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SURVEY OF WET LAND AND MARSHY MEGAFLORA FROM PURKABODI AND RAWANWADI LAKE OF BHANDARA DISTRICT (M.S.)

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Abstract:
The survey was conducted to assess the floral diversity of wet land and Marshy places in Purkabodi and Ravanwadi lake and its vicinity area. Both lakes are nearly 10-12 km away Bhandara on Bhandara – Pavani Road. During present investigation botanical exploration was conducted in different places of both the lakes and its vicinity. The main aim of study is to know its biodiversity status of this area. 136 species of vascular plants including 35 trees, 28 shrubs, 24 herbs, 8 climbers including dominance of 41 species of Grass (some unidentified species are not listed) belonging to Poaceae and 14 genera of cyperaceae are growing in aquatic, wet and marshy places. Thus, a diverse flora was observed in this study area. During field study herbarium specimen are collected. These plant species are identified with the help of flora and monographs.

Key words- *Biodiversity, Wet and marshy habitat, lake,*

Introduction

Bhandara district belongs in Vidharbha region of Maharastra. It is situated in the eastern part of Maharashtra just 62 Km. away from Nagpur towards Calcutta. Bhandara district is known for its lakes and forest. Bhandara district is situated between the slopes of Satpuda ranges to the north and the end of Marathwada Plateau to the south. Bhandara District is known as a lake District of Maharashtra. The district lies between North Latitude 20 deg 40' to 21 deg 35' and East longitude 79 deg 30' to 80 deg 06' . The district is inhabited by 1500 minor and major lakes and water reservoirs. There are seven tehsils Bhandara, Mohadi, Tumsar, Lakhandur, Sakoli, Pauni and Lakhni. The district receives heavy rainfall area every year. The most important crops of the district is Rice. Many water reservoirs are malguzari and constructed by forefathers of inhabiting people. These reservoirs are still used for irrigation purposes. During field visit the Purkabodi and Rawanwadi Lake near Wakeshwar village on Bhandara –Paoni road was visited in different season to study the biodiversity of aquatic, marshy and wetland plants. Both are situated at GPS Latitude 21 deg 2' 37.71 N & Longitude 79 deg.43' 19.00E.

Biodiversity of Bhandara district shows highly diverse area. The commonly observed trees are *Prosopis chilensis, Delonix regia, Tamarindus indica*, *Cassia siamea, Mangifera indica, Tectona grandis, Azardirachta indica*, *Zizipus mauritiana, Eucalyptus hybridus, Pithocellobium dulce*, *Adina cardifolia*, *Anogeissus latifolia, Boswellia serrata, Butea monosperma*, *Cassia fistula, Emblica officinalis, Ixora arborea, Lagerstroemia parviflora, Pterocarpus marsupium, Semecarpus anacardium, Sterculia urens*, *Terminalia tomentosa, Agel marmelos, Andrographis paniculata, Ficus* species, *Moringa oleifera, Momordica charantia, Syzygium cumini, Catheranthus roseus* and *Cassia fistula etc.*

Floral diversity of wet land and Marshy places in Purkabodi and

Ravanwadi lake mostly consist grass family (Poaceae) is one of the largest vegetation, and The herbs are *Cassia tora, Tridax procumbens, Alternanthera sessilis, Euphorbia heterophylla, Euphorbia hirta, Physalis minima & Hygrophila schulli* etc. are mostly observed in the study area. Shrubs like *Lawsonia inermis, Abutilon indicum, Hyptis suaveolens, Cassia auriculata, Plumbago zeylanica, Lantana camara, Jatropha gossypifolia, Vitex negundo, Ipomoea spp*. are abundantly found. Some climbers like *Mukia maderaspatana, Ipomoea sepiaria, Clitoria tarnatea, Canavalia gladiata etc.* are commonly observed near villages. In muddy area near water bodies *Eichhornia crassipes* and *Typha angustata* are commonly observed. Vegetation also found in agriculture land & bare land. The bare land is mainly composed of *Prosopis chilensis a*s the dominant species and comprises of agricultural fields. Main crops cultivated here are rice (*Oriza sativa*). The common crops are paddy, jowar, maize and pulses among food crops and groundnut, sugar cane among non-food crop. Apart from these crops, few vegetables are grown in the study area. The social forestry is also prominent in the study area. The social plantation is observed near the roadside, around the villages also. In social plantation *Casuarina equisetifolia, Bombox ceiba, Dalbergia sissoo, Tectona grandis, Acacia spp., Azardirachta indica, Bauhinia spp*. are abundantly planted.

Material and Methods:-

Plant specimens were collected from different study sites and were identified (Rendle, 1986 [8];). Flora of our region (Ugemughe) was used to ascertain the nomenclature of the plant species used for identification and authentication of the plant species (Ugemughe, 1986 [13]). The plant specimen are collected for preparation of herbarium sheet. These herbarium sheets are identified by using different floras (Saldahana and Nicolson 1978[9], Matthew 1988[5], Cooke 1908[2], Sharma 1996[10] and Naik 1998[6], Karthikeyan,2000[3], Mabberley, 2008[4]). Aquatic specimens are preserved in specimens jar. Wooden plant press and blotting papers are used to dry plant specimens.These specimens are mounted on the herbarium sheets. The field books are used to elicit complete information about plants. Unidentified plants are kept aside for expertise identification.

