

Macro and Micro Flora & Fauna in Upper & Lower lakes during the period January to December, 2009

Micro flora (Phytoplankton)

UPPER LAKE

In Upper Lake in 2009 (i.e. January to December) total 25 species of Phytoplankton belonging to different class were recorded (Table-1).

Table-1: Number of species in Upper Lake during 2009

S.No	Species recorded during January to December 2009
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>Cymbella sp.</i>
7.	<i>Diatoma sp.</i>
8.	<i>Fragillaria sp</i>
9.	<i>Lyngbya sp.</i>
10.	<i>Melosira granulata</i>
11.	<i>Merismopedia sp</i>
12.	<i>Microactinastrum sp.</i>
13.	<i>Microcystis aeruginosa</i>
14.	<i>Navicula sp.</i>
15.	<i>Nitzschia sp.</i>
16.	<i>Oscillatoria sp</i>
17.	<i>Pediastrum Duplex</i>
18.	<i>Pediastrum simplex</i>
19.	<i>Pinnularia sp.</i>
20.	<i>Scenedesmus sp.</i>
21.	<i>Sphaerocystis sp.</i>
22.	<i>Spirulina sp</i>
23.	<i>Synedra sp.</i>
24.	<i>Ulothrix sp.</i>
25.	<i>Zygnema sp</i>

LOWER LAKE

In Lower Lake during January to December, 2009, total 26 species were observed. The list of phytoplankton species is depicted in Table-2

Table 2: Variation in total number of Phytoplankton species in Lower Lake during the year 2009

S.No	Species recorded during January to December 2009
1	<i>Actinastrum sp.</i>
2	<i>Ankistrodesmus sp</i>
3	<i>Chlorococcum humicola</i>
4	<i>Cosmarium sp</i>
5	<i>Cladophora sp.</i>
6	<i>Closterium Sp.</i>
7	<i>Cyclotella meneghiana</i>
8	<i>Cymbella sp.</i>
9	<i>Fragillaria sp</i>
10	<i>Lyngbya sp</i>
11	<i>Melosira granulata</i>
12	<i>Merismopedia sp</i>
13	<i>Microcystis aeruginosa</i>
14	<i>Navicula sp.</i>
15	<i>Nitzchia sp.</i>
16	<i>Pediastrum duplex</i>
17	<i>Pediastrum simplex</i>
18	<i>Pediastrum tetras</i>
19	<i>Pinnularia sp</i>
20	<i>Scenedesmus sp</i>
21	<i>Shizothrix sp.</i>
22	<i>Sphaerocystis sp.</i>
23	<i>Spirulina sp</i>
24	<i>Synedra ulna</i>
25	<i>Tetradron sp.</i>
26	<i>Zygnema sp</i>

Macro-flora of Upper Lake during 2009

Macrophytes

UPPER LAKE

In Upper Lake during 2009 i.e. January to December, total 22 species were identified (**Table 3**).

Table 3: List of Macrophytic Vegetation in Upper Lake during January to December 2009

Free Floating Forms: 4 sp

1. *Azolla pinnata*
2. *Eichhornia crassipes*
3. *Lemna minor*
4. *Spirodella polyrhiza*

Submersed Forms: 6 sp.

Rooted to the bottom

1. *Hydrilla verticillata*
2. *Limnophylla heterophylla*
3. *Myriophyllum
spatulatum*
4. *Ottelia alismoides*
5. *Potamogeton nodosus*
6. *Vallisneria spiralis*

Emergent Forms: 6 sp.

1. *Limnanthium
cristatum*
2. *Ludwigia
adscendens*
3. *Nelumbo nucifera*
4. *Nymphaea lotus*
5. *Scirpus roylei*
6. *Trapa bispinosa*

Not rooted to the bottom: 1 sp.

1. *Ceratophyllum demersum*

Marginal :

1. *Ipomia aquatica*
2. *Ipomoea fistulosa*
3. *Phragmites sp*
4. *Polygonum glabrum*
5. *Typha angustata*

LOWER LAKE

During the present investigation i.e. January to December, 09 total 13 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

Free Floating Forms: 3 Sp.

