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Differentiation, Extinction, and Rare in the Environment in Medicinal and Flowering Plants of Sidhi M.P., India

Shashi Singh[1]*, Dr. A. P. Singh[2]

[1] Research Scholar, Depart. of Botany, SGS Govt. Autonomous College Sidhi (M.P.)

[2] Prof. of Botany, Govt. Model Science College Rewa (M.P.)

Abstract - Many botanists have taken an interest in the area of Thrace due to the rich flora that has developed there as a direct consequence of the region's diverse climate and geographical characteristics.Numerous floristic observations were used for this investigation. The study region is home to a number of rare or endangered plant species. Heavy biotic pressure, habitat loss, megaprojects, overexploitation, trade value, overgrazing, and aggressive invasion of alien species are all threats to the Sidhi district's phytodiversity to varying degrees. Thirty-seven plant species are listed here as being either endangered or unusual. The current state of all 37 plant species in the research region, as well as their scientific and common names, as well as their red data category, are listed. The preservation of many of these plant species is an urgent matter. It's really concerning that endangered creatures are in need of increasing amounts of help. Sanjay Dubri Wild Life Sanctuary in Sidhi district is home to a number of rare and endangered plant species, which are highlighted in the current research.

Keywords - Climate, Environment, Rare, Threatened,Plants, Sidhi, M.P.

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1. INTRODUCTION

Many botanists have taken an interest in the area of Thrace due to the rich flora that has developed there as a direct consequence of the region's diverse climate and geographical characteristics. The overall number of pteridophytes and spermatophytes that have been found in this region up to this point. Walls denote a certain setting, which is somewhat analogous to rocks and rock fissures in appearance. However, a variety of plant species are possible to colonize this environment because to their artificial origin, placement within the urban and rural terrain, and the technology used in wall construction.

The following habitat characteristics are the primary differentiating factors between rocks and walls:

(i) Walls are made up of construction materials, which are often stacked on top of one another using a variety of binding materials that have a lesser durability and a chemical composition that is distinct from the building material. The disintegration of the components that were holding the debris together is what causes fine-grain rubble to accumulate in fissures. This fine-grain rubble offers a substrate with a varied amount of nutrients, which in most cases enables early succession of flora. If dirt is employed as a binding or covering material, the succession process may be sped up and completed more quickly.

(ii) Since walls are routinely scrubbed and fettled, they function in essence as a temporary home for organisms. Frequent disruptions of wall vegetation thus led to a significant variety in species composition and exclude many species characteristic of rocks and rock fissures. This results in a high degree of biodiversity loss.

(iii) Walls are often solitary structures that are of modest proportions. In contrast to rocks, the microclimate of walls is far more sensitive to variations in weather conditions such as precipitation, temperature, and irradiance.

(iv) Walls contain just a select few different kinds of microhabitats. Crevices are similar to one another, and the slope and microtopography of the sidewalls are the same throughout. On the other hand, rocks seem to contain a wide variety of microhabitats.

(v) The composition of wall flora is greatly impacted by the mass-effect of the surrounding ruderal and seminatural plant types. This is because walls are positioned within urban and rural landscapes.

When seen from the top down, walls typically consist of three distinct zones:

(i) the base,

(ii) the vertical wall surface with joints (fissures), and

(iii) the wall top.

These zones are referred to as the vertical division of the wall. The species that make up the basal zone include plants that are growing on vertical surfaces as well as those that are found in adjacent vegetation. This is because the environmental conditions of the basal zone are more favorable than unfavorable.

Unique methods like "Wall Flora" have emerged at the crossroads of urban design, environmental sustainability, and progressive agriculture. This method, which helps increase flora and food production while making the most of limited urban space, has gained popularity in the Sidhi neighborhood. This introductory section explores the relevance and effects of Wall Flora on the local topography in Sidhi District. Sidhi District in Madhya Pradesh, India, is a district that has both urban and rural settings. As urbanization spreads, fewer and fewer acres of farmable land remain. Wall Flora is only one example of how innovative approaches to problems like food insecurity and environmental degradation have flourished in today's urban settings.

