A CONTRIBUTION TO THE FLORA OF WADHVANA WETLAND, DABHOI TALUKA (GUJARAT) INDIA

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ABSTRACT

The paper publishes an account of the wetland flora of Wadhvana at Dabhoi Taluka, Gujarat. Study of plant habitat is of great importance for scientific and socioeconomic endangered species of plants. The wadhvana maintains flora and was thoroughly explored during the year 2010-2011. The wetland shows a floral diversity of 73 Genera and 82 Species belonging to 43 Angiospermic families. Dicotyledonous were represented by 31 Families and 63 Species, Monocotyledon were represented by 12 families and 19 Species. These species were includes in free floating, rooted floating submerged and emergent species and some seen in marshy land Significantly many Species have been found to occur through the year.

Key words: Wadhvana wetland, field work, Dicotyledonae, Momocotyledonae, Habitat.

INTRODUCTION

Wetland is among the most productive ecosystems in the world (Mitsch and Gosselink, 1993). Several works have been done on the aquatic macrophytes and phytosociology in different freshwater bodies of India (Gupta, 1996; Dabgar, 2006; Kar and Barbhuiya, 2007; Kauramb, 2007; Deshkar, 2008; Chandra *et al.,* 2008). In India the first comprehensive work on the wetland flora was produced by Biswas and Calder (1984). There is no floristic record of the species found in the purely Dabhoi Taluka (Gujarat). The present study deals with a floristic survey of the wetland plants of the Taluka.

MATERIALS AND METHODS

The present work is done in the wetlands of surrounding area of wadhvana wetland. The field's trips were organized during the year 2010-2011. Monthly survey was done by random method for collecting aquatic macrophytes. The specimens were collected and then observed their morphological characters and identified up to Genus species level with the help of flora of Gujarat state (Shah, 1978). The herbarium specimens of wetland species collected during this study are lodge in the Botany Department, Science College, Dabhoi.

STUDY AREA

Wadhvana is an important wetland covering an area of about 10 sq km. that falls in the central Gujarat. This important wetland is being managed by the irrigation and forest department of Gujarat.

The wetland is located in Baroda District (22^{o} 09' 42.2"N, 73^{o} 28' 32.9"E). The major inlet of the wetland is Mahi and Narmada canals that are feeder canals of the lake. The maximum depth of the wetland measured during study is 20 ft. Tank Area is 1430 acre and Lath of dam is 278 chanal. The total length of Lack is 17.60 km. The wetland is predominantly used for fishing, irrigation and supply of drinking water to nearest Village.

Hence, this study investigated the overall biodiversity of the region and distribution of waterfowl species in relation to the existing habitat features of wadhvana wetland.

RESULT AND DISCUSSION

The flora of wadhwana showed 73 Genera and 82 species belonging to 43 families. The checklist of plant species with their botanical name, family, local name, Habit and Habitat is presented in Table - 1. Dicotyledonae were represented by 31 Families and 63 species. Monocotyledone were represented by 12 families and 19 Species. *Astraceae* with 07 species was the most dominantind family followed by *Lamiaceae* (04 species), *Cypraceae* (04 species) and Primuliaceae (03 species). Among 73 Genera Nymphea (02 species), Portulaca (02 species) and *Amania* (02 species) as shown in **Table-1.**

Table No. 1: Flora of Wadhvana Wetland, Dabhoi Taluka (Gujarat) India

Botanical name	Family	Local name	Habit	Habitat
Ranunculus sceleratus L.	Ranunculaceae	Jaldhana	H	Rooted emergent
Nymphea stellata Wild.	Nympheaceae	Lal poyna	H	Marshy land
Nymphoides peltatum			H	Free floating
Nelumbo nucifera Gaertn.	Nelumbonaceae	Vado Kamalful	H	Free floating
Polygala erioptera DC.	Polygalaceae	Patsan	H	Marshy land
Portulaca olearacea L.	Portulacaceae	Moti Luni	H	Marshy land
Portulaca quadrifida L.		Zini Luni	H	Marshy land
Polycarpaea corymbosa (L.) Lam.	Caryophyllaceae	Jangli soa	H	Marshy land
Spergula arvensis L.	Caryophyllaceae	Corn spurrey	H	Marshy land
Bergia odorata Edgew.	Elatinaceae	Okhrad	H	Marshy land
Corchorus aestuans L.	Tiliaceae	Chunch	H	Marshy land
Corchorus olitorius L.	Tiliaceae	Chunch	H	Marshy land
Oxalis corniculata L.	Oxalidaceae	Changeri	H	Marshy land
Tribulus terrestris L.	Zygophyllaceae	Bethu Gokhru	H	Marshy land
Cayratia carnosa (Lam.) Gagnep.	Vitaceae	Kath katumbo	C	Marshy land
Cissus quadrangularie L.		Hadsakal	C	Marshy land
Alyscirpus monilifer (L.) DC.	Fabaceae	Jhuhighas	H	Marshy land
Desmodium triflorum L.	Fabaceae	Zino Pandadio	H	Marshy land
Sesbania bispinosa Jacq)W.F.Wight	Fabaceae	Ikad	H	Marshy land
Ammannia baccifera L.	Lythraceae	Agio	H	Marshy land
Ammannia multiflora Roxb.		Zino agio	H	Marshy land
Ludwigia parviflora Roxb.	Onagraceae	Panlavang	H	Marshy land
Trapa bi-spinosa Roxb.	Trapaceae		H	Free floating
Glinus lotoides L.	Molluginaceae	Mitho okhrad	H	Free floating
Mollugo pentaphylla L.		Jhras	H	Free floating
Oldenlandia corymbosa L.	Rubiaceae	Parpat	H	Free floating
Borreria aricularis L.		Ganthiyu	H	Free floating
Acanthospermum hispidum DC.	Astreceae	Zinku gadriyou	H	Free floating
Amberboa ramosa (Roxb.) Jeffry.		Mankadmari	H	Free floating
Ageratum conzoides L.		Dholi sadodi	H	Free floating
Echinops echinatus Roxb.		Ut kanto	H	Free floating
Eclipta prostrata (L.) L. Manf.		Jal bhangro	H	Free floating
Grangea mederaspatana (L) Poir.		Zinkimundi	H	Free floating
Launaea procumbens (Roxb.) Ramayya		Moti bhoypattri	H	Free floating
Parthenium hysterosporus L.		Gajargas	H	Free floating
Dyerophytum indicum (Gib. Ex Wt.) O.	Plumbaginaceae	Rato chitrak	S	Free floating
Plumbago zeylanica L.		Chitrak	H	Free floating
Anagallis arvensis L.	Primulaceae	Khet fuli	H	Free floating
Leptadenia reticulata (Retz.) W & A.		Dodi	TW	Free floating
Pergularia daemia (Forsk.) Chiov.		Chamar dudhali	TW	Free floating
Enicostema littorale Bl.	Gentianaceae	Mamejvo	H	Free floating
Conscora diffusa (Vahl.) R.		Zinkukariatu	H	Free floating
Coldenia procumbens L.	Boraginaceae	Okhrad	H	Free floating
Heliotropium indicum L.		Hathi sundha	H	Free floating
Convorvulus microphyllus (Roth.) Sieb.ex.Spr.	Convolvulaceae	Sankhavali	H	Free floating
Evolvulus alsinoides L.		Kali sankhavoli	H	Free floating
Datura innoxa Mill.	Solanaceae	Kalo dhanturo	H	Free floating
Bacopa monnieri (L) Pennell.	Scrophulariaceae	Jalnaveri	H	Free floating
Bonaya veronicaefolia Spr.		Parpati	H	Free floating
Kixia ramossisima (Wall.) Janch.		Bhit gilodi	H	Free floating
Lindergia urticaefolia Lehm.		Bhit chatti	H	Free floating
Orobanche aegyptica Pers.	Orobanchaceae	Vakubmbho	P	Free floating
Andrographis ehioides L.	Acanthaceae	Kariyatu	H	Free floating

