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Floral Diversity of Pond of Rajagopalapuram, Tirunelveli District, Tamilnadu

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Abstract

Fond diversity is a considered as major hotspots of plant diversity in village and rural areas. Fond diversity of aquatic plants, mainly grasses and sedges were used as a major feed for domestic animals of coats and cows. The aim of the present study was the exploration plant diversity of Rajagopalapuram, Tirunelveli District, Tamil nadu. The results of the present study, study area of pond of Rajagopalaperi thoroughly investigated in the plant diversity of total of 56 plant species identified and belonging to 29 families was recorded. Among these, single pteridophytic species of Marsilea quadrifolia L. was identified.

Keywords: Floral Diversity, Pond, Rajagopalapuram, Tirunelveli,Tamilnadu

1. INTRODUCTION

The ponds are very important hotspots for biodiversity. On the whole, they support more species, and all the more scant species, than any other freshwater environment [1]. They are also more abundant than almost any other freshwater habitat, and are found in virtually all environments. Although they have significant ecological functions and recognized social and economic uses, pond ecosystems are very threatened by a number of human activities, of which the most important include increased nutrient loading, contamination, acid rain and invasion of exotic species [2]. Despite this, very little research work has been conducted in ponds and their ecological value, and most conservation approaches are largely uninformed by science. The aim of the present study explored the floral diversity of pond of Rajagopalapuram, Tirunelveli District, Tamilnadu.

2. MATERIALS AND METHODS

2.1 Study area

The study was conducted in the pond of Rajagopalapuram, Palayamkottai Taluk, Tirunelveli District, Tamilnadu. The field trips were carried out in the area in 2020 in the summer seasons to explore the various ground flora. The collected plant materials were identified, preserved and Herbarium prepared by the standard method. The plant specimens were identified with the help of earlier literature. The identification of plants was done using The Flora of Tamil Nadu Carnatic[3] and Flora of Presidency of Madras[4].

Natural ponds are very important ecological resource in the village and rural areas of Tirunelveli District, Tamilnadu. The survey of the plant diversity was observed by naked in the eyes, taken photographes and counted the number of species. The results of the present study, study area of Rajagopalapuram pond thoroughly investigated in the plant diversity of total of 56 plant species identified and belonging to 29 families was recorded. Among these, single pteridophytic species of *Marsilea quadrifolia* L. was identified in the pond (Table-1,2 and Fig.1). Previously, reported that rare or threatened species of plants were listed in the IUCN [5]. Oertli et al.[6] detailed standardized sampling methods for the estimation of the species richness of various taxa. Previous report on the pond diversity was threatened by the domestic animals, particularly horses, feed on aquatic plants, mainly grasses and sedges [7-8]. Still, cows are usually removed from deep flooded areas or they spontaneously move to less flooded ground. However, cattle remain year round in the rain-flooded zones, where they overgraze and trample waterlogged short soft grasslands around ponds and drainage lines. Buffaloes are known for damaging aquatic habitats. For instance, Pott et al. [7] found 18 aquatic plant species in a pond with buffaloes, while 2 years after the removal of the animals the richness increased to 38 species. The conclusion of the present study identification of most the herbal plants are always considered as a very important source of medicine, especially for the population of the rural areas of Tirunelveli District and traditional medicine because of the high cost and difficult accessibility to modern medicine.

3. RESULTS AND DISCUSSION

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Table-1: Exploration of floral diversity of pond of Rajagopalperi, Tirunelveli District, Tamilnadu.

