poligonum glabrum Wild., *P. barbatum* L., *P. hydropiper* L.- Poligonaceae.

Cyperus alopecuroides L., *C. corymbasus* L., *C. iria* L., *C. difformis* L., *Fimbristylis bisumbellata* L. *F. ovate* L. – Cyperiaceae.

Marsilea minuta L. – Marsileaceae. Is very common.

3. **Wet mud vegetation:** Some terrestrial herb growth on wet mud around the lakes. They are mostly delicate and cannot withstand desiccation.

Alternanthera sessilis L.. *A. pungens* Kunth. – Amaranthaceae.

Bulbostylis barbata L., *Rikliella squarrosa* L., *Eleocharis geniculata* Rome, *E. dulci* Brum.

Fimbristylis schoenoides L., *F. tetragona* L. – Cyperiaceae.

Coldenia procumbens L.- Boraginaceae, *Cleome chelidonii* L. – Capparaceae., *Dentella repens* (L.) Forst. – Rubiaceae., *Eriocaulon luzulaefolium* L. – Eriocaulaceae.

Merremia emarginata Brum.F.- Convolvulaceae., *Oxalis corniculata* L. – Oxalidaceae.

Phyla nodiflora L. – Verbanaceae, *Ammannia baccifera* L. Rotala. – Lythraceae.

Bergia ammannioides Roxb.- Elatinaceae, *Solanum xanthocarpum* L. – Solanaceae.

Hygrophilla auriculata K. Schum.- Acanthaceae.

Eragrostis viscisa (Retz.) Trin, *E. stagnina* (Retz) Pal., *E. aspera* (Jaca) Nees. – Poaceae.

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4. Dry mud vegetation: On deviation with dissolved mineral and organic matter in surface hard herb to grow

Heliotropium indicum L., *H. supinum* L., *H. ovalifolium* L. - Boraginaceae

Crotan bonplandianum Baill. *Chrozophora prostrata* Dalz., *Jatropha gossypifolia* L. - Euphorbiaceae

Cleome simplicifolia L. - Capparidaceae., *Cyathocline purpurea* Buch. Ham. - Asteraceae

Glinus lotides L. - Molluginaceae., *Ammannia multiflora* L. - Lythraceae.

Anagallis arvensis L. - Primulaceae., *Stemodia viscosa* Roxb. - Plantaginaceae

Stera dissecta Del (Kuntz.), *Verbascum chinense* L. - Scroplariaceae.

Cassia tora L. - Caesalpinaceae., *Rumex dentatus* L. - Polygonaceae.

Marsilea quadrifolia L. - Pteridophyte, *Commelina benghalensis* L. - Commelinaceae.

Oryza rufipogon Griff. - Poaceae., *Limnophyton obtusifolium* L. - Alismataceae.

Tramarix ericoides L. - Tamaricaceae.,

Cyperus rotundus L., *C. difformis* L., *Furcraea ciliaris* (L.) Roxb., *Kyllinga tenuifolia* Steud. - Cyperaceae.

RESULT AND DISCUSSION

During present study 88 plant species are collected. These taxa are distributed among different families with different genus. Dominant family is Cyperaceae. further study is need to the floristic biodiversity of aquatic and wetland place.

REFERENCES

1. Lakhani Maharashtra, from Wikipedia the free encyclopedia Suptem (UTC), 2019; 13: 13-13.
2. Lavania G. S., Paliwal S.C. & Gopal B. Aquatic Vegetation of Indian Subcontinent: In E. Gopal (Ed.) Ecology and Management of the aquatic vegetation of the Indian Subcontinent. Dordrecht: Kulwar Academy Publisher, 1990.
3. Agarkar S.P. The present position of our knowledge of the aquatic flora of India, Indian Bot. Soc, 1923; 3: 252-260.
4. Ghoshal S.K., Santra S.C. & Mukherjee P.K. Phonological studies in Aquatic Macrophyta Plant of Lower Gigantic Delta, West Bengal, India, Feddes Repertorium, 1993; 104: 93-111.
5. Saldanha C. A. and Nicolson D. H. Flora of Hassan District Karnataka, India, Amerind Publishing Co. Pvt. Ltd., New Delhi, India, 1978.



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6. Matthew K. M. The flora of Tamilnadu Carnatic Rapinat Herbarium St. Joseph college. Tiruchirpalli. India. 1981-1988: 1, 2, 3.
7. Sharma B. D., Karthikeyan S. and Singh N. P. The Flora of Maharashtra State (Monocotyledons). Botanical survey of India. Calcutta, 1996: 356-369.
8. Jain S. K. & Rao R. R. A Handbook of field and Herbarium Method, Today and Tomorrow Publ. New Delhi, 1976.


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