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DIVERSITY OF GRASSES IN KHEONI WILDLIFE SANCTUARY, MADHYA PRADESH

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ABSTRACT

The present study is based on the grass diversity found in Kheoni Wildlife Sanctuary (KWLS). The grass family Poaceae is one of the most successful species-rich groups in the monocotyledons economically, ecologically, and biologically. Because of this, it represents an ideal family for the study of specific taxa. During the survey, the grass has been observed morphologically on the leaves, stems, and flower features for the correct identification of the species. The present investigation at KWLS revealed that the occurrence of 48 species belonging to 33 genera of grasses has been studied taxonomically. The botanical name, local name, habitat, habit, and flowering and fruiting time are given for all species obtained.

KEYWORDS: KWLS, Grasses, Diversity, Dewas,

INTRODUCTION

India, a land of Physical, Cultural, Social, and Linguistic Diversity is evolved Nature with enormous biological diversity. As a result, India ranks amongst one of the 12 mega Biodiversity countries of the world and harbors 17000 flowering plant species. It accounts for 8% of the global Biodiversity with only 2.47 of the total land area and the World (Hajara and Mudgal 1997; Reddy 2008). In Madhya Pradesh, the forest is of various types and they provide the richest repositories of floristic diversity.

The monocotyledonous family Poaceae, alternatively Graminae and commonly grasses, is represented globally by about 780 genera and 12000 species 6 for which it is placed in the fifth position of dominance after Asteraceae. In India, Poaceae is represented by about 263 genera and 1291 species. The grassland ecosystem covers about 39% of the total geographical area of India. There are 18 genera and 350 species of grasses that are endemic in India. Grasses in Madhya Pradesh state forest show more diversity in their distribution, growth form, phenology due to the topography of the region. Grasses a Natural homogenous group of family Graminae (Poaceae) Undoubtedly forms, one of the most fascinating families of flowering plants with a wide range of diversity and is

one of the successful terrestrial life forms on the earth due to their adaptability playing a significant role in the changeable environments.

Kheoni Wildlife Sanctuary, One of the 25 Sanctuaries of Madhya Pradesh, situated in the forest of Kannod (Dewas), adjoining Astha and Ichhawar Range (Sehore) of Vindhychal contains many ridges and valleys and connected to Ratapani Tiger Reserve through a Corridors, and lies approximately between the 22.8373°N latitude and 76.8765°E longitude. The total area of the Kheoni Wildlife Sanctuary is 134.778 Sq. km including 16.678 Sq. km Protected forest and 115.320 Sq. km Reserve forest. It comprises about 1.2% of the total area of the protected Forest Area 10862 Sq. km of Madhya Pradesh.

"Knowing trees, I understand the meaning of patience.
Knowing grass, I can appreciate persistence."
-Hal Borland

MATERIAL AND METHODS

An Extensive, systematic Floristic survey was carried out of KWLS in a different season from 2016 – 2018. Standard methods were followed for Grasses collection and preparation of herbarium (Jain & Rao, 1977) and have been identified with the help of the flora (Mudgal, Khanna, and Hajara, (1977); Singh Dixith and Khanna, (2001); Sinha and Shukla, (2004); Sinha and Shukla, (2007); Roy, (1984); Patunkar, (1980); Hains, (1924); Bor, (1960).

RESULTS AND DISCUSSION

During the diversity of grasses study of KWLS, the Occurrence of 48 Species belonging to 33 Genera (Table-1) of Family Poaceae was revealed. One of the earliest works on the wild grasses in India is by Griffith (1834) who described the grasses of Jheels of Sylhet district. During 1881-1896, several workers such as Ferguson (1881) Symonds (1886), Duthie (1883, 1 886, 1888), Coldstream (1889), and Lisboa (1896) collected, studied, and wrote about the grasses of different regions of India and Sri Lanka.

Table-1

Grasses diversity of KWLS

Family - Poaceae					
S. No.	**Botanical Name**	**Common Name**	**Habit**	**Habitat**	**Flowering & fruiting**
1.	*Acrachne racemosa* (Heyne) Ohwi	Chinki	Herb	Sandy soil	Sept. - Nov.
2.	*Aeluropus lagopoides* (L.) Trin ex Thw.	–	Herb	Wasteland	Sept. - Dec.
3.	*Andropogon pumilus* Roxb.	Bhanjari	Herb	Sandy soil	Aug. - Nov.
4.	*Apluda mutica* L.	Phulkia	Herb	Near agricultural fields	Sept. - Nov.
5.	*Aristida adscensionis* L.	Lampro	Herb	Dry and gravelly places	Aug. - Oct.