Wall Flora is the practice of growing plants on vertical structures like walls and fences. This method, popular in Sidhi District, involves repurposing unused vertical space for the cultivation of food, medicine, and decorative plants. Vertical gardens are developed via the use of these specialized methods, allowing for the most effective use of available space and water. Wall Flora is changing the urban landscape in Sidhi District's geography. The addition of greenery to the urban environment is facilitated by the proliferation of vertical gardens, which decorate walls in both private and public spaces. These green walls are aesthetically pleasing, and they also contribute to better air quality, a more stable microclimate, and reduced pollution levels. With less and less room to grow food in cities, Wall Flora offers a long-term answer to the problem. Small-scale farmers in Sidhi District may benefit from this method since it does not need large plots of land. This aids in the production of food close to home and lessens the environmental impact of food transportation.

Wall Flora in Sidhi District is geographically situated in a way that encourages local participation and environmental consciousness. People from all walks of life and all types of homes and communities work together to build and care for vertical gardens. By working together, cities are better able to withstand environmental hazards and establish social relationships. The location of Wall Flora in Sidhi District is a great example of how agricultural progress and urban sustainability are merging. Food security is improved, urban aesthetics are improved, and environmental awareness are all boosted when vertical areas are used for agriculture. Wall Flora's incorporation into Sidhi District's urban landscape exemplifies the potential for a sustainable and environmentally friendly future for the city.

2. LITERATURE REVIEW

Griffith, Daniel & Byrd, Kristin & Taylor, Niky & Allan (2023) Patterns of functional variety in the natural world are underpinned by evolutionary relatedness in many cases. The possibility exists for hyperspectral remote sensing to identify these patterns in plants by analyzing the inherited patterns of leaf reflectance spectra. We gathered information on the range of leaf reflectance throughout the California flora from plants that were cultivated in a communal garden. The level of detail and intensity of the phylogenetic signal varies throughout the various regions of the reflectance spectra. We also demonstrate that these variances are far larger than the variation that can be attributed to the plant's geographic origin. At the evolutionary range of the flora of California, there was only a little amount of spectrum variation that could be explained by the combination of ecotypic variation (divergent evolution) and the convergent evolution of different lineages; yet, this variation was statistically significant. It's interesting to note that within the confines of a single genus (Arctostaphylos), there wasn't any specific variation that could be traced back to its geographic origin. In spite of this, up to 18% of the spectrum variance across Arctostaphylos individuals was found to be shared between phylogeny and intraspecific variation resulting from ecotypic differences (also known as regional origin). In further research, more organized experiments (such as transplants or observations along environmental gradients) might be carried out in order to differentiate between these different sources of variation and to take into account other forms of intraspecific variation (such as plasticity). We provide more support for the hypothesis that phylogenetic clusters of species can be detected using remote sensing by placing constraints on the broad-scale spectral variability that is caused by ecotypic sources. The monitoring and detection of biodiversity may benefit from include phylogenetic clusters as an important component.

