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Diversity of Grass Species from Sendhwa Dist. Barwani (M.P.), India

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Abstract: ***The present study was aimed to determining Diversity of grass species of Sendhwa Dist. Barwani, Madhya Pradesh, India. Sendhwa is bestowed with unique diversity of ethnic culture and natural resource. The present study is based on diversity of grass species in Satpura region of Sendhwa Dist. Barwani, of Madhya Pradesh, India during the period of 2017-2020. This area is the representative of climax vegetation and rich in grass biodiversity. On the basis of grass utility three species are abundantly found along with 38 genera and 45 species are frequently occurred in Sendhwa dist. Barwani. The data from the primary and secondary sources resulted in the documentation of 45 species belonging to 38 genera. The study area has a rich species diversity of grasses. Present study observes some wild economically important grasses which are Brachiaria reptans (L.) Gard. & Hubb., Echinochloa colonum (L.) Link., Oryza rufipogon Griff., Pennesetum pedicelatum Trin. , Phragmites karka (Retz.) trin ex. Steud., Sporobolus capillaries Miq., Sorghum halepense (L.) Kuntz., Urochloa panicoides P.Beauv. This documentation will be helpful to the staff of Forest department and for better management of grasslands with special reference to wildlife habitat.***

Keywords: Sendhwa, Malwa plateau, Narmada valley, Satpura plateau, Grassland ecosystem.

I. INTRODUCTION

The richness of flowering plants makes India one of the mega diversity countries in the world with four biodiversity hotspots and three mega centers of endemism. India ranked seventh among 17 mega diversity countries of the world and more than 17,000 species of higher plants are reported to India (Anonymous 1993, Shiva 1996). The richness of Flowering plants makes India one of the mega diversity countries in the world with four biodiversity hotspots and three mega centers of endemism (Pachaya & Sainkhediya 2014). Biodiversity keeps the ecological processes in a balanced state, which is necessary for human survival (Kaur & Sharma 2014). Family Poaceae is a diverse group of monocotyledonous plants and economically dominant family. Several workers have contributed to grass flora of India Jain (1986) reported 266 genera and 1200 sp. for the country. Karthikeyan *et al*. (1989) listed 1254 sp. belonging to 260 genera. Various recently published district floras also reported several regional grass sp. Sainkhediya 2019; Sainkhediya & Patil 2019; Ray and Sainkhediya 2012.

II. STUDY AREA

Sendhwa region is located at the southern western part of Madhya Pradesh. It lays on 21º41'North Latitude and 75º6 E Longitudes. The name Sendhwa was derived after the rulers Sendhwa at period of holkars (Sisodiya & Sainkhediya 2018). Sendhwa Fort was built in 10 th Century. It is situated in middle of town. It is classical example of 4 directional Gate with Temple at Main entry gate. Topographically The area is bounded by the Rajpur tehsil to the north, Warla tehsils in south, Niwali to west, and Khargone district to east .The eastern part of the district is covered by Satpura hill ranges and northern part of Malwa plateau, and Narmada valley. Satpura plateau covers two third part of the south-Western part of Nimar. Sendhawa, come under Satpura hill ranges. Major part of Khargone and Barwani occurs in Narmada valley (Sainkhediya & Ray 2012). Narmada and Goi is the major river flowing in the area. Phytogeographical the study area is near to Gujarat state and bordering Maharashtra. The aridity and dryness of the climate, different topography of the area i.e. Junction of Vindhyan and Satpura hill ranges and great river Narmada provides a favorable ground for the varied ecological habitats with overlapping vegetation pattern and different floral elements. Nagalwadi, Torunmal, has a rich pocket of vegetation and dense forest. The land surface attains a maximum altitude of 409 m (1,342 ft) above mean sea level. Demographically Sendhwa had a population of 56,485 (census 2011). Sendhwa has an average literacy rate of 63%, higher than the national average of 59.5.

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III. MATERIAL AND METHODS

Field survey was carried out during 2017-2020 in different Target sites. Collections the plant species in different seasons are completed. All habitats of the study area surveyed carefully. Plant collection carried out by standard method (Jain and Rao,1977). Plant specimens were preserved by dipping the whole specimens in saturated solution of Mercuric chloride and alcohol. Dry and preserved plants mounted on herbarium sheets by adhesive glue and fevicols. Identification of plants done with the help of flora (Verma et.al., 1993; Mudgal et al,.1997; Khanna et al., 2001; Oommachan, 1977; Shah, 1978; Duthi, 1960; Gamble, 1915; Hains,1921-1924; Cook, 1903; Hooker, 1872-1897; Naik, 1998) and other taxonomic literature.

