

Macro and Micro Flora & Fauna in Upper & Lower lakes during the period January to December, 2008

Micro flora (Phytoplankton)

Upper lake - In Upper Lake in 2008 total 35 species of Phytoplankton were recorded (Table-1).

Table-1: Number of species in Upper Lake during 2008

S.No	Species recorded during January to December 2008
1.	<i>Actinastrum sp.</i>
2.	<i>Anabaena spiroides</i>
3.	<i>Chlorococcum sp.</i>
4.	<i>Cosmarium sp.</i>
5.	<i>Cyclotella sp.</i>
6.	<i>Diatoma sp.</i>
7.	<i>Fragillaria sp</i>
8.	<i>Navicula sp.</i>
9.	<i>Nitzschia sp.</i>
10.	<i>Oscillatoria sp</i>
11.	<i>Pediastrum Duplex</i>
12.	<i>Pediastrum simplex</i>
13.	<i>Cymbella sp.</i>
14.	<i>Diatoma sp.</i>
15.	<i>Diatomella sp.</i>
16.	<i>Elkatothrix sp.</i>
17.	<i>Eudorina elegans</i>
18.	<i>Kirchneriella lunaris</i>
19.	<i>Kirchnerilla sp</i>
20.	<i>Lyngbya majuscula</i>
21.	<i>Melosira granulata</i>
22.	<i>Melosira sp</i>
23.	<i>Melosira varians</i>
24.	<i>Oedogonium sp</i>
25.	<i>Oocystis crassa</i>
26.	<i>Oscillatoria sp</i>
27.	<i>Oscillatoria tenuis</i>
28.	<i>Pediastrum simplex</i>
29.	<i>Spirulina major</i>
30.	<i>Spirulina sp</i>
31.	<i>Stauratrum sp</i>
32.	<i>Tabellaria sp</i>
33.	<i>Tetradon sp</i>
34.	<i>Trachelomonas sp</i>
35.	<i>Ulothrix sp</i>

Lower lake

In Lower Lake during January to December, 2008, total 29 species were observed.

Table 2: Variation in total number of Phytoplankton species in Lower Lake during the year 2008

S.No	Species recorded during January to December 2008
1	<i>Cyclotella meneghiana</i>
2	<i>Euglena acus</i>
3	<i>Fragillaria sp</i>
4	<i>Frustula sp</i>
5	<i>Lepocinclis sp</i>
6	<i>Melosira varians</i>
7	<i>Fragillaria sp</i>
8	<i>Lyngbya sp</i>
9	<i>Melosira granuilata</i>
10	<i>Merismopedia sp</i>
11	<i>Microcystis aeruginosa</i>
12	<i>Pediastrum simplex</i>
14	<i>Pinnularia sp</i>
15	<i>Scenedesmus sp</i>
16	<i>Shizothrix sp.</i>
17	<i>Sphaerocystis sp.</i>
18	<i>Oocystis crassa</i>
19	<i>Oscillatoria tenius</i>
20	<i>Pediastrum simplex</i>
21	<i>Phormidium sp.</i>
23	<i>Pleurotaenium sp.</i>
24	<i>Spirogyra Sp.</i>
25	<i>Spirulina sp.</i>
26	<i>Stigeoclonium</i>
27	<i>Synedra ulna</i>
28	<i>Tabellaria sp.</i>
29	<i>Zygnema sp</i>

Macro-flora of Upper Lake during 2008

Macrophytes

Upper lake

In Upper Lake during 2008 i.e. January to December, total 14 species were identified (**Table 3**).

Table 3: List of Macrophytic Vegetation in Upper Lake during January to December 2008

Free Floating Forms: 3 sp

1. *Eichhornia crassipes*
2. *Spirodella polyrhiza*
3. *Lemna minor*

Submersed Forms: 4 sp.

Rooted to the bottom

1. *Hydrilla verticillata*
2. *Myriophyllum spathulatum*
3. *Potamogeton nodosus*
4. *Vallisneria spiralis*

Emergent Forms: 3 sp.

1. *Ludwigia adscendens*
2. *Nelumbo nucifera*
3. *Trapa bispinosa*

Not rooted to the bottom: 1 sp.

1. *Ceratophyllum demersum*

Marginal :

1. *Ipomoea fistulosa*
2. *Polygonum glabrum*
3. *Typha angustata*

Lower lake

During the present investigation i.e. January to December, 08 total 11 sp. were collected and identified and these belong to different categories. Number of various groups of macrophytes is shown in (Table 4).