6.	*Aristida funiculata* Trin. et Rupr.	Lamp	Herb	Open wastelands	Sept. - Nov.
7.	*Bothriochloa pertusa* (L.) A. Camus	–	Herb	Sandy places	Aug. - Oct.
8.	*Cenchrus biflorus* Roxb.	Bhurat	Herb	Common weed after rains	Aug. - Dec.
9.	*Cenchrus ciliaris* L.	Dhaman	Herb	Common weed after rains	Aug. - Dec.
10.	*Cenchrus setigerus* Vahl	Dhaman	Herb	Common weed after rains	Aug. - Dec.
11.	*Chloris barbata* Sw.	–	Herb	Sandy areas	Aug. - Dec.
12.	*Chloris virgata* Sw.	Choto aranio	Herb	Varied habitat	July- Oct.
13.	*Chrysopogon fulvus* (Spreng.) Chiov.	–	Herb	Sandy places	Aug. - Nov.
14.	*Cymbopogon jwarancusa* (Jones) Schult.	Lemon grass	Herb	Open forest	Aug. - Dec.
15.	*Cynodon barberi* Rang. & Tad.	Doob	Herb	Open forest	Throughout year
16.	*Cynodon dactylon* (L.) Pers.	Doob	Herb	forest chowki	Throughout year
17.	*Dactyloctenium sindicum* Boiss.	Tantia	Herb	Gravelly or sandy places	Sept. - Jan.
18.	*Dendrocalamus strictus* (Roxb.) Nees	Bans	Tree	Planted in forest	Many years nterval
19.	*Desmostachya bipinnata* (L.) Stapf	Dab	Herb	Near moist places	Oct. - Jan.
20.	*Dichanthium annulatum* (Forsk.) Stapf	Karad	Herb	Wastelands	Aug. - Dec.
21.	*Digitaria abludens* (Roem. & Schult.) Veldk.	Jherno	Herb	Open forest	July - Sep.
22.	*Digitaria biformis* Willd.	Jhernio	Herb	Wasteland	July - Nov.
23.	*Digitaria ciliaris* (Retz.) Koeler	Jhernio	Herb	Moist and sandy places	Sept. - Nov.
24.	*Echinochloa crus-galli* (L.) P. Beauv.	Jirio	Herb	Wet and marshy places	Mar. - Aug.
25.	*Eleusine indica* (L.) Gaertn.	Maduo	Herb	Sandy places	Sept. - Nov.
26.	*Eragrostis brachyphylla* Stapf	–	Herb	Sandy places	Aug. - Nov.
27.	*Eragrostis ciliaris* (L.) R.Br.	Under punchho	Herb	Moist and sandy places	Oct. - Feb.
28.	*Eragrostis pilosa* (L.) P. Beauv.	–	Herb	Moist and marshy places	Oct. - Dec.
29.	*Eragrostis tremula* (Lam.)	Dholpalio	Herb	Wasteland	Aug. - Dec.

	Hochst. ex Steud.				
30.	*Eriochloa nubica* (Steud.) Hack & Stapf ex Thell.	–	Herb	Moist sandy places	Sept.
31.	*Ischaemum rugosam* Salisb.	–	Herb	Wet places	Oct. - Nov.
32.	*Lasiurus sindicus* Henr.	Sewan ghas	Herb	Dry places and wastelands	Throughout year
33.	*Pancium antidotale* Retz.	Garmano	Herb	Sandy areas	Oct. - Dec.
34.	*Panicum turgidum* Forsk.	Muratio grass	Herb	Sandy habitat	July - Nov.
35.	*Paspalidium flavidum* (Retz.) A. Camus	Sano sau	Herb	Moist places	July - Oct.
36.	*Paspalidium punctatum* (Burm. f.) A. Camus	–	Herb	Marshy places	Aug. - Nov.
37.	*Pennisetum typhoides* (Burm.f.) Stapf	Bajri	Herb	Near agricultural fields	Sept. - Oct.
38.	*Saccharum bengalense* Retz.	Kuncha	Herb	Sandy areas	Sept. - March
39.	*Saccharum spontaneum* L.		Herb	Moist and marshy places	Oct. - Feb.
40.	*Sehima nervosum* (Rottl,) Stapf	Searn	Herb	Sandy areas	Sept. - Dec.
41.	*Setaria intermedia* Roem. & Schult.	Bandra	Herb	Moist shady places	Aug. - Nov.
42.	*Setaria verticillata* (L.) P. Beauv.	Bandra	Herb	Moist shady places	Aug. - Nov.
43.	*Setaria italica* (L.) P.Beauv.	Bandra	Herb	Moist shady places	Sept. - Nov.
44.	*Sorghum halepense* (L.) Pers.	Baru	Herb	Wasteland	Oct. - Jan.
45.	*Sporobolus coromandelianus* (Retz.) Kunth	Khariyo ghas	Herb	Moist places	Aug. - Nov.
46.	*Sporobolus diander* (Retz.) P. Beauv.	–	Herb	Moist places	Aug. - Nov.
47.	*Sporobolus helvolus* (Trin.) Th.Dur.et Schinz	Khevai ghas	Herb	Sandy places	Oct. - Nov.
48.	*Tetrapogon tenellus* (Koen. ex Roxb.) Chiov.	–	Herb	Sandy areas	July - Nov.

The 19th century ended with the consolidated account of the Gramineae of India in Hooker's Flora of British India (Hooker & Stapf, 1896). Raizada, Jain & Bhardwaj (1961, 1964) studied the grasses of Upper Gangetic Plains and prepared a profusely illustrated detailed account. Kapadia (1945). Desai & Murthy (1960) and Majumdar (1956) published an account of the grasses of Junagarh (Gujrat), Dharwsr, (Karnataka), and 24-Parganas (West Bengal), respectively. Tiwari (1954-1966) gave an account of the grasses of Madhya Pradesh; Chaudhury (1959, 1960) studied the grasses of West

Bengal. Some other notable floristic accounts on the grasses of India are Grasses of Marathwada (Patunkar, 1980) and Grasses of Madhya Pradesh (Roy 1984). Jain and his co-workers have published about 50 papers. Indian grasses. In 1961 and 1972 he published the bibliography of the family Gramineae and in 1975 an account of the grasses of Bengal, Bihar, and Orissa. Ved Prakash *et al.* (1977) published a list of about One hundred additions (and new name) in Indian grasses after Bor's work of 1960

CONCLUSION

The present study exhibits preliminary information about the Grasses of KWLS. The diversity of grasses in KWLS, Occurrence of 48 Species belonging to 33 Genera. They play an important ecological role in KWLS, and they are good protectors of the soil against soil erosion.

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