



## Floristic diversity assessment in Sendhwa block of Barwani (M. P.), India

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### Abstract

Phyto-diversity is the variety of variations of differences along the equal set of entities, hence refers to verity inside the plant country and variability in flowers. We describe a phyto-diversity that serves as a framework for analyzing biodiversity of this region. Barwani district is comes below West Nimar and situated at the south-west side of Madhya Pradesh and important part of Barwani falls in the Narmada valley. Maximum of the area is below cultivated lands that are the rich belt of Cotton, Wheat and Chilly plants. Its miles surrounded with the aid of Satpura hill stages in south and Vindhyanal hill stages in north. Goi River is lifeline of the vicinity which is tributary of Narmada River. Hilly regions and woodland of Sendhwa block is the treasure house of ethno botanically in addition to medicinal texa. Sendhwa is very rich in floristic wealth. Present observe data a total of 185 plants species which might be disbursed in 139 genera and 47 households. Different life bureaucracy diversity is Herbs (111), Shrubs (21), trees (29) and climbers (24). The outcome of this work might be treasured report for Botanist and taxonomical take a look at and other researcher investigating in distinct fields.

**Keywords:** phyto-diversity, sendhwa, biodiversity, life form, flora, west nimar

### Introduction

In our planet, tens of millions of species are grown. Man has surveyed one of a kind wooded area regions as well as one of a kind galaxies but he does now not sufficient to everywhere to complete a taxonomic catalogue. When you consider that numerous centuries taxonomist are exploring floristic areas of the worlds and success to prepare account within the shape of vegetation of India. Natural resources play a vital role in supporting life and maintaining of ecosystem<sup>[6]</sup>. The biodiversity found on the earth nowadays which includes many tens of millions of wonderful organic species that's the manufactured from almost 3.5 billion years of evolution and came into existence, flourished and vanished because of numerous reasons. India ranks one of the few international locations inside the worldwide that is using the superb indigenous medicinal wealth in a huge way thinking about the reality that Vedic era<sup>[3]</sup>. Sendhwa block of Barwani district has a wealthy plant life due to its varied floristic elements beneath properly reserved forests areas<sup>[20]</sup>. Many invasive species damage habitat, the locations wherein different plants obviously live<sup>[18]</sup>. The vegetation of region of Sendhwa provides a good example of study of the plant diversity and above all interesting synthesis of natural ecosystem dynamics. Phyto-diversity of Sendhwa block is constitute the richness of assorted lifestyles shape and located among the Narmada and the Tapi. Its tributary is Goi River. It lay between 21°41'05" North range and 75°5'43" East Longitude and its region is 18 Km<sup>2</sup> and its elevation are 409 MSL in conjunction with the population is 564859 (Census 2011). There are many rare species had been developing luxuriantly beneath teak tree woodland area of Sendhwa block of Barwani district.

### Literature survey

Due to all this work it is possible to present specify the distribution of texa and identify botanical and ecological components of vegetation of the region of Sendhwa. Its

miles apparent from above account that even though the district has wealthy flora but very few floristic works has been undertaken to this point visited Sainkhediya and Ray 2014<sup>[36]</sup>, Sisodiya and Sainkhediya 2018<sup>[48]</sup>, Sainkhediya 2019<sup>[28]</sup>, Sainkhediya and Patil 2019<sup>[29]</sup>, Ahirwar & Sainkhediya 2021<sup>[1]</sup>, Sainkhediya and Trivedi 2022<sup>[26]</sup>, Sainkhediya 2022<sup>[34, 37]</sup>, Sainkhediya and Rawat S. 2022<sup>[41]</sup>, Sainkhediya and Aske 2022<sup>[40]</sup>, Sainkhediya and Trivedi 2022<sup>[27]</sup>, Sainkhediya and Muvel 2022<sup>[30]</sup>, Sainkhediya and Ahirwar 2022<sup>[38]</sup>, Sainkhediya, *et.al.* 2022<sup>[35]</sup>, Chouhan 2022<sup>[4]</sup> and no consolidate efforts have been made to work out the biodiversity of the district as a whole. A very little work was done in Nimar region by Ray & Sainkhediya 2012<sup>[23]</sup>, Sainkhediya and Aske 2012<sup>[39]</sup>, Sainkhediya & Ray 2012<sup>[42]</sup>, Ray & Sainkhediya 2014<sup>[22, 24, 25, 31, 32, 44]</sup>, Sainkhediya & Pachaya 2015<sup>[43]</sup>, Sainkhediya *et.al.* 2021<sup>[33]</sup>, Trivedi & Sainkhediya 2022<sup>[49]</sup>. Preserving those points in view an assessment of phyto-variety of Sendhwa district Barwani became achieved in 2022 in the guidance of flora of the area an account of 158 texa (take a look at listing) as a precursor to the location of Sendhwa block of Barwani district has been dealt within the gift paper.

