

## Study on macrophytes in Ramala lake, Dist. Chandrapur (M.S.)

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### Abstract

The present piece of investigation deals with aquatic Macrophytes of Ramala Lake, Dist. Chandrapur, Maharashtra during the period May-2006 to April-2007. The lake is in the heart of city receiving sewage from maximum part of city through Mucchi Nala. During the study period, total of 18 species representing families of aquatic macrophytes. Among these, species Eichhornia and Pistia shows their dominance, indicating highly eutrophic condition of lake.

### Keywords:-

### Introduction

Aquatic Macrophytes are large predominantly angiospermic plants having considerable importance. There are some as good source of food and shelter to periphyton, ichthyofauna and other aquatic invertebrates. They may also serve as good source of fertilizers and some of the aquatic plants are being cultivated for their astonishing diversity of medicinal and aesthetic values (Bardach, 1968). Perusal of literature on macrophytes indicates that, many reports were available particularly from India and abroad, but no such reports are available from this area, so present piece of work was undertaken. Several workers reported on macrophytes diversity in different fresh water bodies of India and abroad. Pearsall (1921), Russel Hunter (1970), Zutshi et al., (1980), Unni (1991) and Okram et al., (1996).

### Materials and method

During the period of investigation, macrophytes were collected by hand picking method from three different sites of lake, they were collected, washed and brought to laboratory in polythene bags and preserved in formaline and identified by Edmondson (1959) and Kodarkar (1992)

### Result and discussion

During the period of investigation, 18 species of macrophytes were observed, among which 5 were of free floating, 8 submerged, 2 rooted with floating leaves and 3 emergent. The site wise distribution of macrophytes shows presence of 9 species at site 1, 15 species at site 2 and 16 species at Site 3. Out of 18 species recorded Lemna sp., Azolla sp., Pistia sp., Eichornia sp., Trapa sp., Wolffia sp., Hydrilla sp. and Vallisneria sp. were found at all the sites throughout the different seasons. Species like Sagittaria and Ipomea shows their presence only at site 3 while Nymphaea sp. at site 1.

The floristic distribution of plant species of present investigation tabulated in Table-I and were catego-

rized into 4 groups i.e. free floating (5 species), submerged (8 species), rooted with floating leaves (2 species) and species emergent (3 species).

**Table-1:**

| Sr. No. | Name of Macrophytes                    | Site-I | Site-II | Site-III |
|---------|--|--------|---------|----------|
|         | <b>Free floating</b>                   |        |         |          |
| 1.      | Lemna - free floating                  | +      | +       | +        |
| 2.      | Azolla - free floating                 | +      | +       | +        |
| 3.      | Pistia - free floating                 | +      | +       | +        |
| 4.      | Eichornia - free floating              | +      | +       | +        |
| 5.      | Wolffia - free floating                | +      | +       | +        |
|         | <b>Submerged</b>                       |        |         |          |
| 6.      | Najas - submerged                      | -      | +       | +        |
| 7.      | Typha - submerged                      | -      | +       | +        |
| 8.      | Potamogeton - submerged                | -      | +       | +        |
| 9.      | Sagittaria aquatica - submerged        | -      | -       | +        |
| 10.     | Hydrilla - submerged                   | +      | +       | +        |
| 11.     | Vallisneria - submerged                | +      | +       | +        |
| 12.     | Ceratophyllum - submerged              | -      | +       | +        |
| 13.     | Marsilea - submerged                   | -      | +       | +        |
|         | <b>Rooted with floating leaves</b>     |        |         |          |
| 14.     | Nelumbo - Rooted with floating leaves  | -      | +       | -        |
| 15.     | Nymphaea - Rooted with floating leaves | +      | -       | -        |
|         | <b>Emergent</b>                        |        |         |          |
| 16.     | Cyperus - emergent                     | -      | +       | +        |
| 17.     | Trapa - emergent                       | +      | +       | +        |
| 18.     | Ipomoea - emergent                     | -      | -       | +        |

The present findings are in conformity with Purushottama et al., (2005) in Kanale tank, Karnataka, who reported 19 species of which 2 were free floating, 5 rooted floating, 6 submerged, 1 emergent and 5 semiaquatic. Mishra and Tripathi (2004) also reported 12 species in the unpolluted site of Ganga river in Varanashi. A comparatively higher number of macrophytes species were reported by Devi (1993) with 86 species in Laktak lake, Manipur. Out of which 73 species were reported from non-phundic floating mat zone of which 6 species were submerged, 4 species free floating and 3 rooted with floating leaves species. Recently, Devi and Sharma (2007), observed 36 macrophytes species of which 20 emergent, 8 submerged, 4 rooted with floating leaves and 4 free floating species, in Awangsoipat lake Bishnupur, Manipur. It was noticed during present investigation that flourishing growth and frequency of distribution of macrophytes was correlated with an increase in phosphate and nitrogen contents of the water bodies as these nutrients stimulate rapid organic production by aquatic macrophytes. Sarkar et al., (2002), similarly the increased dissolved oxygen (DO) and free Co, in water bodies gradually favoured the growth and distribu-

tion of macrophytes. In present investigation, a unique observation indicates the eutrophic nature of the lake. The lake has got amorphous growth of vegetation with rich biodiversity. The highest growth of submerged species indicates eutrophic nature of lake. A clear cut zone of floating and submerged species can not be observed and hence all such communities were found in intermixed mats.

However, the *Eichhornia* sp. showed its dominance heights may be due to increased load of sewage added by Mucchi nallah and decomposition activities. This has resulted serious threat to the ecosystem stabilization and the very existence of lake.

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