



FLORISTIC INVENTORY OF VILLAGE PONDS OF SOUTHERN HARYANA, INDIA

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Abstract

Village ponds are small freshwater ecosystems. They form important habitat for moisture loving, semi-aquatic and aquatic floristic diversity. At present time, floristic diversity of these ecosystems is declining at rapid speed. Degradation of village ponds not only leads to the loss of vegetation, but the rich cultural heritage associated with the ponds is also lost. Keeping in view of biodiversity losses in these ecosystems, the present study was carried out to generate documentation information regarding floral diversity of village ponds. Detailed field survey was done in different parts of the study site and plant samples were collected after recording detailed field notes. Plants were identified by comparing the specimen of plants with existing herbariums and picture of material prescribed in good reference books and also with the help of experts. During the course of investigation total 181 species belongs to 142 genera and 52 families have been reported. These families comprise 46 families belongs to dicotyledons with 140 species and 6 families belongs monocotyledon with 41 species. Some families are quite dominant represented by many plant species and 25 families have representation of only one species. Poaceae is the most dominant family with 30 plant species followed by Fabaceae, Asteraceae Amaranthaceae and Solanaceae. However, a majority of the village ponds habitats are now threatened by various factors such as encroachment, scarcity of water, pollution, siltation, sedimentation and salinity, which has led to decline in the floristic wealth of these aquatic ecosystems. Therefore, the periodical floristic surveys are needed to monitor and preserve the freshwater ecosystems floral diversity.

Key words : Village ponds, floristic diversity, threatened, freshwater, inventory.

Introduction

Freshwater ecosystems refer to ponds, lakes, springs, streams, rivers and wetlands. They are one of the most productive ecosystems of the world and are rich storehouse of floral and faunal diversity. They form important habitat for moisture loving, semi-aquatic and aquatic flora and fauna. The ecological and economic values of aquatic biodiversity are innumerable and immense.

Village ponds are one of the most important freshwater resources in entire rural and remote regions of globe. The village ponds are of great ecological, religious, aesthetical, spiritual and mythological significance. They fulfill all the requirements in the form of fresh water, food, fodder, fuel, medicine, timber, resins etc. (Gaur, 1999; Chapman, 2001). These small aquatic ecosystems are also important for their importance in

birds' migratory route as well as habitat to resident birds (Parsad *et al.*, 2002; Soka *et al.*, 2013). Other services related to these small aquatic ecosystems include shelter to endangered species of plants and animals, water purification, detoxification of waste material, climate regulation, carbon sequestration, flood control, nutrient cycling, mitigation of climate change etc. Village ponds also provide a good platform for social cohesion and reservoir of cultural and religious activities. Many socio-religious customs of villagers are associated with the village ponds. They dedicate many ponds to the local deities, therefore contributed to the conservation and protection of cultural and biological diversity.

But in spite of providing so many ecosystem services, these small aquatic ecosystems as they are considered as 'wasteland' (Williams, 1993; Macharia *et al.*, 2010). In order to eradicate this misconception, documentation of biodiversity is need. This can only be achieved through the process of extensive exploration, identification and

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documentation of flora and fauna. Identification of floristic cover of different areas play a significant role in planning of various programs related to preservation, restoration and management of biodiversity (Vajari *et al.*, 2014). The composition of flora in a given area is very important for natural resources management (Aksoy and Uzun, 2011) and more accurate recognition of plant species provides suitable approach for better protection of any aquatic ecosystems.

Moreover, now-a-days village ponds are subjected to degradation primarily due dumping of domestic and agricultural waste, encroachment for commercial purpose and residential use, overgrazing and change in land use pattern. There is insufficient financial resources and equipment for their conservation and management and unawareness about the importance of village ponds and their conservation among local communities.

A large number of floristic studies have been conducted for documentation of fresh water ecosystems diversity of plants in India and abroad (Bella *et al.*, 2008; Sharma, 2008; Wani and Pandit, 2008; Manhas *et al.*, 2009; Mishra and Narain, 2010; Kumara *et al.*, 2011; Misra *et al.*, 2012; Bhagyaleena and Gopalan, 2012; Sitre, 2013; Subba *et al.*, 2014; Anwana *et al.*, 2015; Sender *et al.*, 2016; Sciandrello *et al.*, 2016). Though, a few floristic and faunal studies have been undertaken in different parts of the Haryana also (Yadav *et al.*, 2004; Yadav *et al.*, 2010; Gupta *et al.*, 2012; Yadav and Bhandoria, 2013; Kumar and Dhankhar, 2015) but inadequate information is available on the flora of aquatic ecosystems of Haryana.

The first and foremost process in appreciating the biodiversity is the taxonomic treatment of living organisms. Without appropriate knowledge of the exact species composition, it will become very difficult to identify and implement conservation priorities for any ecosystem (Ragavan *et al.*, 2016). Therefore, the present study was conducted to prepare an inventory of floristic diversity of plants found in wet periphery of village ponds of Jhajjar district in Haryana state.