### Methodology

Intensive and vast plant survey turned into accomplished all through the 12 months 2019-2020. Plant exploration work is achieved in each season. The plant exploration works become carried in one of kind seasons. All habitats surveyed carefully. The plants and distribution pattern of the plants have been studied. Plant series and herbarium preparation is finished by way of method recommended via Jain and Rao, 1977<sup>[14]</sup>. Plant material is keeping mercuric chloride and alcohol and dried plant is mounted on herbarium sheet with the assist of fevicol. Identification of vegetation carried out with the assist of flowers (Verma *et.al.*, 1993<sup>[51]</sup>; Sing *et.al.*, 2001<sup>[47]</sup>; Mudgal *et al.* 1997<sup>[16]</sup>; Khanna *et al.*, 2001

[15]; Shah, 1978 [46]; Duthi, 1960 [7]; Hains, 1921-1924 [12]; Cook, 1903; [5] Hooker, 1872-1897 [13]; Naik, 1998 [17] and other taxonomic literature. The entire plant specimen was deposited in herbarium of Govt. P. G. College Sendhwa, Madhya Pradesh.

### Design of the works

We've selected a few essential villages in Sendhwa block because of thick population of tribal peoples and ethnic numerous corporations are offered which might be mainly depends on agriculture. A village sensible study is carried out wherein the tribal human beings residing in deep woodland areas and this place are selected randomly. Flora associated facts is obtained with particular discussion with them. Throughout the look at each village became survey and interviewed are arranged with farmers and different senior folks who's aware about flora pattern of the location. For the diversity survey different targeted web sites of Sendhwa block had been decided on. For this 60 field journeys are made and 20 field's sites were decided on and regularly visited for diversity studies and subject dairy with details of visit is recorded. The plant specimens are accrued into specific time and unique places and records of various seasons are accrued and climatologically facts like temperature, humidity and many others recorded. Filed notes were additionally noted in field dairy. Circle of relative's region arranges consistent with Bantam and Hooker (1862-1883) system of classification whereas genera are alphabetically arranges. Corrected creator citation are given of indexed taxa is provided. Cutting-edge nomenclature of ICBN is followed and botanical as well as families modified name enhance type of APG-IV has been accompanied.

### Result & discussion

The biodiversity represents the variability of all ecosystems, species and genetic material, within and among them, but it is heterogeneous with respect to a number of parameters [11]. Present look at reviews 185 plant species which is distributed in forty seven households 139 genera. Dicotyledons encompass 158 species with 114 genera and 40 households and monocotyledons are composed 27 species, 25 genera and 7 families (desk-1). the study of the vegetation has enabled us to bring out following results. Our study reports 185 species and 139 genera which look like a great illustration of the plant life for a small location. Out of the forty seven families 139 genera and 185 species monocotyledons proportion 7 households (14.8%), 25 genera (18%) and 27 species (14.6%) and Dicotyledons proportion 40 households (85.1%), 114 genera (82%) and 158 species (85.4%, table-2 & fig.-1). existence form variety is presented in figure -2. The plant life shape of the vicinity is remarkably changing because of anthropogenic pressure and urbanization. It is argent need of conservation of biological diversity [2]. *Borassus flabellifera* L. species have been located to be uncommon inside the area. According to Raj 2010 [21] the biodiversity of the arena is reducing 10% due to eradication. For this motion and care ought to taking to preserve of uncommon taxa. Desk-4 confirmed the Phyto-variety of Sendhwa, Barwani district. Leguminosae is the biggest circle of relatives inside the place followed by way of Poaceae, Dipterocarpaceae, Compositae and so forth (table-5 & Fig.-3).

### Conclusion

A variety of indices are available to quantify the diversity of biological communities and information on species

composition in a region provides good economic and regeneration potential [45] It is fact that India is very rich in biodiversity and rank, eight among seventeen mega diversity countries. Natural resources survey like floristic study plays an important role in the economic development of developing country e.g. India [9]. The prevailing study assessment of phyto-range of Sendhwa is first look at in Barwani District which suggests the importance of the region in phrases of phyto-diversity. Vegetation is the most precious gift; nature has provided to us an meeting all kinds of essential requirements of the humans in the form of food, fodder, fuel, medicine, timber, reigns and oil and many other things [10]. Species range could be very excessive as compared to other district of Madhya Pradesh. it is handiest possible because of diverse habitats present with precise features like agriculture activities, water availability, soil topography and the incredible river Narmada make here favorable ground for species developing. Floristic study is a necessary perquisite for much fundamental research in tropical community ecology, such as modeling patterns of species diversity of understanding species distributions [19]. Our look at is recorded the phyto-range of various habitat here is the a few glimpse of this location. Plant communities play a pivotal role in sustainable managements by maintaining biodiversity and conserving the environment [8]. Floristic studies acquire increasing importance in recent years in response to need of developing and under developing countries to assess their plant wealth [50]. On this region a few taxa are left unrecorded so it's far want of hour to look at long time complete look at to report.