Discussion

The present investigation deals with enumeration of **41** genera with 89 species of grass (some unidentified species are not listed) belonging to **Poaceae (**Ranga Achriyar and Mudaliyar , 1921[7], Bor,1973[1], Yadav 2010 [14])and **14** species of **Cyperaceae.**

All taxa of the grasses accepted here are enumerated alphabetically

Family- Poaceae

1. *Apluda mutica,* L.
2. ***Aristida*** *oligantha* Michx.
3. *Bothriochloa pertusa,* (L) A.Camus .
4. *Chionachne koenigii* (Spreng.) Thwaites & Hook.f.
5. *Chloris verigata,* SW.
6. *Chrysopogon fulvus,* (Sprang.) Chiov.
7. *Coix lacrima-jogi,* L.
8. *Cymbopogon martini,* Wats.
9. *Cynodon dectylon* (L.)Pers.
10. *Dectyloctenium aegiptium,* (L.) Willd.
11. *Desmostachya bipinnata,* Stapf.
12. *Dichanthium anulatum*,(Forssk.) Stapf
13. *Digitaria stricta,* Roth .
14. *Dimeria ornithopoda,* Trin.
15. *Dinebra retroflexa* (Vahl) Panz.
16. *Echinochlioa colona,* (L) Link.
17. *Eleusine indica* (L.) gaertn.
18. *Eragrostis cilianensis*(All.) Janch.
19. *Heteropogon contortus*,(L) Beauv.
20. *Imperata cylindrica,* (L) Raeusch.
21. *Ischaemum rugosum,* Salisb.
22. *Melanocenchris* abyssinica *(R.Br. ex Fresen.) Hochst.*
23. *Microchloa indica* (L.f.) P.Beauv.
24. ***Mnesithea laevis (*Retz.) Kunth.**
25. ***Oplismenus*** *burmannii* (Retz.) P.Beauv.
26. *Panicum antidotale* Retz.
27. *Paspalum scrobiculatum,* L.
28. *Paspalidium flavidum* (Retz.) A.Camus.
29. *Pennisetum setaceum* (Forssk.) Chiov.
30. *Phalaris minor,* Retz.
31. *Phragmites karka,* Trin.
32. *Polypogon monspeliensis* (L.) Desf.

33. *Rottboellia cochinchinensis* (Lour.) Clayton.
34. *Saccharum munja,* Roxb.
35. *Saccharum spontaneum,* Linn.
36. *Setaria verticillata* (L.) P.Beauv.
37. *Setaria viridis* (L.) P.Beauv.
38. *Sporobolus indicus* (L.) R.Br.
39. *Themeda quadrivalvis,* O. Kuntz.
40. *Thysanolaena latifolia* (Roxb. ex Hornem.) Honda
41. *Vetiveria zizaniodes* (L.) Nash.

Family- Cyperaceae
1. *Cyperus alopercuroides*.Rottb.
2. *Cyperus nutans* Vahl.
3. *Cyperus pumilus* Nees.
4. *Cyperus tenuispica* Steud.
5. *Eleocharis actangula* (Roxb)Schultes.
6. *Eleocharis atropurpera* (Retz.) Presl.
7. *Eleocharis dulci* Kunth.,
8.*Eleocharis geniculate* (Linn.)Roem&Schult.
9. *Eleocharis lankana* L.
10. *Fimbristylis argentea* (Rottb.)Vahi.
11. *Fimbristylis. miliacea* (L.)Vahl.
12. *Fuirena ciliaris* (l.)Roxb.
13. *Kyllinga brevifolia* Rottboell.
14. *Kyllinga bulbosa* Beauv,

Table:- showing other dominant genera including 35 trees, 28 Shrubs, 24 herbaceous plants and 8 climbers are growing in aquatic, wet and marshy places (Singh, and Karthikeyan 2000[11], 2001[12})..