Sosa, Victoria & Alvarado-Cardenas (2023) The number of species of vascular plants in Mexico is very high, contributing to the country's high level of megadiversity. There is not yet such thing as a complete Flora for Mexico that takes into account all of the vascular plants that are found there. Electronic Floras have shown the usefulness of a compendium that is based on previously published Floras, checklists, and modifications of Flora. Concerning the publication of the Flora of Mexico, what strategy would be the most effective? In order to produce this Flora, what materials are required? Where do these resources stand at the moment, and what does their status entail? The purpose of this work is to explore the content of an online Flora for the vascular plants of Mexico as well as to review and assess the taxonomic and digital resources and the bioinformatic techniques that are required to construct such a Flora. Results and Concluding Remarks: It has been suggested that Mexican and other academics from around the world work together to create an online flora that makes use of the EDIT Platform for Cybertaxonomy. It will be based on the roughly 5.3 million specimens that have been placed in Mexican herbaria, and it will include an inter-operational interface to connect to other biodiversity platforms. The term "eFloraMEX" has been given to this digital collection of Mexican plants. The taxonomic backbone, which is the checklist for the Mexican vascular plants and contains roughly 29,000 species, was released through a site (efloramex.ib.unam.mx) so that experts may review and modify it as necessary. The eFloraMEX project will be led on two fronts, namely taxonomic resources and digital resources, by a council consisting of both taxonomists and computer professionals. Building the team, providing taxonomists with the necessary training, digitizing the specimens for the majority of Mexican herbaria, and securing the necessary long-term financing are the primary hurdles that need to be overcome in order to finish this, Flora.

Şinasi& Şahin, Talip (2022) More than 350.000 plant taxonomic families may be found all over the globe, and new plant species are still being found on a regular basis. Turkey is one of the nations in the temperate zone with the greatest variety of plant life. A greater proportion than one third of the plant species that may be found in Turkey are classified as endemic taxa. Turkey is one of the biggest nations in Europe, has the richest flora in Europe, has distinctive geographical characteristics, is the gene center for many different genera and species, has edaphic variables, ecological conditions, terrain, habitat diversity, and a range of climates. Turkey is also a bridge between Asia and Europe. The biogeographically distinct areas that comprise Turkey are the Mediterranean, the European Siberian, and the Irano-Turanian regions. Turkey is located at the interface of these three regions. The variety of plant life in Turkey may be attributed to Turkey's distinctive physical characteristics. The eastern region of Turkey is home to a particularly diverse and abundant plant life, which contributes to the region's richness in terms of its flora. More than 13,000 distinct plant species may be found in Turkey, which serves as a bridge between Asia and Europe. There is a large variety of plant life in Turkey, contributing to the country's high biodiversity. The city of Adyaman (Turkey) is located in the southeastern region of Turkey. According to Davis's grid method, the location of Adyaman places it inside the Anatolia-Turanian phytogeographic area. Specifically, the city sits within the C7 square. Because of our floristic research in Adıyaman and environs in recent years; 3 new plant species were found by plant taxonomists O. Kılıc& Ş. Yıldırımlı. In this research, a short introduction to these newly discovered plants is provided, complete with images, locations, scientific names, and descriptions of their environments.

Barinova, Sophia & Smith, Thomas (2022) This page is a list of the cyanobacteria and algae species that were discovered in the continental waters of Israel between the years 1898 and 2022. In the period between 2000 and 2022, the number of species on the list increased from 1261 to 1628, and it included fourteen different phyla. According to the results of the taxonomic study, the predominant organisms were diatoms, cyanobacteria, and green algae. In order to determine the indicator qualities of Israel's aquatic flora carried out on algae and cyanobacteria, which can be used to monitor water quality, data has been synthesized for the first time. This was done for the first time. The ecological preferences of the species are presented for ten different environmental variables. These preferences include substrate preference, temperature, oxygen saturation with water mobility, water pH preferences, water salinity, organic pollution according to Watanabe and Sládek with a species-specific index of saprobity S, trophic state, and type of nutrition (autotrophic or heterotrophic). For the purpose of characterizing the water qualities in Israel, this list of species, together with the indicator values for each species, is employed. In addition to this, it may be used to determine the condition of aquatic ecosystems and to keep an eye on the quality of the water using bioindication techniques.