IV. RESULTS AND DISCUSSIONS

Sendhwa is situated in the south western part of Madhya Pradesh. The grassland ecosystem is critical for the survival of herbivores. Grassland ecosystem plays an important role in conservation and management of wildlife. In India, natural grasslands are not common. These grasslands were exposed to anthropocentric activities in the past like burning and grazing, and are now facing several changes like replacement of palatable species by unpalatable ones. As an attempt to understand the fodder potential of grasslands of Sendhwa region, a comprehensive checklist of palatable and unpalatable grass species, based on field experience was compiled. Local people were interviewed for information on palatability of grass species and their utility potentials. Various herbaria were consulted for confirmation of habitats and grass phenology. Present study report 38 genera and 45 species of grasses belong to family Poaceae as palatable and unpalatable **(table-1)**. The grasses were classified into Status and the palatability grade based on their use value is assessed. The study area has a rich species diversity of grasses. Present study observes some wild economically important grasses which are *Brachiaria reptans* (L.) Gard. & Hubb., *Echinochloa colonum* (L.) Link., *Oryza rufipogon* Griff., *Pennesetum pedicelatum* Trin. , *Phragmites karka* (Retz.) trin ex. Steud., *Sporobolus capillaries* Miq., *Sorghum halepense* (L.) Kuntz., *Urochloa panicoides* Beauv. This documentation will be helpful to the staff of Forest department and for better management of grasslands with special reference to wildlife habitat.

V. CONCLUSION

The results show that different folk inhabitants of Sendhwa district Barwani of Madhya Pradesh are rich in grass diversity. Grasses are utilized for livestock, in the form of fodder as well as medicine, food, domestic and ornamental used. Tribal and traditional communities in other parts of country are mainly depending on it. Knowledge of these taxa is more benefited to them and they are used to cure a particular aliment of live stock. Detailed studies are required for positive exploitation and wider application of the grass utility.

VI. ACKNOWLEDGEMENT

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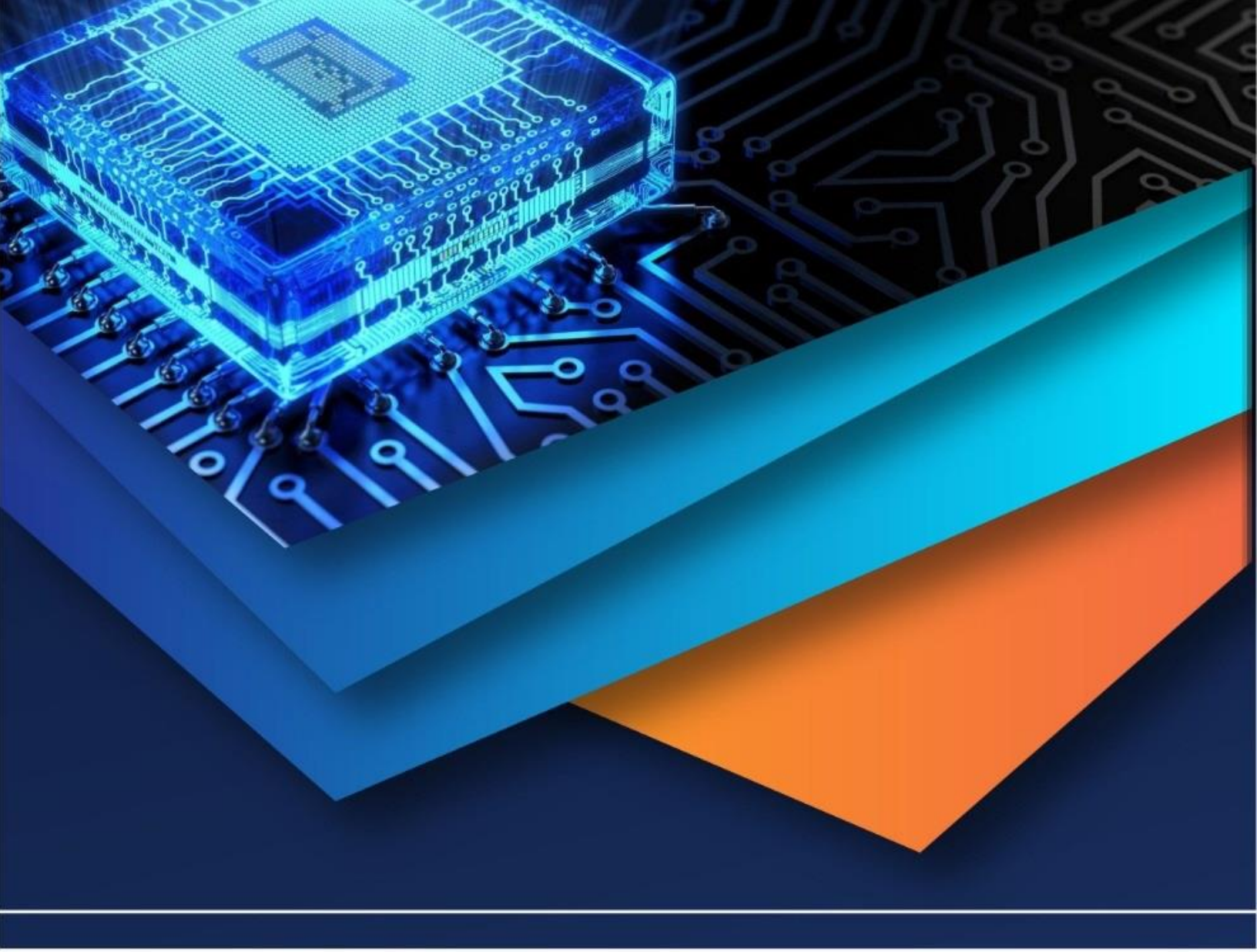
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Table-1: Diversity of grass species from Sendhwa Dist. Barwani (M.P.), India