Materials and Methods

Study site description

Haryana is a small prosperous state located in northern India. It is bordered by Himachal Pradesh and Punjab in north and Rajasthan in south and west. Chandigarh is the capital of Haryana as well as Punjab. The large area of south Haryana is included in the national capital region (NCR). Administratively, the state is divided into 4 divisions, 22 districts, 47 sub-divisions, 67 tehsils,

45 sub-tehsils and 116 blocks. The state has 6,759 villages a total of 81 cities and towns.

Jhajjar district lies in south east of the state and located between 28° 22' to 28° 49' north latitudes and 76° 18' to 76° 59' east longitudes. The district headquarter is situated in Jhajjar town at a distance of about 65 km from Delhi. Administratively, district is divided into three sub-divisions and five community development blocks *viz.* Bahadurgarh, Beri, Jhajjar, Matanhail and Salhawas. The district has total 263 revenue villages and 250 Gram panchayats. Ponds of villages in the district are popular site for different variety of native and migratory birds. The district is economically sound as it derives its income from agriculture and various industries that have been set up.

Methodology

The data presented here is based on the survey conducted in the wet periphery of village ponds of district Jhajjar, Haryana. Vegetation surveys involving walking the edges and wading in the ponds, was carried out thrice a year in pre-monsoon, monsoon and post-monsoon seasons to identify ephemeral plants within the wet perimeter of the ponds, as well as trees and other plants around them (referred to as "pond area"). After recording detailed field notes, plants were collected for herbarium preparation. We repeated the survey of ponds in all the three seasons for two consecutive years. Identification of plants was done on the basis of spot identification method and further confirmation was made by comparing with available literature, photographs and also confirmed by visiting nearby herbaria of University of Rajasthan, Jaipur, Delhi University, New Delhi, Panjab University, Chandigarh, India. The species names were also matched with plant names given in the International plant list available on the website.

Results and Discussion

During the course of investigation total 181 species belongs to 142 genera and 52 families have been reported. These families comprise 46 families belongs to dicotyledons with 140 species and 6 families of monocotyledon with 41 species. Some families are quite dominant represented by many plant species and 25 families have representation of only one species. Inventory of plants found in wet periphery of village ponds (table 1).

Poaceae is the most dominant family with 30 plant species followed by Fabaceae, Asteraceae, Amaranthaceae and Solanaceae with 17, 15, 12 and 9 plant species, respectively (fig. 1). One of the similar