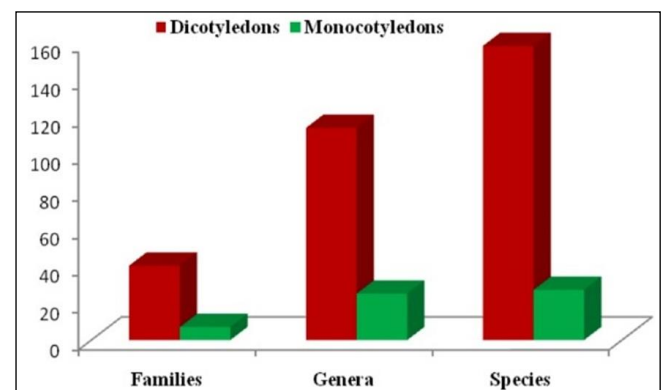


Fig 1: Diversity of Family, Genera and Species

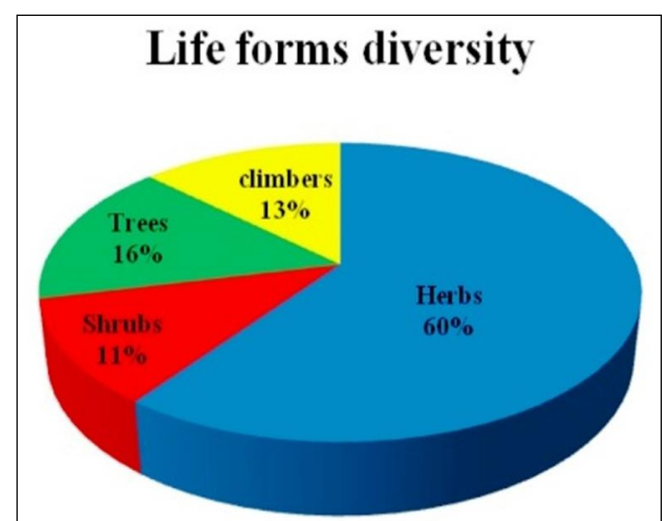


Fig 2: Different life form diversity

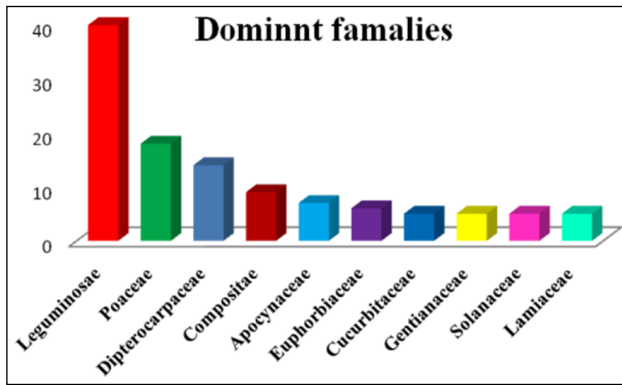


Fig 3: Ten dominant families of the study area

Table 1: Distribution of taxa in Sendhwa

Angiosperm		Species	Genera	Families
	Polypetalae	91	63	22
Dicotyledons	Gamopetalae	50	40	12
	Monochlamydeae	17	11	6
	Total	158	114	40
Monocotyledons		27	25	7
	Grand total	185	139	47

Table 2: Diversity of Family, Genera and Species

Angiosperm	Species	%	Genera	%	Families	%
Dicotyledons	158	85.4	114	82	40	85.1
Monocotyledons	27	14.6	25	18	7	14.8