sn	Botanical Name	Local Name	Status	Uses
1.	*Apluda mutica L.*	Ponia	C	Fodder
2.	*Arachne racemosa*	Baru	C	Fodder
3.	*Aristida radacta Stapf.*	Lampdo	Rare	Soil binder
4.	*Arthraxon lancifolius (Roxb.)Hochst*	Baric machario	Rare	Fodder
5.	*Bothriochloa glabra (Roxb.) A. Camus*	Phoptai	Rare	Fodder
6.	*Brachiaria ramosa (L.) Stapf.*	Popti	Rare	Fodder
7.	*Capillipedium hugelii (Hack.)Stapf.*	Morphakdia	Rare	Fodder
8.	*Cenchurus cilliaris L.*	Damniyo	Rare	Fodder
9.	*Chrysopogon fulvus (Spreng.) Chiov.*	Khad	C	Fodder
10.	*Coix-lacryma Jobi L.*	Jargadi	C	Tonic, Fodder
11.	*Cynodon dactylon (L.) Pers.*	Duwato	C	Religious
12.	*Bambusa arundinacea (Retz.)Willd.*	Vaslo	C	Religious, House making
13.	*Dendrocalamus strictus (Roxb.) Ness.*	Was	C	Making roof
14.	*Desmostachya bi pinnata (L.) Stapf.*	Daab	C	Medicine, Fodder
15.	*Dichanthium annulatum (Forssk.) Stapf.*	Zinzvo	C	Fodder
16.	*Digitaria abludens (Roem & Sch.)Vel.*	Aar	Rare	Fodder
17.	*Digitaria ciliaris (Retz.)Keeler.*	Ario	C	Fodder
18.	*Digitaria stricta Roth ex. Roem & Schult.*	Tipayo	C	Grass for Hey
19.	*Dinebra retroflexa(Vahl.)Panz.*	Khariyo	C	Fodder
20.	*Echinochloa colonum (L.) Link.*	Sawank	C	Grain eaten in scarcity
21.	*Eleusine coracana (L.) Gaerln.*	Daniyo	Rare	Grain is eaten
22.	*Eleusine indica (L.) Gaertn.*	Pandhari	C	Soil binder
23.	*Eragrostis cilianensis (All.) Veg.ex Hub.*	Bhumasiyo	C	fodder
24.	*Eragrostis cilliaris var. cilliaris R.Br.*	Murmuri	C	Fodder
25.	*Heteropogon contortus (L.) P.Beauv.*	Kusaliyo	C	Cordage,
26.	*Imperata cylindrica (L.) P. Beauv.*	Phalange	C	Soil binder
27.	*Ischaemum rugosum salisb.*	Khundho	C	Soil binder
28.	*Iseilema laxum Hack.*	Musan	C	Fodder
29.	*Melanocenelris jacquemontii Jaub.& Spach.*	Pulsario	C	Soil binder
30.	*Oryza rufipogon Griff.*	Bhat ka chokha	C	Fodder
31.	*Panicum brevifolium L.*	Aru	Vul.	Fodder
32.	*Paspalum scrobiculatum L.*	Sotiyo	Cul.	Fodder
33.	*Pennisetum pedicellatum Trin*	Lal pundaliyo	Rare	Soil binder
34.	*Phragmites karka (Retz.) Trin ex. Steud.*	Narkul	Rare	Baskets
35.	*Saccharum spontaneum L.*	Shatto	C	Fodder
36.	*Setaria intermedia Roem & Schult.*	Cipkianio	Rare	Packing
37.	*Setaria verticillata (L.) P.Beuv.*	Lapti	C	Packing
38.	*Sorghum controversum (Steud.)Snowden*	Satiyo	Rare	House making, fodder
39.	*Sorghum halepense (L.) Kuntz.*	Baru	C	Fodder
40.	*Sporobolus capillaries Miq.*	Machari	C	Packing, fodder
41.	*Sporobolus coromandelianus (Retz.) Kuntz.*	Chinari	Rare	Fodder
42.	*Thelepogon elegans Roth ex.Roem & Schult.*	Suklo	Rare	Thatching
43.	*Themeda laxa (Anderess) A. Camus*	Fumta	Rare	fodder
44.	*Tragus roxburghii Panigrahi*	Katiyo	C	Soil binder
45.	*Tripogon Jacquemontii Stapf.*	Tintagyo	C	Soil binder

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