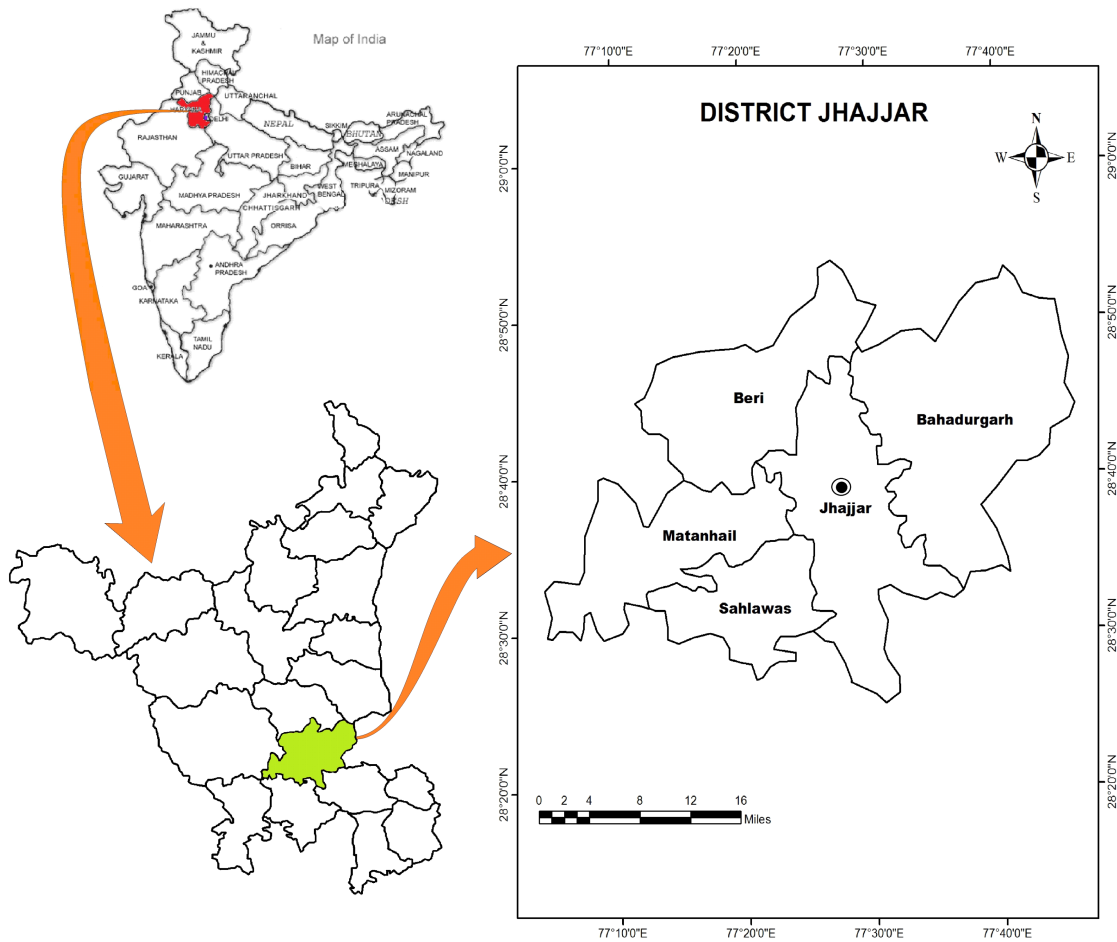


Fig. 1 : Map of the study site.

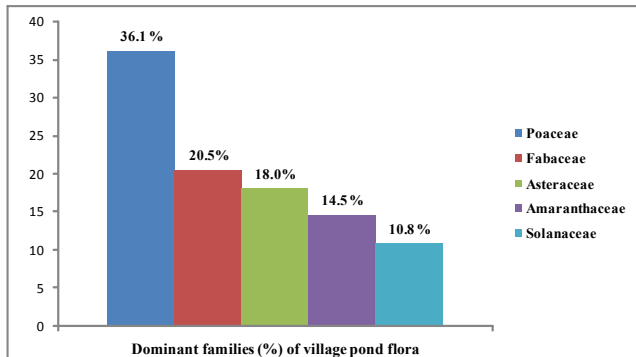


Fig. 1 : Most dominant families of plant found in village ponds.

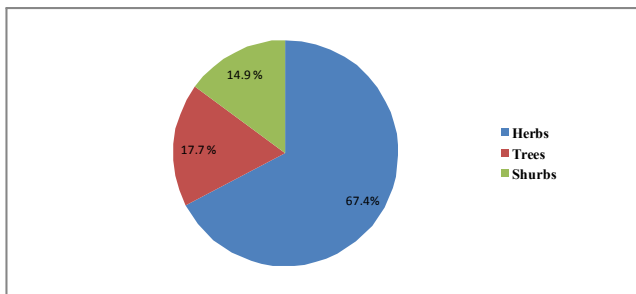


Fig. 2 : Percentage (%) showing habitat wise distribution.

study conducted by Olubode (2011) on floral diversity of freshwater ecosystems including Apete river, Eleyele lake and Oba dam reported the dominance of Poaceae family. Other similar study conducted by Mishra and Narain (2010) on Bakhira wetland in Uttar Pradesh reported dominance of Cyperaceae followed by Poaceae family. Monocot families include Araceae, Cyperaceae, Poaceae, Pontederiaceae, Typhaceae and Xanthorrhoeaceae. There is a dominance of herbs (67.4%) followed by trees (17.7%) and shrub (14.9%) were reported (fig. 2). In case of dominant families, our results are generally in concordance with Reddy and Siwakoti (2006); Reddt and Patnaik (2009) and Kaur *et al.* (2016).

The genus *Cypress* contributed (5 species); *Cenhus* (4 species); *Acasia*, *Alternanthera*, *Casia*, *Euphorbia* and *Phylanthus* (3 species each); *Amaranthus*, *Blumea*, *Boerhavia*, *Calotropis*, *Capparis*, *Chenopodium*, *Convolvulus*, *Dactyloctenium*, *Datura*, *Ficus*, *Melilotus*, *Panicum*, *Polygonum*, *Rumex*, *Saccharum*, *Salvedora*, *Setaria*, *Solanum*, *Vicia* and *Ziziphus* (2 species each) and other genus contributed only single species. There is a dominance of *Prosopis juliflora* in

Table 1 : Inventory of plants found in wet periphery of village ponds.

