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Monocotyledons Diversity in the Wetlands of Ramgarh Vishdhari Wildlife Sanctuary of Bundi District, South-East Rajasthan

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ABSTRACT: Monocotyledons diversity of wet lands of Ramgarh Vishdhari Wildlife sanctuary of Bundi district of Rajasthan are considered in this communication. A number of waterbodies founds in this area. The importance of wetland plant diversity for sustainable life support system is well known. Good drainage systems support the hydrophytes and moisture loving taxa.

KEYWORDS: Ecosystem, Flora, Hydrophytes, Monocotyledons, Wetlands

I. INTRODUCTION

Wetlands diversity are dominated by the influence of water and encompass of heterogeneous habitat. Both aquatic and semi-aquatic vegetations are included in wetland ecosystems. The floristic survey of various habitat like ponds, rivers, lakes, marshy places etc. was undertaken of sanctuary area. The vegetation differs of free floating, swamps, marshy places, moist and shady places near the water bodies. Macrophytes are beneficial to others because they provide food for fish, aquatic animals and human beings.

Ramgarh Vishdhari Wildlife sanctuary has large forest ecosystem in Haroti region. Different physical regions are present in the sanctuary. It is located in Bundi district of Rajasthan state and 45 Km. away from it. The sanctuary lies in the south-eastern part of Rajasthan between 24° 59' 11" to 25° 53' 11" North latitude and 75° 19' 30" to 76° 49' 30" East longitudes. An attempt has been made to prepare a floristic account of monocotyledons diversity of wetland of Ramgarh Vishdhari Wildlife sanctuary of Rajasthan.

II. RELATED WORKS

Notable studies on the aquatic and wetland angiosperm plants of India were done by Deb (1976), Singh & Satyanarayan (2012), Chowdhury and Das (2013), Jadhav (2016) and Sharma (2022). Important contribution from ecological and floristic studies includes Sculthorpe, 1967; Shringi, 1981; Shetty and Pandey, 1983; Pascal and Pellissier, 1996; Baruah, Mitali and Saikia, 2000; Sujana and Sivaperuman, 2008; Sharma, 2010; Meena, 2012; Sharma, 2013; Sikarwar, 2014 and Sharma, 2022. Monocotyledons vegetations of wetland of Ramgarh Vishdhari Wildlife have been observed in this communication.

III. METHODOLOGY

The paper is based on current exploration and field observation of the area. The present work is outcome of exhaustive plant diversity survey in area of Ramgarh Vishdhari Wildlife sanctuary of Bundi district of Rajasthan by the author in 2020 to 2023. Observed plant species are being described in results and discussions. Monocotyledons diversity of wet lands of area of have been recorded in present enumeration.



IV. EXPERIMENTAL RESULTS

A number of water ponds built in the villages which exist in the Ramgarh Vishdhari Wildlife sanctuary retain water till late in winters. Mez River and Machali River support a variety of aquatic flora and fauna in the area. In addition, the wetland areas of sanctuary are favourite grounds of many bird's species. Certain physical regions are found in sanctuary area. During the monsoon season a number of streams flow out of the reserve.

Important water bodies and wetlands in forest areas of Ramgarh Vishdhari Wildlife sanctuary are following:

1. Phool Sagar
2. Bhenrupura talab
3. Thandi Jhari
4. Mez River
5. Jait Sagar
6. Shambu Sagar
7. Thikrada talab
8. Banganga reservoir
9. Jamunia Deh
10. Banskhol Kui
11. Jhal Khoh
12. Amba Wala Nala
13. Ramjhar
14. Machali river
15. Semlya Deh

Check list of recorded monocotyledons taxa (Botanical names and family) of wetlands of area is enumerated in Table - 1, which are arranged alphabetically.