Table 3: List of flowering plants

S.N.	Families	Botanical name	Habitat
1.	Annonaceae	<i>Annona reticulata</i> L.	S
2.		<i>Annona squamosa</i> L.	S
3.	Menispermaceae	<i>Cissampelos pareira</i> L.	CH
4.		<i>Cocculus hirsutus</i> (L.) Theob.	CH
5.		<i>Tinospora sinensis</i> (Lour.) Merr.	CH
6.	Papaveraceae	<i>Argemone Mexicana</i> L.	H
7.	Capparaceae	<i>Capparis decidua</i> (Forssk.) Edgew.	CH
8.		<i>Capparis grandis</i> L.f.	CH
9.		<i>Capparis sepiaria</i> L.	CH
10.	Cleomaceae	<i>Cleome gynandra</i> L.	H
11.	Polygalaceae	<i>Polygala arvensis</i> Willd.	H
12.		<i>Polygala erioptera</i> DC	H
13.	Dipterocarpaceae	<i>Shorea robusta</i> Gaerth f.	T
14.		<i>Abutilon hirtum</i> (Lam.) Sweet.	H
15.		<i>Abutilon indicum</i> (L.) Sweet	H
16.		<i>Bombax ceiba</i> L.	T
17.		<i>Corchorus aestuans</i> L.	H
18.		<i>Corchorus fascicularis</i> Lam.	H
19.		<i>Corchorus olitorius</i> L.	H
20.		<i>Grewia flavescens</i> Juss.	S
21.		<i>Grewia hirsuta</i> Vahl.	S
22.		<i>Grewia sapida</i> Roxb. ex DC.	S
23.		<i>Sida acuta</i> Burm. F.	H
24.		<i>Sida cordata</i> (Burm.f.) Bors. Waalk.	H
25.		<i>Sida cordifolia</i> L.	H
26.		<i>Triumfetta malebarica</i> J.Koenig ex Rottb.	H
27.	Malpighiaceae	<i>Hiptage benghalensis</i> (L.) Kurz	H
28.	Zygophyllaceae	<i>Tribulus terrestris</i> L.	H
29.	Oxalidaceae	<i>Biophytum reinwardtii</i> (Zucc.) Klotzsch.	H
30.		<i>Biophytum sensitivum</i> (L.) DC.	H
31.		<i>Oxalis corniculata</i> L.	H
32.	Rutaceae	<i>Aegle marmelos</i> (L.) Correa	T
33.		<i>Murraya paniculata</i> (L.) Jack	H
34.	Simaroubaceae	<i>Ailanthus excelsa</i> Roxb.	T
35.	Meliaceae	<i>Azadirachta indica</i> A.Juss.	T
36.		<i>Melia azedarach</i> L.	T
37.	Rhamnaceae	<i>Ventilago denticulata</i> Willd.	H
38.		<i>Ziziphus jujuba</i> Mill	T
39.		<i>Ziziphus nummularia</i> (Burm.f.) Wight & Arn.	T
40.	Vitaceae	<i>Ampelocissus latifolia</i> (Roxb.) Planch.	CH
41.	Sapindaceae	<i>Cardiospermum halicacabum</i> L.	CH
42.	Anacardiaceae	<i>Mangifera indica</i> L.	T
43.	Leguminosae	<i>Abrus precatorius</i> L.	CH
44.		<i>Aeschynomene aspera</i> L.	H
45.		<i>Aeschynomene indica</i> L.	H
46.		<i>Alysicarpus bupleurifolius</i> (L.) DC.	H
47.		<i>Alysicarpus tetragonolobus</i> Edgew.	H
48.		<i>Butea monosperma</i> (Lam.) Taub.	T
49.		<i>Cajanus platycarpus</i> (Benth.) Maesen	CH
50.		<i>Cajanus scarabaeoides</i> (L.) Thouars	CH