S.no.	Plant names	Local names	Family	Habit
1	<i>Abutilon indicum</i> (L.) Sweet	Kanghi, Country mallow	Malvaceae	Shrub
2	<i>Acacia leucophloea</i> (Roxb.) Willd.	Ronjh, Safedbabul, Safedkikar	Fabaceae	Tree
3	<i>Acacia nilotica</i> (L.) Delile	Desikikar, Babool	Fabaceae	Tree
4	<i>Acacia tortilis</i> (Forssk.) Hayne	Israeli babool, Umbrella thorn	Fabaceae	Tree
5	<i>Achyranthes aspera</i> L.	Ola kanta	Amaranthaceae	Herb
6	<i>Acrachne racemosa</i> (Heyne) Ohwi	Makra	Poaceae	Herb
7	<i>Ageratum conyzoides</i> (L.) L.	Janglipudina	Asteraceae	Herb
8	<i>Albizia lebeck</i> (L.) Benth.	Sirus	Fabaceae	Tree
9	<i>Aloevera</i> (L.) Burm.f.	Gheekumari, Aloe vera	Xanthorrhoeaceae	Herb
10	<i>Alternanthera Pungens</i> Kunth	Khaki weed	Amaranthaceae	Herb
11	<i>Alternanthera philoxeroides</i> (Mart.) Griseb.	Alligator weed, Pigweed	Amaranthaceae	Herb
12	<i>Alternanthera sessilis</i> (L.) R.Br. ex DC.	Garundi, Guroo	Amaranthaceae	Herb
13	<i>Amaranthus Spinousus</i> L.	Kanta chaulai	Amaranthaceae	Herb
14	<i>Amaranthus viridis</i> L.	Chulai	Amaranthaceae	Herb
15	<i>Anagallis arvensis</i> L.	Jonkmari	Primulaceae	Herb
16	<i>Anogeissus pendula</i> Edgew.	Dhaura	Combretaceae	Tree
17	<i>Aristida adscensionis</i> L.	Needle grass	Poaceae	Herb
18	<i>Artemisia scoparia</i> Waldst. & Kitam.	Seeta-bani, Jhau	Asteraceae	Herb
19	<i>Arundo donax</i> L.	Giant reed	Poaceae	Herb
20	<i>Asphodelus tenuifolius</i> Cav	Junglipyaj, Onion weed	Xanthorrhoeaceae	Herb
21	<i>Avena sativa</i> L.	Jayee	Poaceae	Herb
22	<i>Azadirachta indica</i> A. Juss.	Neem	Meliaceae	Tree
23	<i>Balanites aegyptiaca</i> (L.) Delile	Hindokala	Zygophyllaceae	Tree
24	<i>Barleria prionitis</i> L.	Vajradanti, Porcupine flower	Acanthaceae	Shrub
25	<i>Bauhinia purpurea</i> L.	Kachnar, Camel's foot tree	Fabaceae	Tree
26	<i>Blumea lacera</i> (Burm.f.) DC.	Janglimuli	Asteraceae	Herb
27	<i>Blumea mollis</i> (D. Don) Merr.	Kakronda, Soft blumea	Asteraceae	Herb
28	<i>Boerhavia chinensis</i> (L.) Rottb.		Nyctaginaceae	Herb
29	<i>Boerhavia diffusa</i> L.	Punarnava	Nyctaginaceae	Herb
30	<i>Bothriochloa pertusa</i> (L.) A. Camus	Indian blue grass	Poaceae	Herb
31	<i>Bougainvillea spectabilis</i> Willd.	Booganbel, Great Bougainvillea	Nyctaginaceae	Shrub
32	<i>Brachiaria reptans</i> (L.) Gard. C.E. Hubb.	Para ghas	Poaceae	Herb
33	<i>Calotropis gigantea</i> (L.) Dryand.	Akda	Asclepiadaceae	Shrub
34	<i>Calotropis procera</i> (Aiton) Dryand.	Aaak	Asclepiadaceae	Shrub
35	<i>Cannabis sativa</i> L.	Bhang	Cannabaceae	Herb
36	<i>Capparis decidua</i> (Forssk.) Edgew.	Kair	Capparaceae	Shrub
37	<i>Capparis sepiaria</i> L.	Kanthari, Wild Caper Bush	Capparaceae	Shrub
38	<i>Carthamus oxyacantha</i> M. Bieb.	Wild safflower	Asteraceae	Herb
39	<i>Cassia fistula</i> L.	Amaltas	Fabaceae	Tree
40	<i>Cassia occidentalis</i> L.	Kasunda, Coffee weed	Fabaceae	Shrub
41	<i>Cassia tora</i> L.	Charota, Chakvad, Chakavat	Caesalpiniaceae	Shrub
42	<i>Cenchrus biflorus</i> Roxb.	Bharut	Poaceae	Herb
43	<i>Cenchrus ciliaris</i> L.	Anjan, Dhman	Poaceae	Herb
44	<i>Cenchrus pennisetiformis</i> Steud.	Slender buffel grass	Poaceae	Herb
45	<i>Cenchrus setiger</i> Vahl	Kala dhaman, Birdwood grass	Poaceae	Herb

Table 1 continued...

Table 1 continued...

