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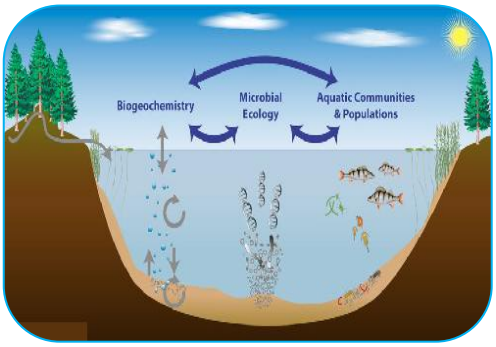
# SURVEY OF SOME AQATIC PLANT DIVERSITY (PERIPHYTON) OF CHANDLOI RIVER, KOTA DISTRICT, RAJASTHAN, INDIA

**Jyoti Sharma and Prahlad Dube**
**Government College, Kota.**

## ABSTRACT

*Present work deals with a survey during my research work of limnological and ichthyologic study of River Chandloi Kota District, Rajasthan, India with aquatic vegetation found near the bank and marginal areas of river under study. It is aimed basically to understand whole river ecosystem. In all 17 (seventeen) families with 17 Genera and 21 species were identified during present survey. These plant species play an important role in functioning of this river aquatic ecosystem.*




**KEYWORDS:** *Limnological, Ichthyologic study, Chandloi river.*

## INTRODUCTION

Diversity of organism makes the biotic components of ecosystem. Plants as producers of food and oxygen are very important ecologically. These are not only contribute positively in functioning of ecosystem but have some negative aspects also. Diversity of periphyton is studied in ecological studies. Earlier studies on systematic listing and preparing check lists of southeastern Rajasthan with special emphasis on Kota district had been contributed by Majumdar (1971, 1976 and 1980), Sharma and Tiagi (1979) Sharma and Shringi (1986) and Sharma (2002a, b). This paper described results of present survey along both the banks of the River Chandloi, Kota District, Rajasthan, India.

## MATERIAL AND METHODS

Study was based on surveys along the banks of the River Chandloi, Kota District, Rajasthan, India for all three seasons during one year (2019) and confirmed in the surveys conducted next year (2020). Plant specimens were collected and identified in laboratory using different available floras (Sharma 2002a,b), Flora of Rajasthan by N. K. Sharma.

## RESULTS AND DISCUSSION

The present investigations resulted into identification of 17 (seventeen) aquatic families with 17 Genera and 21 species (collected and studied specimens). These are listed in table number 1.

**Table-1: List of vegetation (periphyton) observed on margins and in the River Chandloi (Kota, Rajasthan)**

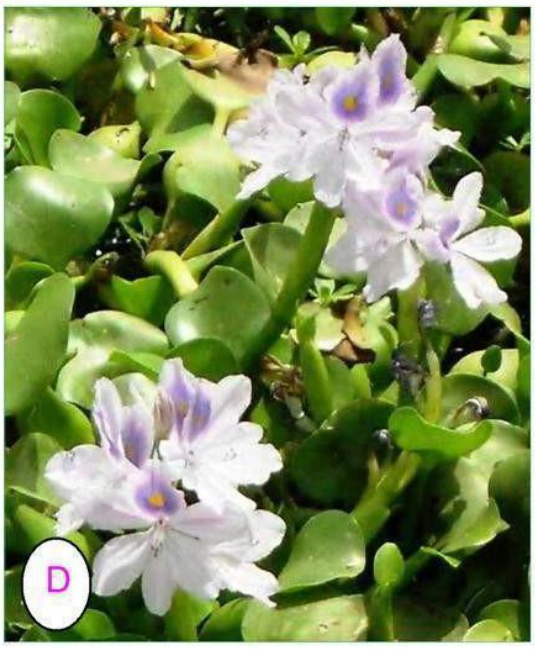
| SN | Family | Name of the Plant | Season | Special feature |
|---|---|---|---|---|
| 01 | ALISMATACEAE | *Sagittaria guayanensis* H. B. & K.F. | Pr M, PM | Shallow, marginal |
| 02 | AMARANTHACEAE | *Alternanthera sessilis (Linn.)* R. Br. | All | Shallow, marginal |
| 03 | AMARYLLIDACEAE | *Crinum asiaticum* Linn | PM, Pr. M | Shallow, marginal |
| 04 | ARECEAE | *Colocasiae sculanta* Linn | All | Open, margin |
| 05 | ARECEAE | *Pistia stratiotes* Linn. | All | Open water |
| 06 | CERATOPHYLLACEAE | *Ceratophyllum demersum* Linn. | All | Submerged, Free Floating herb |
| 07 | CONVOLVULACEAE | *Ipomoea aquatic* Forsk<br>*Ipomoea carnea* Jacq | All | Perennial Herb, in margins of river, amphibious/floating |
| 08 | CYPERACEAE | *Eleocharisatropurpurea (Retz.) Kuntz.* | All | A tufted perenial herb |
| 09 | HYDROCHARITACEAE | *Hydrilla verticillata* (L.f.) Royle<br>*Vallisneria natans* (Lour.) Hara<br>*Vallisneria spiralis* Linn | All | Glabrous, submerged weed; fully submerged |
| 10 | LEMNACEAE | *Wolffia arriza* (Linn.) Horkel ex Wimmer (Smallest flowering plant of world) | All, more in PM | Minute, free floating, rootless |
| 11 | MENYANTHACEAE | *Nymphoides indica* (Linn.) O.Kuntz. *N. hydrophilla* (Lour.) | All | floating annual herb |
| 12 | NYMPHAEACEAE | *Nymphaea nouchali* Burm. F<br>*N. pubescens Willd* | All | floating annual herb |
| 13 | PONTEDERIACEAE | *Eichhornia crassipes* (Mart.)Solms. | M | Leaves emerged |
| 14 | SCROPHULARIACEAE | *Limnophila indica* (Linn.) Druce. | PM | Leaves submerged |
| 15 | TYPHACEAE | *Typha angustata Bory & Chaub* | All | Perennial herb, very long linear leaves, bank of river |
| 16 | APONOGETONACEAE | *Aponogeton natans* (Linn.)Engl. & Krause | PM | rooted at base, leaves long linear |
| 17 | LENTIBULARIACEAE | *Utricularia aurea* Lour | All | Floating herb with numerous bladders |