51.		<i>Clitoria annua</i> J.Graham	CH
52.		<i>Clitoria ternatea</i> L.	CH
53.		<i>Crotalaria albida</i> Roth.	H
54.		<i>Cullen corylifolium</i> (L.) Medik.	H
55.		<i>Dalbergia latifolia</i> Roxb.	T
56.		<i>Dalbergia sissoo</i> DC.	T
57.		<i>Desmodium dichotomum</i> (Willd.) DC.	H
58.		<i>Desmodium scorpiurus</i> (Sw.) Desv.	H
59.		<i>Indigofera trifoliata</i> var. <i>duthiei</i> (Naik) Sanjappa	H
60.		<i>Indigofera linifolia</i> (L.f.) Retz.	H
61.		<i>Indigofera linnaei</i> Ali	H
62.		<i>Indigofera tinctoria</i> L.	H
63.		<i>Lathyrus aphaca</i> L.	H
64.		<i>Pongamia pinnata</i> (L.) Pierre	T
65.		<i>Rhynchosia minima</i> (L.) DC.	H
66.		<i>Rhynchosia bracteata</i> Baker	H
67.		<i>Tephrosia pumila</i> (Lam.) Pers.	H
68.		<i>Tephrosia purpurea</i> (L.) Pers.	H
69.		<i>Zornia gibbosa</i> Span.	H
70.		<i>Bauhinia purpurea</i> L.	T
71.		<i>Caesalpinia bonduc</i> (L.) Roxb.	S
72.		<i>Cassia fistula</i> L.	T
73.		<i>Senna alata</i> (L.) Roxb.	H
74.		<i>Senna alexandrina</i> Mill.	S
75.		<i>Senna occidentalis</i> (L.) Link	H
76.		<i>Tamarindus indica</i> L.	T
77.		<i>Acacia leucophloea</i> (Roxb.) Willd.	T
78.		<i>Acacia nilotica</i> (L.) Delile ssp. <i>indica</i> (Benth.) Brenon	T
79.		<i>Albizia amara</i> (Roxb.) B.Boivin	T
80.		<i>Albizia lebbek</i> (L.) Benth.	T
81.		<i>Mimosa rubicaulis</i> Lam.	H
82.		<i>Pithecellobium dulce</i> (Roxb.) Benth.	T
83.		<i>Prosopis cineraria</i> (L.) Druce	T
84.	Myrtaceae	<i>Syzygium cumini</i> (L.) Skeels	T
85.	Onagraceae	<i>Ludwigia octovalvis</i> (Jacq.) P.H.Raven	H
86.	Cucurbitaceae	<i>Citrullus colocynthis</i> (L.) Schrad.	CH
87.		<i>Coccinia grandis</i> (L.) Voigt	CH
88.		<i>Ctenolepis garcini</i> (L.) C.B. Clarke	CH
89.		<i>Luffa echinata</i> Roxb.	CH
90.		<i>Luffa tuberosa</i> Roxb.	CH
91.	Apiaceae	<i>Centella asiatica</i> (L.) Urb.	H
92.	Rubiaceae	<i>Spermacoce articularis</i> L.f.	H
93.		<i>Spermadictyon suaveolens</i> Roxb.	H
94.	Compositae	<i>Ageratum conyzoides</i> (L.) L.	H
95.		<i>Blumea eriantha</i> DC.	H
96.		<i>Blumea fistulosa</i> (Roxb.) Kurz	H
97.		<i>Conyza japonica</i> (Thunb.) Less. ex Less.	H
98.		<i>Cyathocline purpurea</i> (Buch.-Ham. ex D.Don) Kuntze	H
99.		<i>Eclipta prostrata</i> (L.) L.	H
100.		<i>Sonchus asper</i> (L.) Hill	H
101.		<i>Sonchus brachyotus</i> DC.	H
102.		<i>Tridax procumbens</i> (L.) L.	H
103.		<i>Xanthium strumarium</i> L.	H
104.	Sapotaceae	<i>Madhuca longifolia</i> var. <i>latifolia</i> (Roxb.) A.Chev.	T
105.	Oleaceae	<i>Nyctanthes arbor-tristis</i> L.	S
106.	Apocynaceae	<i>Nerium oleander</i> L.	S
107.		<i>Tabernaemontana divericata</i> (L.) R.Br. ex Roem. & Sch.	S
108.		<i>Hemidesmus indicus</i> (L.) R. Br. ex Schult.	CH
109.		<i>Calotropis gigantea</i> (L.) Dryand.	S
110.		<i>Calotropis procera</i> (Aiton) Dryand.	S
111.		<i>Pergularia daemia</i> (Forssk.) Chiov.	CH
112.		<i>Telosma cordata</i> (Burm. f.) Merr.	CH
113.	Gentianaceae	<i>Canscora diffusa</i> (Vahl) R.Br. ex Roem. & Schult.	H
114.		<i>Enicostema axillare</i> (Poir. ex Lam.) A.Raynal	H
115.		<i>Exacum tetragonum</i> Roxb.	H
116.		<i>Exacum pedunculatum</i> L.	H
117.		<i>Hoppea dichotoma</i> Willd.	H
118.	Boraginaceae	<i>Bothriospermum tenellum</i> (Hor.) Fisch. & C.A.Mey.	H