46	<i>Chenopodium album</i> L.	Bathua	Amaranthaceae	Herb
47	<i>Chenopodium murale</i> L.	Bathua	Amaranthaceae	Herb
48	<i>Chloris barbata</i> Sw.	Jargi, Trail grass	Poaceae	Herb
49	<i>Cichorium intybus</i> L.	Blue daisy, Chicory, Kasni	Asteraceae	Herb
50	<i>Cirsium arvense</i> (L.) Scop.	Creeping thistle	Asteraceae	Herb
51	<i>Cissus quadrangularis</i> L.	Hadjod, Hadjora	Vitaceae	Herb
52	<i>Citrus limon</i> (L.) Osbeck	Nimbu, Lemon	Rutaceae	Shrub
53	<i>Clerodendrum phlomidis</i> L.f.	Arna, Arni	Lamiaceae	Shrub
54	<i>Coccinia grandis</i> (L.) Voigt	Kundurur, Ivy gourd	Cucurbitaceae	Herb
55	<i>Cocculus pendulus</i> (J.R.Forst. &G.Forst.) Diels	Cherutekku	Menispermaceae	Shrub
56	<i>Convolvulus arvensis</i> L.	Harinkhuri, Bindweed, field bind weed	Convolvulaceae	Herb
57	<i>Convolvulus microphyllus</i> Sieb. Ex Spreng.	Morning glory, Sankhpushpi	Convolvulaceae	Herb
58	<i>Corchorus depressus</i> (L.) Stocks	Bahuphali, Mudhiri	Malvaceae	Herb
59	<i>Cordia dichotoma</i> G. Forst.	Lesva	Boraginaceae	Tree
60	<i>Coronopus didymus</i> (L.) Sm.	Pitpapra, Lesser swine-cress	Brassicaceae	Herb
61	<i>Croton bonplandianus</i> Baill	Jangli Mirch	Euphorbiaceae	H e r b
62	<i>Cuscuta reflexa</i> Roxb.	Amar bel	Convolvulaceae	Herb
63	<i>Cyanthillium cinereum</i> (L.) H.Rob.	Sahadevi, Purple feabane	Asteraceae	Herb
64	<i>Cynodon dactylon</i> (L.) Pers.	Doobghas, Durva	Poaceae	Herb
65	<i>Cyperus bulbosus</i> Vahl	Motha	Cyperaceae	Herb
66	<i>Cyperus difformis</i> L.	Dila, Small flower umbrella	Cyperaceae	Herb
67	<i>Cyperus iria</i> L.	Morphula, Rice flat sedge	Cyperaceae	Herb
68	<i>Cyperus rotundus</i> L.	Mothia	Cyperaceae	Herb
69	<i>Cyperus triceps</i> (Rottb.) Endl.		Cyperaceae	Herb
70	<i>Dactyloctenium aegyptium</i> (L.) Willd.	Makra	Poaceae	Herb
71	<i>Dactyloctenium scindicum</i> Bioss.		Poaceae	Herb
72	<i>Dalbergia sissoo</i> DC.	Sheesham	Fabaceae	Tree
73	<i>Datura metel</i> L.	Dhatura	Solanaceae	Herb
74	<i>Datura stramonium</i> L.	Safeddatura	Solanaceae	Herb
75	<i>Desmostachya bipinnata</i> (L.) Stapf	Daabh	Poaceae	Herb
76	<i>Dichanthium annulatum</i> (Forssk.) Stapf	Marvel grass	Poaceae	Herb
77	<i>Digera muricata</i> (L.) Mart.	Kundhra	Amaranthaceae	Herb
78	<i>Digitaria ciliaris</i> (Retz.) Koeler	Jhernighas	Poaceae	Herb
79	<i>Diospyros montana</i> Roxb.	Kendu, Bistendu	Ebenaceae	Tree
80	<i>Dysphania ambrosioides</i> (L.) Mosyakin & Clemants	Wormseed	Amaranthaceae	Herb
81	<i>Eclipta prostrata</i> (L.) L.	Bhringraj	Asteraceae	Herb
82	<i>Eichhornia crassipes</i> (Mart.) Solms	Water hyacinth	Pontederiaceae	Herb
83	<i>Emex spinosa</i> (L.) Campd.	Devil's thorn	Polygonaceae	Herb
84	<i>Eragrostis pilosa</i> (L.) P. Beauv.	Bharbhusi, Love grass	Poaceae	Herb
85	<i>Erigeron bonariensis</i> L.	Horseweed	Asteraceae	Herb

Table 1 continued...

Table 1 continued...