Table 4: Macrophytic Vegetation in Lower Lake during January to December, 2008

Free Floating Forms: 3 Sp.

1. *Eichhornia crassipes*
2. *Spirodella polyrhiza*.
3. *Lemna minor*

Submersed Forms: 3 sp.

Rooted to the bottom

1. *Potamogeton crispus*
2. *Potamogeton natan*

Not Rooted to the bottom

1. *Ceratophyllum demersum*

Emergent Forms: 3 sp.

1. *Ipomoea aquatica*
2. *Ludwigia adscendens*
3. *Polygonum glabrum*

Marginal Forms: 2 sp.

1. *Cyperus rotundus*
2. *Typha angustata*

Animal communities of upper and lower lakes

Upper Lake

During Jan to December, 2008, total 17 species were identified for upper lake (Table 5)

Table 5: Total number of Zooplankton species in upper lake during Jan to December 2008

S.No	Species recorded during January to December 2008
1	<i>Arcella discoides</i>
2	<i>Arcella vulgaris</i>
3	<i>Asplancha sp</i>
4	<i>Bosmina sp</i>
5	<i>Brachionus calyciflorus</i>
6	<i>Brachionus caudatus</i>
7	<i>Brachionus falacatus</i>
8	<i>Centrocypris sp</i>
9	<i>Cyclops sp.</i>
10	<i>Cypris sp</i>
11	<i>Daphnia sp.</i>
12	<i>Eucalanus sp</i>
13	<i>Mesocyclops</i>
14	<i>Moina sp</i>
15	<i>Mytilina sp</i>
16	<i>Cypris sp.</i>
17	<i>Centrocypris sp.</i>

Lower lake

During January to December, 2008 total 21 species were recorded in Lower Lake (Table 6).

Table: 6

S.No	Species recorded during January to December 2008
1	<i>Bosmina sp</i>
2	<i>Brachionus calyciflorus</i>
3	<i>Carteria sp.</i>
4	<i>Chydorus sp</i>
5	<i>Cyclops viridis</i>
6	<i>Cypris sp</i>
7	<i>Diaphanosoma sp</i>
8	<i>Diaptomus sp</i>
9	<i>Diffugia accuminata</i>
10	<i>Diffugia sp</i>
11	<i>Eudiaptomus sp</i>
12	<i>Keratella tropica</i>
13	<i>Lacrymaria sp.</i>
14	<i>Lecane sp</i>
15	<i>Lepadella sp</i>
16	<i>Mesocyclops sp</i>
17	<i>Moina sp</i>
18	<i>Polyphemus sp</i>
19	<i>Stenocypris sp</i>
20	<i>Thermocyclops sp</i>
21	<i>Trichocera sp</i>

Benthic Fauna

UPPER LAKE

In 2008 total 16 species were recorded in Upper Lake (Table-7).

Table: 7 Total numbers of benthic species in Upper Lake during January to December 2008.

Group	Species recorded during January to December 2008
1	<i>Berosus sp</i>
2	<i>Canes sp</i>
3	<i>Chironomus sp</i>
4	<i>Gerris sp</i>
5	<i>Gyraulus sp</i>
6	<i>Hydrophilus sp</i>
7	<i>Hydroptila sp</i>
8	<i>Lethocercus sp</i>
9	<i>Odonata nymph</i>
10	<i>Notonecta sp</i>
11	<i>Pisidium sp</i>
12	<i>Pristina sp</i>
13	<i>Simulium sp</i>
14	<i>Stenonema sp</i>
15	<i>Tubifex sp</i>
16	<i>Viviparous sp</i>

LOWER LAKE

During 2008 total 18 species were recorded at lower lake (Table-8).

Table: 8- Total number of benthic species recorded in Lower Lake during January to December 2008

S.No	Species recorded during January to December 2008
1	<i>Hydroptila sp</i>
2	<i>Ablebesmyia sp</i>
3	<i>Aeolosoma sp</i>
4	<i>Forcipomyia sp</i>
5	<i>Gyraulus sp</i>
6	<i>Haggnius sp</i>
7	<i>Hydrophilus sp</i>
8	<i>Isoperla sp</i>
9	<i>Lamellidens sp</i>
10	<i>Lethocercus sp</i>
11	<i>Limnodrilus sp</i>
12	<i>Simuliun sp</i>
13	<i>Tabanus sp</i>
14	<i>Tanypus sp</i>
15	<i>Tendipes sp</i>
16	<i>Tipula sp</i>
17	<i>Tubifex sp</i>
18	<i>Vivipara sp</i>