In the present study, 17 (seventeen) families with 17 Genera and 21 species were identified. Semi aquatic plants and aquatic wetland plants were included into general survey. Submerged aquatic plants produce oxygen in the process of photosynthesis at the littoral zone of ponds. This oxygen controls the dissolve oxygen in the ponds. That result into balance of oxygen in the water and this water is suitable for pisciculture, irrigation, livestock keeping, household and general utility services for aquatic ecosystem. In this study both the aquatic and amphibious specimens were studied.

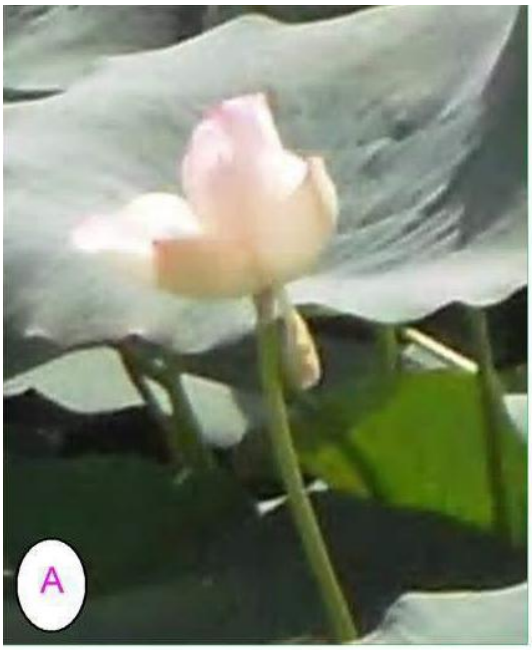

**A** :-*Alternanthera sessilis* (Linn.)D.C.
(AMARANTHACEAE)


**B** :- *Colocasia esculanta* Linn.
(ARECEAE)


**C** :- *Crinum asiaticum* Linn..
(AMARLLIDACEAE)



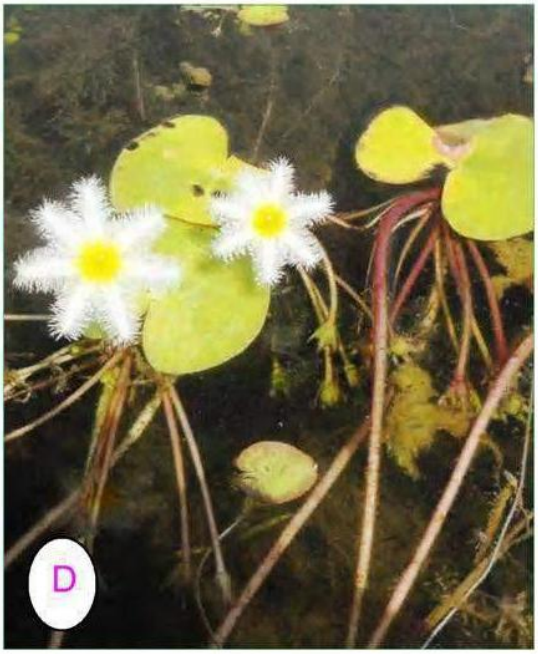

**D**:- *Eichhornia crassipes* (Mart.) Solms
(PONTEDERIACEAE)



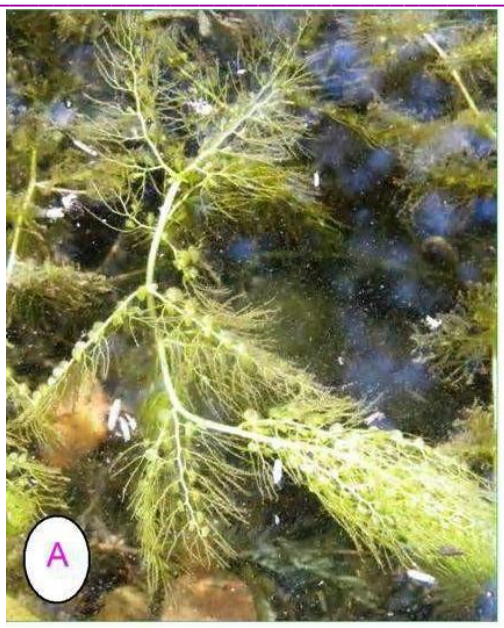

**A** :- *Nelumbo nuceifera* Gerth
(NELUMBONACEAE)


**B** :- *Nymphaea pubescens* Willd.
(NYMPHAEACEAE)


**C** :- *Nymphaea nouchali* Burm. f.
(NYMPHAECEAE)




**D**:- *Nymphoides indica* (Linn.) Kuntz.
(MENYANTHACEAE)




**A** :- *Utricularia aurea* Lour.
(LENTIBULARIACEAE)


**B** :- *Utricularia stellaris* Linn
(LENTIBULARIACEAE


**C** :- *Typha angustata* Bory & Chaub.
(TYPHACEAE)


**D**:- *Vallisnaria natans* (Loureiro) H
(HYDROCHARITACEAE)

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