86	<i>Eucalyptus globules</i> Labill.	Safeda	Myrtaceae	Tree
87	<i>Euphorbia tirucalli</i> L.	Anglithor, Pencil Tree, Indian Spurge	Euphorbiaceae	Shrub
88	<i>Euphorbia hirta</i> L.	Bara dudhi, Asthma Weed	Euphorbiaceae	Herb
89	<i>Euphorbia prostrata</i> Aiton	Prostrate sandmat	Euphorbiaceae	Herb
90	<i>Fernandoa adenophylla</i> (Wall. ex G.Don) Steenis	Marodphali, Katsagon	Bignoniaceae	Tree
91	<i>Ficus benghalensis</i> L.	Bad	Moraceae	Tree
92	<i>Ficus religiosa</i> L.	Peepal	Moraceae	Tree
93	<i>Fimbristylis bisumbellata</i> (Forssk.) Bubani	Musa dadhi	Cyperaceae	Herb
94	<i>Fumaria parviflora</i> Lam.	Papara, Indian Fumitory	Papaveraceae	Herb
95	<i>Gomphrena celosioides</i> Mart.	Bachelor's button	Amaranthaceae	Herb
96	<i>Heliotropium curassavicum</i> L.	Monkey tail	Boraginaceae	Herb
97	<i>Hibiscus rosa-sinensis</i> L.	Gurhal	Malvaceae	Shrub
98	<i>Holoptelea integrifolia</i> Planch.	Papri, Chilbil, Indian Elm	Ulmaceae	Tree
99	<i>Imperata cylindrica</i> (L.) P. Beauv.	Chij, Thatch grass	Poaceae	Herb
100	<i>Ipomoea carnea</i> Jacq.	Vilayatiak	Convolvulaceae	Shrub
101	<i>Jatropha curcas</i> L.	Ratanjot, Jangliarandi, Jatropha	Euphorbiaceae	Shrub
102	<i>Justicia adhatoda</i> L.	Arus, Malabar nut	Acanthaceae	Shrub
103	<i>Lantana camara</i> L.	Lantana, Raimuniya	Verbenaceae	Shrub
104	<i>Lawsonia inermis</i> L.	Mehandi, Henna	Lythraceae	Shrub
105	<i>Lemna minor</i> L.	Common duckweed	Araceae	Herb
106	<i>Lepidium didymium</i> L.	Janglihalaon	Brassicaceae	Herb
107	<i>Leucaena leucocephala</i> (Lam.) de Wit	Vilayatisiris	Fabaceae	
108	<i>Leucas cephalotes</i> (Roth) Spreng.	Dronapuspi	Lamiaceae	
109	<i>Lycium europaeum</i> L.	-----Mureli	Solanaceae	
110	<i>Lycopersicon esculentum</i> Mill.	Tomato	Solanaceae	
111	<i>Malva parviflora</i> L.	Cheeseweed	Malvaceae	
112	<i>Malvastrum coromandelianum</i> (L.) Garcke	Broom weed, False mallow	Malvaceae	
113	<i>Medicago falcate</i> L.	Vilayatigrawuth	Fabaceae	
114	<i>Melia azedarach</i> L.	Bakain, Chinaberry tree	Meliaceae	
115	<i>Melilotus albus</i> Medik.	Khandai, Safed Ban-methi	Fabaceae	
116	<i>Melilotus indicus</i> (L.) All.	Sweet clover, Sour clover	Fabaceae	
117	<i>Mirabilis jalapa</i> L.	Gul-abbas, Four'o clock	Nyctaginaceae	
118	<i>Mitragyna parvifolia</i> (Roxb.) Korth.	Kadamb, Kaim	Rubiaceae	
119	<i>Morus alba</i> L.	Sehtut	Moraceae	Tree
120	<i>Nerium oleander</i> L.	Kaner, Oleander	Apocynaceae	Shrub
121	<i>Nicotiana plumbaginifolia</i> Viv.	Jangli tambacoo	Solanaceae	Herb
122	<i>Opuntia elatior</i> Mill.	Nag phani, Prickly Pear	Cactaceae	Shrub
123	<i>Oxalis corniculata</i> L.	Amrul, Tinapattiya, Indian sorrel	Oxalidaceae	Herb
124	<i>Panicum antidotale</i> Retz.	Kutki, Blue panic grass	Poaceae	Herb
125	<i>Panicum repens</i> L.	Cheno, Torpedo grass	Poaceae	Herb

Table 1 continued...

Table 1 continued...