119.		<i>Cynoglossum zeylanicum</i> (Vahl) Brand	H
120.	<i>Convolvulaceae</i>	<i>Argyrea bella</i> Raizada	CH
121.		<i>Ipomoea hederifolia</i> L.	H
122.	<i>Solanaceae</i>	<i>Datura stramonium</i> L.	H
123.		<i>Physalis minima</i> L.	H
124.		<i>Solanum anguivi</i> Lam.	H
125.		<i>Solanum incanum</i> L.	H
126.		<i>Withania somnifera</i> (L.) Dunal	S
127.	<i>Acanthaceae</i>	<i>Barleria cristata</i> L.	S
128.		<i>Gantelbua urens</i> (Heyne ex Roxb.) Bremek.	H
129.		<i>Haplanthodes tentaculatus</i> (L.) Majumdar	H
130.		<i>Haplanthodes verticillatus</i> (Roxb.) Maj.	H
131.		<i>Hemigraphis hirta</i> (Vahl) T. Anderson	H
132.		<i>Rungia pectinata</i> (L.) Nees	H
133.		<i>Rungia repens</i> (L.) Nees	H
134.		<i>Thunbergia fragrans</i> Roxb.	H
135.	<i>Verbenaceae</i>	<i>Lantana aculeata</i> L.	S
136.	<i>Lamiaceae</i>	<i>Hyptis suaveolens</i> (L.) Poit.	H
137.		<i>Leucas aspera</i> (Willd.) Link	H
138.		<i>Leucas biflora</i> (Vahl) Sm.	H
139.		<i>Ocimum basilicum</i> L.	H
140.		<i>Ocimum americanum</i> L.	S
141.	<i>Nyctaginaceae</i>	<i>Boerhavia diffusa</i> L.	H
142.		<i>Boerhavia repens</i> L.	H
143.	<i>Amaranthaceae</i>	<i>Achyranthes aspera</i> L.	H
144.		<i>Achyranthes aspera</i> var. <i>porphyristachya</i> (Wall. ex Moq.) Hook.f.	H
145.		<i>Aerva lanata</i> (L.) Juss.	H
146.		<i>Amaranthus viridis</i> L.	H
147.		<i>Celosia argentea</i> L.	H
148.	<i>Aristolochiaceae</i>	<i>Aristolochia bracteolata</i> Lam.	CH
149.	<i>Euphorbiaceae</i>	<i>Acalypha indica</i> L.	H
150.		<i>Euphorbia caducifolia</i> Haines	S
151.		<i>Euphorbia chamaesyce</i> L.	H
152.		<i>Euphorbia hirta</i> L.	H
153.		<i>Jatropha curcas</i> L.	S
154.		<i>Jatropha gossypifolia</i> L.	S
155.	<i>Phyllanthaceae</i>	<i>Phyllanthus emblica</i> L.	T
156.	<i>Moraceae</i>	<i>Ficus hispida</i> L.f.	T
157.		<i>Ficus religiosa</i> L.	T
158.	<i>Hypoxidaceae</i>	<i>Curculigo orchoides</i> Gaertn.	H
159.	<i>Asparagaceae</i>	<i>Asparagus racemosus</i> Willd.	CH
160.	<i>Commelinaceae</i>	<i>Commelina benghalensis</i> L.	H
161.		<i>Commelina diffusa</i> Burm.f.	H
162.	<i>Arecaceae</i>	<i>Phoenix sylvestris</i> (L.) Roxb.	T
163.		<i>Borassus flabellifera</i> L.	T
164.	<i>Araceae</i>	<i>Amorphophallus bulbifer</i> (Roxb.) Blume	H
165.	<i>Cyperaceae</i>	<i>Bulbostylis barbata</i> (Rottb.) C.B. Clarke	H
166.		<i>Cyperus alopecuroides</i> Rottb.	H
167.		<i>Cyperus rotundus</i> L.	H
168.	<i>Poaceae</i>	<i>Alloteropsis cimicina</i> (L.) Stapf	H
169.		<i>Andropogon pumilus</i> Roxb.	H
170.		<i>Apluda mutica</i> L.	H
171.		<i>Arundo donax</i> L.	H
172.		<i>Bambusa bambos</i> (L.) Voss	S
173.		<i>Cymbopogon martini</i> (Roxb.) W. Watson	H
174.		<i>Cynodon barberi</i> Rang. & Tadul.	H
175.		<i>Cynodon dactylon</i> (L.) Pers.	H
176.		<i>Dactyloctenium aegyptium</i> (L.) Willd.	H
177.		<i>Digitaria ciliaris</i> (Retz.) Koeler	H
178.		<i>Dinebra retroflexa</i> (Vahl) Panz.	H
179.		<i>Echinochloa colona</i> (L.) Link	H
180.		<i>Eragrostis ciliaris</i> (L.) R.Br.	H
181.		<i>Heteropogon contortus</i> (L.) P. Beauv. ex Roem. & Schult.	H
182.		<i>Isachne globosa</i> (Thunb.) Kuntze	H
183.		<i>Polytrias indica</i> (Houtt.) Veldkam.	H
184.		<i>Sorghum halepense</i> (L.) Pers.	S
185.		<i>Tripogon jacquemontii</i> Stapf	H

Abr.:CH=Climbing herbs, H=Herbs=Shrubs, T= Trees

**Table 4:** Phyto-diversity of Sendhwa

No. of family	No. of Genera		No. of Species	
	Sendhwa	M.P.	Sendhwa	M.P.
Annonaceae	1	5	2	8
Menispermaceae	3	5	3	6
Papaveraceae	1	2	1	3
Capparaceae	1	4	3	16
Cleomaceae	1	1	1	4
Polygalaceae	1	2	2	14
Dipterocarpaceae	7	1	14	1
Malpighiaceae	1	3	1	4
Zygophyllaceae	1	1	1	2
Oxalidaceae	2	3	3	7
Rutaceae	2	10	2	16
Simaroubaceae	1	1	1	1
Meliaceae	2	8	2	9
Rhamnaceae	2	5	3	13
Vitaceae	1	4	1	6
Sapindaceae	1	8	1	10
Anacardiaceae	1	7	1	8
Leguminosae	25	84	40	268
Myrtaceae	1	4	1	9
Onagraceae	1	1	1	5
Cucurbitaceae	4	14	5	*
Apiaceae	1	15	1	20
Rubiaceae	2	25	2	52
Compositae	7	62	9	106
Sapotaceae	1	4	1	5
Oleaceae	1	5	1	20
Apocynaceae	6	15	7	24
Gentianaceae	4	6	5	17
Boraginaceae	2	8	2	30
Convolvulaceae	2	11	2	50
Solanaceae	4	11	5	27
Acanthaceae	6	38	8	103
Verbenaceae	1	18	1	35
Lamiaceae	3	20	5	62
Nyctaginaceae	1	4	2	7
Amaranthaceae	4	13	5	27
Aristolochiaceae	1	1	1	3
Euphorbiaceae	3	29	6	96
Phyllanthaceae	1	*	1	*
Moraceae	1	6	2	33
Hypoxidaceae	1	2	1	2
Asparagaceae	1	*	1	*
Commelinaceae	1	7	2	27
Arecaceae	1	6	1	8
Araceae	1	11	1	14
Cyperaceae	2	11	3	131
Poaceae	17	33	18	52