TABLE – 1

S. No.	BOTANICAL NAME	FAMILY
1	<i>Aponogeton natans</i> (L.) Engl. & K. Krause.	Aponogetonaceae
2	<i>Arnudo donax</i> L.	Poaceae
3	<i>Brachiaria ramosa</i> L. Stapf	Poaceae
4	<i>Bulbostylis barbata</i> (Rottb.) C. B. Clarke.	Cyperaceae
5	<i>Coix aquatica</i> Roxb.	Poaceae
6	<i>Cyperus alopecuroides</i> Rottb.	Cyperaceae
7	<i>Cyperus alternifolius</i> subsp. <i>flabelliformis</i> Kük.	Cyperaceae
8	<i>Cypersus bulbosus</i> Vahl.	Cyperaceae
9	<i>Cyperus compressus</i> L.	Cyperaceae

10	<i>Cyperus nutans</i> Vahl.	Cyperaceae
11	<i>Cyperus rotundus</i> L.	Cyperaceae
12	<i>Eleocharis atropurpurea</i> (Retz.) J.Presl & C.Presl	Cyperaceae
13	<i>Fimbristylis dichotoma</i> (L.) Vahl.	Cyperaceae
14	<i>Fimbristylis ferruginea</i> (L.) Vahl.	Cyperaceae
15	<i>Hydrilla verticillata</i> (L. f.) Royle.	Hydrocharitaceae
16	<i>Juncus bufonius</i> L.	Juncaceae
17	<i>Lemna perpusilla</i> Torrey	Lemnaceae
18	<i>Najas graminea</i> Del.	Najadaceae
19	<i>Najas marina</i> L.	Najadaceae
20	<i>Najas minor</i> All.	Najadaceae
21	<i>Nechamandra alternifolia</i> (Roxb. ex-Wight) Thwaites.	Hydrocharitaceae
22	<i>Ottelia alismoides</i> (L.) Pers.	Hydrocharitaceae
23	<i>Phoenix sylvestris</i> (L.) Roxb.	Arecaceae
24	<i>Polypogon monspeliensis</i> (L.) Desf.	Poaceae
25	<i>Pontederia crassipes</i> Mart.	Pontederaceae
26	<i>Pontederia vaginalis</i> Burm.f.	Pontederaceae
27	<i>Potamogeton crispus</i> L.	Potamogetonaceae
28	<i>Potamogeton perfoliatus</i> L.	Potamogetonaceae
29	<i>Sagittaria guayanensis</i> Kunth.	Alismataceae
30	<i>Sagittaria sagittifolia</i> L.	Alismataceae
31	<i>Schoenoplectiella articulata</i> (L.) Lye	Cyperaceae
32	<i>Schoenoplectiella roylei</i> (Nees) Lye	Cyperaceae
33	<i>Schoenoplectus scirpoides</i> (Schrad.) Browning	Cyperaceae
34	<i>Spirodella polyrhiza</i> (L.) Schleid.	Lemnaceae
35	<i>Stuckenia pectinata</i> (L.) Börner	Potamogetonaceae
36	<i>Typha domingensis</i> Pers.	Typhaceae
37	<i>Vallisneria spiralis</i> L.	Hydrocharitaceae
38	<i>Wolffia arrhiza</i> (L.) Horkel. ex Wimm.	Lemnaceae
39	<i>Zannichellia palustris</i> L.	Zannichelliaceae

Table 1 - Check list of Monocotyledons taxa of Wetlands of Ramgarh Vishdhari Wildlife sanctuary

Extensive taxonomical surveys were conducted in different seasons to evaluate the aquatic vegetations of area. Thirty-nine monocot plants species were recorded during this investigation from different water bodies of Ramgarh Vishdhari Wildlife sanctuary.

V. CONCLUSION

Monocotyledons has peculiar characters like they are mostly herbs, leaves large, parallel veined, perianth generally trimerous, free or united, embryo with one cotyledon, hypogeal, radicle forming tap root which is short lived and is replaced by adventitious roots. Angiosperm diversity plays a crucial role in maintaining the ecosystem of any area. Wetland habitats of the area like ponds, rivers, lake, marshy places etc. are under threat at present. Considering these reasons, the taxonomical survey of Monocotyledons plants of wetlands of Ramgarh Vishdhari Wildlife sanctuary of Bundi district of Rajasthan was undertaken.



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