Sr. No.	Scientific name	Family
Trees		
1	*Acacia leucophloea*	Mimosaceae
2	*Acacia nilotica*	Mimosaceae
3	*Annona squamosa*	Annonaceae
4	*Anthocephalus chinensis*	Rubiaceae
5	*Azadirachta indica*	Meliaceae
6	*Bauhinia purpurea*	Caesalpiniaceae
7	*Bauhinia racemosa*	Caesalpiniaceae
8	*Bombax ceiba*	Bombacaceae
9	*Butea monosperma*	Caesalpiniaceae
10	*Cassia fistula*	Caesalpiniaceae
11	*Cassia siamea*	Caesalpiniaceae
12	*Casuarinas equisetifolia*	Casuarinaceae
13	*Cocos nucifera*	Palmae
14	*Dalbergia latifolia*	Fabaceae
15	*Dalbergia sissoo*	Fabaceae
16	*Delonix regia*	Caesalpiniaceae
17	*Emblica officinalis*	Euphorbiaceae
18	*Ervatamia coronaria*	Apocynaceae
19	*Eucalyptus hybrida*	Myrtaceae
20	*Ficus glomerata*	Moraceae
21	*Ficus religiosa*	Moraceae
22	*Leucaena leucocephala*	Mimosaceae
23	*Madhuca indica*	Sapotaceae
24	*Mangifera indica*	Anacardiaceae
25	*Manilkara zapota*	Sapotaceae
26	*Melia azedarach*	Meliaceae
27	*Moringa oleifera*	Moringaceae
28	*Phoenix sylvestris*	Palmae
29	*Pithecellobium dulce*	Mimosaceae
30	*Polyalthia longifolia*	Annonaceae
31	*Pongamia pinnata*	Fabaceae
32	*Prosopis chilensis*	Mimosaceae
33	*Tamarindus indica*	Caesalpiniaceae

34	*Tectona grandis*	Verbenaceae
35	*Terminalia arjuna*	Combretaceae
Shrubs		
1	*Abutilon indicum*	Malvaceae
2	*Argemone mexicana*	Papaveraceae
3	*Balanites roxburghii*	Balanitaceae
4	*Barleria prionitis*	Acanthaceae
5	*Blepharis asperrima*	Acanthaceae
6	*Calotropis gigantea*	Asclepiadaceae
7	*Capparis zeylanica*	Capparaceae
8	*Carica papaya*	Caricaceae
9	*Cassia auriculata*	Caesalpiniaceae
10	*Cassia sophera*	Caesalpiniaceae
11	*Clerodendrum inerme*	Verbenaceae
12	*Datura innoxia*	Solanaceae
13	*Datura suaveolens*	Solanaceae
14	*Echhornia crassipes*	Pontoderiaceae
15	*Ficus hispida*	Moraceae
16	*Gymnosporia montana*	Celastraceae
17	*Hibiscus rosa-sinensis*	Malvaceae
18	*Ipomoea carnea*	Convolvulaceae
19	*Ixora coccinea*	Rubiaceae
20	*Jatropha gossypifolia*	Euphorbiaceae
21	*Kirganelia reticulata*	Euphorbiaceae
22	*Lantana camara*	Verbenaceae
23	*Lawsonia inermis*	Lythraceae
24	*Martynia annua*	Pedaliaceae
25	*Plumbago zeylanica*	Plumbaginaceae
26	*Ricinus communis (red flowered)*	Euphorbiaceae
27	*Urena lobata*	Malvaceae
28	*Vitex negundo*	Verbenaceae
Herbs		
1	*Achyranthes aspera*	Amaranthaceae
2	*Alocacia macrorrhiza*	Araceae
3	*Alternanthera sessilis*	Amaranthaceae
4	*Asteracantha longifolia*	Acanthaceae
5	*Cassia tora*	Caesalpiniaceae
6	*Catharanthus roseus*	Apocynaceae
7	*Cleome gynandra*	Cleomaceae
8	*Commelina bengalensis*	Commelinaceae
9	*Commelina forskalaei*	Commelinaceae
10	*Euphorbia heterophylla*	Euphorbiaceae
11	*Euphorbia hirta*	Euphorbiaceae
12	*Hyptis suaveolens*	Lamiatae
13	*Indigofera linifolia*	Fabaceae
14	*Mimosa pudica*	Mimosaceae
15	*Ocimum sanctum*	Lamiatae
16	*Phyllanthus niruri*	Euphorbiaceae
17	*Physalis minima*	Solanaceae
18	*Polygonum glabrum*	Polygonaceae

19	*Sesamum orientale*	Pedaliaceae
20	*Sida acuta*	Malvaceae
21	*Sida rhombifolia*	Malvaceae
22	*Tephrosia purpurea*	Fabaceae
23	*Tridax procumbens*	Asteraceae
24	*Typha angustata*	Typhaceae
Climbers		
1	*Asparagus racemosus*	Liliaceae
2	*Canavalia gladiata*	Fabaceae
3	*Clitoria tarnatea*	Fabaceae
4	*Cuscuta reflexa*	Cuscutaceae
5	*Ipomoea aquatica*	Convolvulaceae
6	*Ipomoea sepiaria*	Convolvulaceae
7	*Merremia turpethum*	Convolvulaceae
8	*Mukia maderaspatana*	Cucurbitaceae

Conclusions :-

In the present survey includes 95 plants species have been recorded from Purkabodi and Ravanwadi lake and its vicinity. Megaflora includes dominant genera including 35 trees, 28 Shrubs, 24 herbaceous plants and 8 climbers are growing in aquatic, wet and marshy places. Dominant vegetation includes family Poaceac (Grass family) and Cyperaceae because it is recorded with 41 species of grass and 14 species of Cyperaceae. Further study is needed to study the floristic biodiversity of wet and marshy place like Purkabodi and Rawanwadi Lake of Bhandara District.

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