**Table 5:** Ten dominant families of the study area

S.N.	Dominant families	No. of species
1	Leguminosae	40
2	Poaceae	18
3	Dipterocarpaceae	14
4	Compositae	9
5	Apocynaceae	7
6	Euphorbiaceae	6
7	Cucurbitaceae	5
8	Gentianaceae	5
9	Solanaceae	5
10	Lamiaceae	5

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**Author contributions**

**Sainkhediya Jeetendra:** Conceptualization, Methodology, Data creation, writing Original draft preparation.

**Trivedi Priya:** Visualization

**Rajesh kumar Ninama:** Survey and data collection

**References**

- Ahirwar R, Sainkhediya J. Diversity of grass flora of Sendhwa Dist. Barwani, Madhya Pradesh, India with special reference to their utility. IRWJMSR,2021:06:02:127-131, ISSN: 2251-8408.
- Anonymous. Conservation on biological diversity. Mexico, 1993.
- Billore KV. Utilization and conservation of medicinal plants in India. Chemistry, biochemistry and ayurveda of Indian medicinal plants, 2013, 41-49.
- Chouhan Y. Regional geographical studies of invasive species found in Govt. P.G. College Sendhwa dist. Barwani, Madhya Pradesh, India. IRJMETS,2022:4:9:1598-1604.
- Cook T. Flora of the presidency of Bombay. BSI Publications Calcutta, India, 1903, 1-3.
- Daing FA, Dar MH, Singh SD. Distribution of some annual and perennial plants in BHEL area of Bhopal. Int. J. Bot. Studies,2017:2:6:163-165.
- Duthi JF. Flora of the upper Gangetic plains. BSI Publications Calcutta, India, 1960, 2.
- Farooque NA, Sexena KG. Conservation and utilization of medicinal plants in high hills of the central Himalaya. Environ. Con.,1996:23:75-80.
- Ganorkar RP, Kshirsagar AD. Floristic study of Shirpur region pune, MS, India. IRJBS,2013:2:5:78-82.
- Gour RD. The flora of district Garhwal northwest Himalaya with ethnobotanical note. Transmedia pub. Srinagar, Garhwal, India, 1999.
- Groombridge B. Global biodiversity: status of the earth's living resources. Chapman & hall, London, 1992.
- Hains HH. The Botany of Bihar and Orissa. BSI Reprint, Calcutta, India, 1921-1924, 1-3.
- Hooker JD. Flora of British India. BSI Publication, Calcutta, India, 1892-1897, 1-7.
- Jain SK, Rao RR. A Handbook of Herbarium methods. Today & tomorrow pub. New Delhi, 1976.
- Khanna KK, Kumar A, Dixit RD, Singh NP. Supplementary flora of M. P. BSI Cal. India, 2001.
- Mudgal V, Khanna KK, Hajara PK. Flora of Madhya Pradesh, 1997, 2.
- Naik VN. Flora of Marathwada. Amrut prakashan, Aurangabad, India, 1998, 1-2.
- NGS. National Geographic Society: The ocean-Marine invasive species national geographic environment: attack of the alien invaders, 2022.
- Philips OL, Martinez RV, Vargas PN. Efficient plot based floristic assessments of tropical forests. J. Trop. Eco,2003:19:629-645.
- Raid WV. Biodiversity hotspots. Trends in ecology and evolution,1998:13:275-280.
- Raj MSK. Global biodiversity crisis and priorities in Indian plant systematic. Cur. Sc.,2010:99:11:1491.
- Ray S, Sainkhediya J. Some New Record for the flora of M.P. Bioscience Dis.,2014:5:2:187-192.
- Ray S, Sainkhediya J. Diversity of Grasses in Nimar region. Int. J. Ind. J. Pl.Sc.,2012:1:2-3:144-152.2012.
- Ray S, Sainkhediya J. Rare and threatened plants of Nimar region, M. P. Int. J. of Plant, Animal and Environmental Sciences,2014:4:4:235-240.
- Ray S, Sainkhediya J. Threatened weeds of BT cotton field in Nimar region of M. P. Asian Journal of Bio Science,2014:9:1:84-87.
- Sainkhediya J. and Trivedi P, Some plants used by Bhils in western Madhya Pradesh specially Diarrhea and Dysentery. Notion press India, Singapore, Malaysia, 2022.
- Sainkhediya J, Trivedi P. Some medicinal plants of Sendhwa. IJCIRAS,4:7:33-36.
- Sainkhediya 2019. Campus flora of Govt. P. G. College Sendhwa, M.P. India. GJRA. 2022. 8:7:1-3.
- Sainkhediya J, Patil K. Palatable grass biodiversity in Govt. P. G. College Sendhwa Dist. Barwani, M.P., India. Global journal for research analysis,2019.8:7:93-94.
- Sainkhediya J, Muvel SL. Biodiversity of some lesser known woody species of Sendhwa block of Barwani district of Madhya Pradesh, India. Hospital and pharmacy management: "emphasis on healthcare through herbs" Scieng Publications, TN, India. ISBN: 978-93-94766-235,2022:1:81-85.
- Sainkhediya J, Ray S. Analysis of vegetation and floral diversity of Nimar region, Madhya Pradesh, India. Indian journal of plant sciences,2014:3:3:102-109.
- Sainkhediya J, Ray S. Analysis of vegetation and floral diversity of Nimar region, M. P., India. Indian Journal of Plant Sciences,2014:3:3:102-109.
- Sainkhediya J, Shah CL, Muvel SL. Bhart ke veer krantikari birju nayak ka Barwani jile me samajik sudhar aur vikash me yogdan. SRF Research journal and book publication house Jabalpur M.P., India,2021:8:12:65-67.
- Sainkhediya J, Jamra RK, Muvel SL. Badwani jile me adiwasi samaj ki mahilawo dawara jangli khadiya podho ka sabjiyo ke rup me upyog dawara samajik sudhar aur vikash me yogdan. Adiwashi samaj me rahan sahan, 2022.
- Sainkhediya J, Muvel SL, Trivedi P. Diversity of Grass Species from Sendhwa Dist. Barwani (M.P.), India (IJRASET),2021:9:7:1542-1544.
- Sainkhediya J, Ray S. Studies on sacred groves of Nimar region, Madhya Pradesh, India. Indian Journal of Plant Sciences,2014.3:1:64-69.
- Sainkhediya J. Diversity of wild aromatic and medicinal species of Sendhwa dist. Barwani Madhya Pradesh, India. Hospital and pharmacy management: "Emphasis on healthcare through herbs" Scieng Publications Tamilnadu, India. ISBN: 978-93-94766-23-5,2022:1:16-21.
- Sainkhediya J, Ahirwar R. Study of flowering plant diversity in Sendhwa block of Barwani district, Madhya Pradesh, India. Hospital and pharmacy management: "Emphasis on healthcare through herbs" Scieng Publications, Tamilnadu India. ISBN: 978-93-94766-23-5,2022.1:116-124.