Andrographis paniculata Wall.		Lilu kariyatu	H	Free floating
Phyla nodiflora (L) Greene.	Verbenaceae	Rathvelio	H	Free floating
Anisomeles indica (L) O. Ktze.	Lamiaceae	Chodharo	H	Free floating
Leucas cephalotes (Roxb. Ex Roth.) Spr.		Kubo	H	Free floating
Ocimum gratissimum L.		Avchi bavchi	H	Free floating
Ocimum sanctum L.		Tulsi	H	Free floating
Boerhavia diffusa L.	Nyctaginaceae	Satodi	H	Free floating
Polygonum glabrum Willd.		Shrrul	H	Free floating
Polygonum plebeium R. Br.		Zinko okhrad	H	Free floating
Acalypha indica L.	Euphorbiaceae	Kappi	H	Free floating
Hydrilla verticillata (L.f.) Royal.	Hydrocharitaceae	Kureli	H	Submerged
Ceretophyllam demersum L.	Ceretophyllaceae		H	Submerged
Eichhornia crassipes Mart.	Pontederiaceae		H	Submerged
Vallisnaria spirallis L.		Jalsarpolian	H	Submerged
Asparagus recemosus Willd.	Liliaceae	Satavari	C	Submerged
Asphodelus tenuifolius Cav.		Dungaro	H	Submerged
Commelina benghalensis L.	Commelinaceae	Motu sismuliyu	H	Submerged
Lemna verticellata Hegelm.	Lemnaceae		H	Free floating
Thypha angustata Bory.	Thyphaceae	Gha bajariu	H	Rooted emergent
Segittaria segitifolia L.	Alismataceae	-	H	Rooted emergent
Potamogeton nodosus Poir.	Potamogetonaceae	-	H	Submerged
Eriocaulon sp.	Ericulaceae	-	H	Marshy land
Cyperus difformis L. Cent.	Cyperaceae	Chiyo	H	Rooted emergent
Cyperus rotundus L.			H	Rooted emergent
Scirpus ciliaris L.		-	H	Rooted emergent
Scirpus littoralis Auct.		-	H	Rooted emergent
Apluda mutica L.	Poaceae	Bhangoru	H	Rooted emergent
Aristida adscensionis L.		Lapdu	H	Rooted emergent
Aristida funiculate Trin. & Rupr.		Laso lampdo	H	Rooted emergent

Free floating hydrophytes viz. *Eichornia, Lemna* and *Nymphoides*, Rooted with floating viz. *Trapa, Nelumbo, Nymphaea*, Rooted submerged viz. *Hydrillia, Potamogeton* and rooted emergent viz. *Typha* and *Cyperus* were recorded throught the year. *Saggitaria* and *scirpus* were found to be dominant during the dry season. All these species includes flood control, aquifer recharge, nutrient, absorption and erosion control. It is also supported by Kay and Barblhuiya (2007) and Shah (2009). Some pteridophytes viz. *Azolla pinnata, Marsellia* were abundant in lake. There was a number of plants association of which the following were frequently noticeable in the wetland:

A) Aquatic Habitat Association:

1. Ludwigia-Ammania-Occimum

2. Hydrilla-Velicenaria-Nymphea

3. Nymphaea-Hydrilla-Nelumbo

B) Marshy Habitat Association:

1. *Ipomoea -Typha- Scirpus*
2. *Ammania-Phyla-Commelina*

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