Sl.No.	Plant Name	Family
1.	*Indigofera tinctoria* L.,	Fabaceae
2.	*Pongamia pinnata* (L) Pierre,	Fabaceae
3.	*Mukia maderaspatana* (L.) M. Roem	Cucurbitaceae
4.	*Coccinea grandis* Linn	Cucurbitaceae
5.	*Mimosa pudica* L.	Mimosaceae
6.	*Pavonia odorata* Willd	Verbenaceae
7.	*Phyla nodiflora* (L.) Greene	Verbenaceae
8.	*Pergularia daemia* (Forsskal) Chiov.	Apocynaceae
9.	*Oxalis corniculata* L.	Oxalidaceae
10.	*Biophytum sensitivum* (L.) DC	Oxalidaceae
11.	*Oldenlandia umbellata* L.	Rubiaceae
12.	*Spermacoce hispida* L.	Rubiaceae
13.	*Merremia emarginata* Burm.	Convolvulaceae
14.	*Merremia tridentata* Linn.	Convolvulaceae
15.	*Evolvulus alsiniodes* Linn.	Convolvulaceae
16.	*Mentha arvensis* L.	Lamiaceae
17.	*Leucas zeylanica* (L.) W.T.Aiton	Lamiaceae
18.	*Leucas aspera* (Willd.) Link	Lamiaceae
19.	*Anisochilus carnosus* (L.f.) Wall.	Lamiaceae
20.	*Cyperus rotundus* L	Cyperaceae
21.	*Amaranthus gangeticus* L	Amaranthaceae
22.	*Alternanthera sessilis* (L.) R.Br. ex DC.	Amaranthaceae
23.	*Aerva lanata* (L.) Juss. Ex Schult	Amaranthaceae
24.	*Bacopa monnieri* (Linn.) Wettst	Scrophulariaceae
25.	*Aristolochia bracteolata* Lam.	Aristolochiaceae
26.	*Aristolochia indica* L.	Aristolochiaceae
27.	*Phyla noddifolia* Linn.	Verbaneceae
28.	*Phyllanthus emblica* Linn	Phyllanthaceae
29.	*Phyllanthus amarus* Schumach. & Thonn.	Phyllanthaceae
30.	*Phyllanthus maderaspatensis* L.	Phyllanthaceae
31.	*Datura metal* L.	Solanaceae
32.	*Solanum trilobatum* L	Solanaceae
33.	*Solanum surattense* Burm.. f	Solanaceae
34.	*Solanum verbanasifolium* Linn.	Solanaceae
35.	*Eclipta alba* (L.) Hassk .	Asteraceae
36.	*Eclipta prostrata* L.	Asteraceae
37.	*Synedrelia nodiflora* (L) Gaertn	Asteraceae
38.	*Sphaeranthus indicus* Linn	Asteraceae
39.	*Tribulus terristis* Linn	Zygophyllaceae
40.	*Croton bonplandianus* Baill	Euphorbiaceae
41.	*Acalypha indica* L.	Euphorbiaceae
42.	*Commelina benghalensis* L.,	Commelinaceae
43.	*Sida cordifolia* Linn	Malvaceae
44.	*Sida acuta* Burm.f.	Malvaceae
45.	*Abutilon indicum* (L.) Sweet.	Malvaceae
46.	*Corchorus aestuans* L.	Malvaceae
47.	*Cynodon dactylon* Linn.	Gramineae
48.	*Justica gendarussa* Burm. F.	Acanthaceae
49.	*Cassia fistula* L.	Caesalpinaceae
50.	*Muntingia calabura* L.	Caesalpinaceae
51.	*Azadirachta indica* A, Juss	Meliaceae
52.	*Cardiospermum microcapum* Linn	Sapindaceae
53.	*Pistia stratiotes* L.	Araceae
54.	*Pedalium murex* Linn.	Pedaliaceae
55.	*Trianthema decandra* L.	Aizoaceae
56.	*Marsilea quadrifolia* L.	Marsileaceae

Table:2 : Number families and species

Sl.No	Family Name	Genus	Species
1	Fabaceae	2	2
2	Cucurbitaceae	2	2
3	Mimosaceae	1	1
4	Verbenaceae	2	2
5	Apocyanaceae	1	1
6	Oxalidaceae	2	2
7	Rubiaceae	2	2
8	Convolvulaceae	2	3
9	Lamiaceae	3	4
10	Cyperaceae	1	1
11	Amaranthaceae	3	3
12	Scrophulariaceae	1	1
13	Aristolochiaceae	1	2
14	Verbaneceae	1	1
15	Phyllanthaceae	1	3
15	Solanaceae	2	4
16	Asteraceae	3	4
17	Zygophyllaceae	1	1
18	Euphorbiaceae	2	2
19	Commelinaceae	1	1
20	Malvaceae	3	4
21	Gramineae	1	1
22	Acanthaceae	1	1
23	Caesalpinaceae	2	2
24	Meliaceae	1	1
25	Sapindaceae	1	1
26	Araceae	1	1
27	Pedaliaceae	1	1
28	Aizoaceae	1	1
29	Marsileaceae	1	1

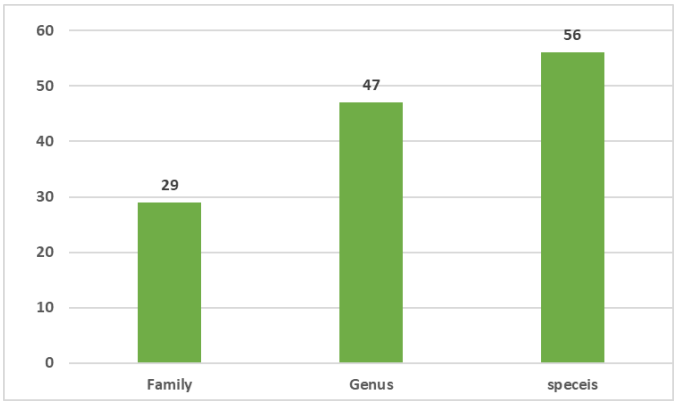

Fig.1: Bar diagram of number of families, genus and species

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