39. Sainkhediya J, Aske DK. Ethno Medicinal plants used by Tribal communities for the treatment of snakebite in west Nimar, M.P. India. ISCA J. Biol. Sc.,2012:1:2:77-79.
40. Sainkhediya J, Aske DK. Preliminary survey of avenue trees in Sendhwa dist. Barwani (M.P.), India. Hospital and pharmacy management: "Emphasis on healthcare through herbs" Scieng Publications, Tamilnadu India. ISBN: 978-93-94766-23-5,2022:1:53-56.
41. Sainkhediya J, Rawat S. Phyto-diversity in Sendhwa dist. Barwani (M.P.), India with special reference to wild aromatic plants. Hospital and pharmacy management: "Emphasis on healthcare through herbs" Scieng Publications, Tamilnadu India. ISBN: 978-93-94766-23-5,2022:1:41-44.
42. Sainkhediya J, Ray S. Preliminary study of flowering plant diversity of Nimar region. Bioscience Discovery,2012:3:1:70-72.
43. Sainkhediya J, Pachaya J. Studies of Ethno medicinal Plants used by Tribal in Some Selected Villages of Nimar Region (M.P.). Int. J. Sc. Res.,2015:4:2:1205-1210.
44. Sainkhediya J, Ray S. Analysis of vegetation and floral diversity of Nimar region, Madhya Pradesh, India. Indian journal of plant sciences,2014:4:3:102-109.
45. Sen UK Assessment of diversity, population structure, regeneration and conservation status of tree species in a sacred grove of west Midnapore district, WB, India. Int. J. Bot. Studies,2018:3:3:33-42.
46. Shah GL. Flora of Gujarat state. University press, Gujarat, India,1978, 1-2.
47. Singh NP, Khanna KK, Mudgal V, Dixit RD. Flora of M.P. BSI Pub., Cal. India, 2001, 3.
48. Sisodiya S, Sainkhediya J. Sendhwa kile ka etahas. SRF Res. J & Book pub. House Jabalpur M.P, 2018.
49. Trivedi P, Sainkhediya J. Some Plants used by Bhils in Western Madhya Pradesh specially Diarrhea and Dysentery. ISBN: 9798885690287. Notion Press Pub.Com. Chennai, India, 2022.
50. Vediya SD, Kharadi HS. Floristic diversity of Isari zone, Meghraj range forest district Saberkantha, Gujarat, India. Int. J. Pharma & Lif. Sc.,2011:2:9:1033-1034.
51. Verma DM, Balakrishnan NP, Dixit RD. Flora of M.P. BSI Pub., Cal., India, 1993, 1.