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

Submersed Forms: 3 sp.

Rooted to the bottom

1. *Potamogeton crispus*
2. *Vallisneria spiralis*

Not Rooted to the bottom

1. *Ceratophyllum demersum*

Emergent Forms: 5 sp.

1. *Ipomoea aquatica*
2. *Ipomoea fistulosa*
3. *Ludwigia adscendens*
4. *Nelumbo nucifera*
5. *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, 2009, total 17 species were identified for upper lake (Table 5)

Table 5: Total number of Zooplankton species in upper lake during Jan to December 2009

S.No	Species recorded during January to December
1	<i>Alona sp</i>
2	<i>Bosmina sp</i>
3	<i>Brachionus calyciflorus</i>
4	<i>Centropyxis sp.</i>
5	<i>Ciliates sp.</i>
6	<i>Cyclops sp.</i>
7	<i>Cypris sp</i>
8	<i>Daphnia sp.</i>
9	<i>Diaptomus sp</i>
10	<i>Filina sp.</i>
11	<i>Keratella cruzi</i>
12	<i>Keratella tropica</i>
13	<i>Lecane sp.</i>
14	<i>Macrothrix sp</i>
15	<i>Nauplius sp.</i>
16	<i>Stenocypris sp</i>
17	<i>Verticillata sp.</i>

LOWER LAKE

During January to December, 2009 total 18 species were recorded in Lower Lake (Table 6).

Table: 6 Total number of Zooplankton species in lower lake during January to December, 2009

S.No	Species recorded during January to December
1	<i>Bosmina sp</i>
2	<i>Brachionus calyciflorus</i>
3	<i>Carteria sp.</i>
4	<i>Chydorus sp</i>
5	<i>Ciliates sp.</i>
6	<i>Cyclocypris sp</i>
7	<i>Cyclops sp</i>
8	<i>Cypris sp</i>
9	<i>Daphnia sp</i>
10	<i>Euglypha sp</i>
11	<i>Filina longiseta</i>
12	<i>Keratella cruzi</i>
13	<i>Keratella tropica</i>
14	<i>Lecane sp</i>
15	<i>Macrothrix sp</i>
16	<i>Nauplius sp</i>
17	<i>Stenocypris sp</i>
18	<i>verticillata sp</i>

Benthic Fauna

UPPER LAKE

In 2009 total 11 species were recorded in Upper Lake (Table-7).

Table: 7 Total numbers of benthic species in Upper Lake during January to December 2009.

Group	Species recorded during January to December
3	<i>Ablebesmiya sp.</i>
4	<i>Gyraulius sp</i>
5	<i>Hydrophilus sp</i>
1	<i>Limnodrilus sp</i>
6	<i>Lumbriculus sp</i>
2	<i>Lymnaea sp</i>
7	<i>Pristina sp</i>
8	<i>Tabanus sp</i>
9	<i>Tendipes sp</i>
10	<i>Tubifex sp</i>
11	<i>Vivipara sp</i>

LOWER LAKE

During 2009 total 16 species were recorded at lower lake (Table-9).

Table: 8- Total number of benthic species recorded in Lower Lake during January to December 2009

S.No	Species recorded during January to December
1	<i>Choaborus sp</i>
2	<i>Dero sp</i>
3	<i>Dineutus sp</i>
4	<i>Forcipomyia sp</i>
5	<i>Gyraulius sp</i>
6	<i>Limnodrilus sp</i>
7	<i>Lumbriculus sp</i>
8	<i>Lymnaea sp</i>
9	<i>Nias sp</i>
10	<i>Notonecta sp</i>
11	<i>Pristina sp</i>
12	<i>Simuliun sp</i>
13	<i>Tabanus sp</i>
14	<i>Tanypus sp</i>
15	<i>Tubifex sp</i>
16	<i>Viviparous sp</i>