126	<i>Parthenium hysterophorus</i> L.	Congress grass	Asteraceae	Herb
127	<i>Pedilanthus tithymaloides</i> (L.) Poit	Devils backbone	Euphorbiaceae	Shrub
128	<i>Pentstemon spiralis</i> (Forssk.) Decne.	Dhodiyal, Dhodh Val	Asclepiadaceae	Herb
129	<i>Pergularia daemia</i> (Forssk.) Chiov.	Dudhi, Dudhibel	Asclepiadaceae	Herb
130	<i>Peristrophe paniculata</i> (Forssk.) Brummitt	Atrilal, Panicked foldwing	Acanthaceae	Herb
131	<i>Perotis indica</i> Kuntze	Phoolghas	Poaceae	Herb
132	<i>Phalaris minor</i> Retz.	Guli danda	Poaceae	Herb
133	<i>Phragmites karka</i> (Retz.) Trin.	Doka ghas	Poaceae	Herb
134	<i>Phyllanthus emblica</i> L.	Amla, Gooseberry	Phyllanthaceae	Tree
135	<i>Phyllanthus fraternus</i> G.L.Webster	Bhuinavalah, Hajarmani	Phyllanthaceae	Herb
136	<i>Phyllanthus maderaspatensis</i> L.	Tarlanoi, Canoe weed	Phyllanthaceae	Herb
137	<i>Physalis minima</i> L.	Pilpotan	Solanaceae	Herb
138	<i>Polyalthia longifolia</i> (Sonn.) Thwaites	Nakli Ashok, Mast tree, Buddha tree	Annonaceae	Tree
139	<i>Polygonum barbatum</i> L.	Knot grass	Polygonaceae	Herb
140	<i>Polygonum plebeium</i> R.Br.	Machechi, Small Knotweed	Polygonaceae	Herb
141	<i>Polypogon monspeliensis</i> (L.) Desf.		Poaceae	Herb
142	<i>Pongamia pinnata</i> (L.) Pierre	Papdi	Fabaceae	Tree
143	<i>Portulaca oleracea</i> L.	Purslane, Lunakhi, Nunia	Portulacaceae	Herb
144	<i>Prosopis juliflora</i> (Sw.) DC.	Kablikikar	Fabaceae	Tree
145	<i>Putranjiva roxburghii</i> Wall.	Jivaputrak, Putranjivah, Child life tree	Putranjivaceae	Tree
146	<i>Ranunculus sceleratus</i> L.	Bhander	Ranunculaceae	Herb
147	<i>Ricinus communis</i> L.	Arandi	Euphorbiaceae	Shrub
148	<i>Rumex conglomerates</i> Murray	Cluster dock, Jangli palak	Polygonaceae	Herb
149	<i>Rumex dentatus</i> L.	Jangli palak	Polygonaceae	Herb
150	<i>Saccharum bengalense</i> Retz.	Jhunda, Moonj	Poaceae	Herb
151	<i>Saccharum spontaneum</i> L.	Kaans	Poaceae	Herb
152	<i>Salvadora oleoides</i> Decne.	Khara Jal	Salvadoraceae	Tree
153	<i>Salvadora persica</i> L.	Jal	Salvadoraceae	Tree
154	<i>Sesbania bispinosa</i> (Jacq.) W.Wight	Danchi, Dunchi	Fabaceae	Shrub
155	<i>Setaria glauca</i> (L.) P.Beauv.	Chepu	Poaceae	Herb
156	<i>Setaria intermedia</i> (Roth) Roem. &Schult.	Kutela, Chiktu	Poaceae	Herb
157	<i>Sida cordifolia</i> L.	Khirainti, Bariyara, Country mallow	Malvaceae	Herb
158	<i>Sisymbrium irio</i> L.	Janglisarson, Wild mustard	Brassicaceae	Herb
159	<i>Solanum americanum</i> Mill.	Makoi	Solanaceae	Herb
160	<i>Solanum xanthocarpum</i> Schrad. & H. Wendl.	Yellow-berried Nightshade	Solanaceae	Herb
161	<i>Sonchus asper</i> (L.) Hill	Dodak	Asteraceae	Herb
162	<i>Sorghum halepense</i> (L.) Pers.	Jangli jawar, Johnson grass	Poaceae	Herb
163	<i>Spergula arvensis</i> L.	Janglidhania	Caryophyllaceae	Herb
164	<i>Suaeda acuminata</i> (C.A.Mey.) Moq.	Common Indian saltwort	Amaranthaceae	Herb
165	<i>Syzygium cumini</i> (L.) Skeels	Jamun	Myrtaceae	Tree

Table 1 continued...

Table 1 continued...

166	<i>Tamarix aphylla</i> (L.) H.Karst.	Farash	Tamaricaceae	Tree
167	<i>Terminalia arjuna</i> (Roxb. ex DC.) Wight & Arn.	Arjun tree	Combretaceae	Tree
168	<i>Thevetia neriiifolia</i> Juss. ex Steud.	Pilakaner	Apocynaceae	Shrub
169	<i>Tinospora sinensis</i> (Lour.) Merr.	Giloy	Menispermaceae	Herb
170	<i>Trianthema portulacastrum</i> L.	Santhi, Giant pigweed	Aizoaceae	Herb
171	<i>Tribulus terrestris</i> L.	Bhakri	Zygophyllaceae	Herb
172	<i>Typha angustifolia</i> L.	Patera	Typhaceae	Herb
173	<i>Verbesina encelioides</i> (Cav.) Benth. & Hook.f. ex A.Gray	Yellow top	Asteraceae	Herb
174	<i>Vernonia cinerea</i> (L.) Less.	Iron weed, Bitter leaf	Asteraceae	Herb
175	<i>Veronica anagallis-aquatica</i> L.	Sahdevi, Blue water speedwell	Plantaginaceae	Herb
176	<i>Vicia hirsuta</i> (L.) Gray	Hairy tare, Hairy vetch	Fabaceae	Herb
177	<i>Vicia sativa</i> L.	Chatri, Gegl, Vetch	Fabaceae	Herb
178	<i>Withania somnifera</i> (L.) Dunal	Aswgandha	Solanaceae	Herb
179	<i>Xanthium strumarium</i> L.	Chhota-gokhru	Asteraceae	Herb
180	<i>Ziziphus jujuba</i> Mill.	Baadberi	Rhamnaceae	Tree
181	<i>Ziziphus nummularia</i> (Burm.f.) Wight & Arn.	Jhari-Ber	Rhamnaceae	Shrub

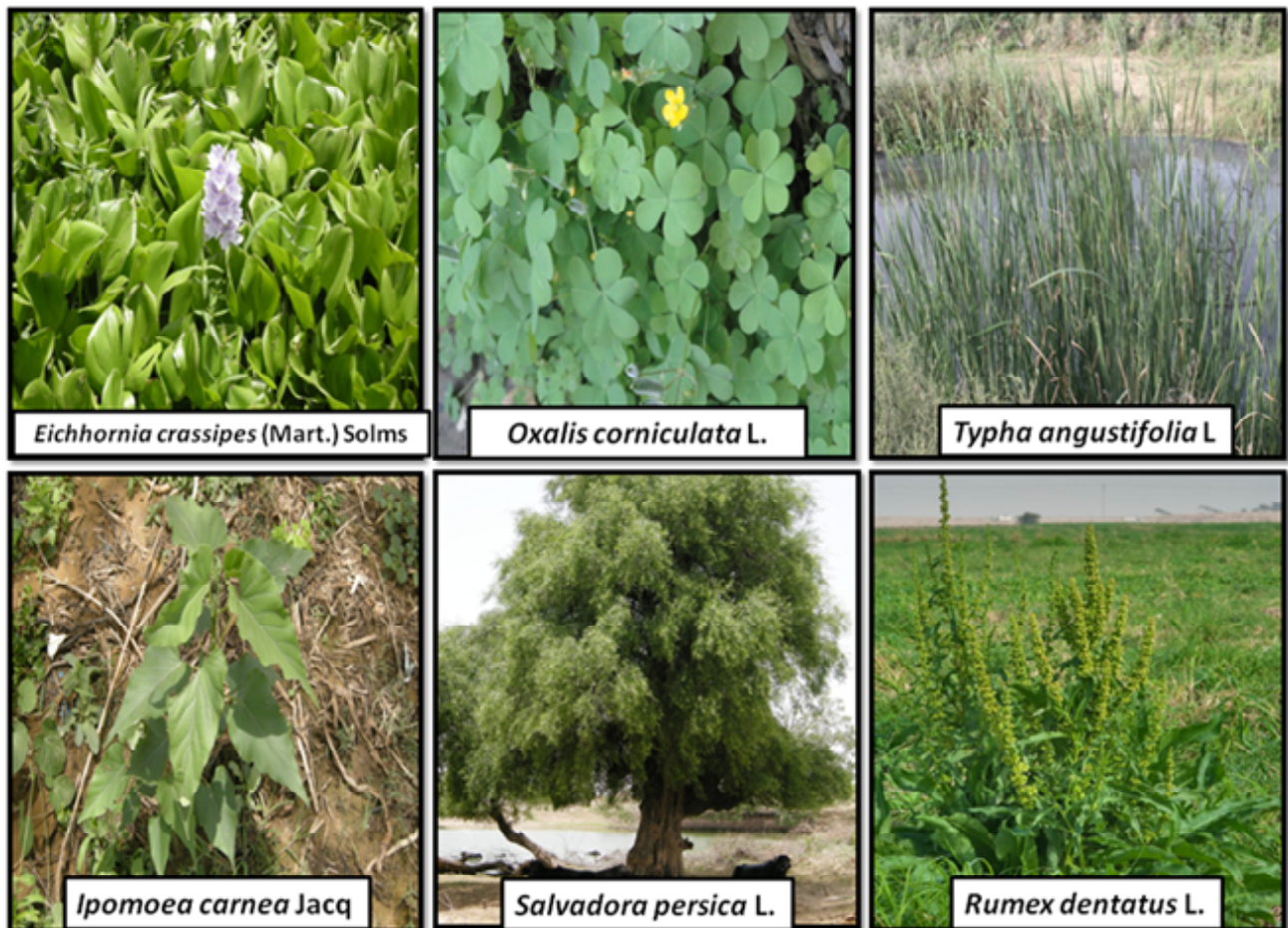


Fig. 3 : Some common plants reported around the periphery of village ponds.

the wet periphery of most of the village ponds.

Floristic information reflects the structural and functional complexities of freshwater ecosystems (Sharma, 2008). Such floristic inventory may act as a positive force for biodiversity (Heywood, 1999; Webb *et al.*, 2010 and Jaykumar *et al.*, 2011). The role of taxonomy as a integral component of biodiversity protection has been highlighted and discussed at scientific level by Nair (2004), Mace (2004), Narendran (2006), Raczkowski and Wenzel (2007) and Mayo *et al.* (2008).

The results of this comprehensive inventory are important because in the absence, it will be difficult to set up conservation priorities. The baseline information in the form of floristic inventory may be highly useful for future ecological work such as rehabilitation and conservation of the flora of these aquatic ecosystems. Therefore, it is recommended that a long term comprehensive study should be undertaken to document the ecological status of aquatic biodiversity of the study area. There is a sturdy need to promote conservation of ponds in rural areas to reduce the loss of these freshwater bodies and depletion of native plant species for the benefit of the present as well as future generations.

Acknowledgments

The authors would like to thank Council of Scientific & Industrial Research (CSIR), New Delhi, University Grants Commission (UGC), New Delhi and Haryana State Council for Science and Technology (HSCST) for providing the financial assistance.

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