Niissalo, Matti & Choo, Le Min (2021) We obtained material from four species that have never before been reported in Singapore as part of a study to sample tissue from all native vascular plants in the Bukit Timah Nature Reserve. The initiative was designed to collect samples from all native vascular plants. Both of the species that are being described here, Lepidogyne longifolia (Blume) Blume (Orchidaceae) and Ptyssiglottiskunthiana (Wall. ex Nees) B.Hansen (Acanthaceae), belong to genera that have never been documented in Singapore before. We believe them to be native to Singapore due to the fact that they have been collected in the area before and that the Bukit Timah Nature Reserve is their natural home. Plectocomiopsis cf. corneri Furtado (Arecaceae), which was previously reported here, is a new species record for Singapore; nevertheless, given the collecting history of the species and the fact that Singapore is the only known locale for this species, we believe it to be imported. We examine the nomenclature and history of these species, and we also assign lectotypes for other names that are associated with these species, including Neottia longifolia Blume, LepidogynesceptrumSchltr., Polytremaaequale Ridl., Polytremaaequale Ridl. var. minor Ridl., and Polytrema vulgare C.B.Clarke. In addition to this, we have designated a neotype for the species Lepidogyne minor Schltr.

3. METHODOLOGY

From 2019 to 2021, researchers conducted a multi-seasonal plant survey over the whole study region, collecting data from a wide range of habitat types and ecological settings. Twenty-two areas were chosen and surveyed for their plant life. The plants were collected using conventional procedures. Flora, monographs, reviews, journals, and other sources were reviewed to determine the identity of the plants. The field data and field observations were recorded in a field diary.

The focus of this research was on determining which plants in Dubri Wild Life Sanctuary, Sidhi area, are utilized by locals for traditional medicine. The health of medicinal plants was monitored via a series of regular field expeditions. On site visits, we utilized the Medicinal Plants Datasheet to conduct in-depth interviews with locals, including men and women over the age of 60 who had firsthand knowledge of the area's medicinal plants and its historical significance. Fifty participants were interviewed for the study, 37 males and 13 women. Locals in many far-flung sanctuary regions were interviewed. Multiple inquiries were made to verify the information. The live specimens were gathered during a series of field expeditions to the region. Plants were collected in a broad sense throughout the excursions. Herbarium sheets were used to mount the completely dried specimens. The herbarium in the Department of Botany at the Government S.G.S. Postgraduate College in Sidhi (M.P.), as well as the available literature, were used to positively identify the plants. After the plants were positively identified, they were placed in the herbarium at the Department of Botany of the Government S.G.S. Postgraduate College in Sidhi. During the course of the research, an ethno-medicinal inventory was compiled, which included the botanical name, the local name, the family name, the habit category in the red data book, and the current condition of each medicinal plant.

Sanjay National Park is regarded as one of the best places to see wildlife in Central India due to its rich flora and the resulting popularity among ecotourists and wildlife watchers. Located in the Indian state of Madhya Pradesh, this wildlife haven spans a total of 466.7 square kilometres over the districts of Sidhi and Singrauli. A large variety of rare and endangered animals, including tigers, nilgai, wild dogs, hyenas, sloth bears, etc., may be found in this section of the Sanjay Dubri Tiger Reserve. In 1981, when the state administration saw the need to preserve part of the forest's very rich and unusual flora and animals, it was named a national park. While Sanjay National Park existed before, it was shortly joined with Dubri Wildlife Sanctuary to create the larger Sanjay National Park and Dubri Wildlife Sanctuary. Formerly known as Guru Ghadidas National Park, the Sanjay National Park currently has a variety of rivers, rivulets, and other permanent water sources that cater to the park's avian and mammalian residents.

3.1 Geography of Sidhi district

The coordinates of the Sidhi district, where the majority of the population lives, are 22°47.5″N, 24°4′10″W, 81°18′40″E. The district is bordered to the north-east by Singrauli, to the east by the Uttar Pradesh Koriya district of Chhattisgarh, and to the west by Rewa. In 2001, there were 18,31,152 people living in the Sidhi District, making up around 3.03% of the entire population of the former state of Madhya Pradesh.

3.2 Plants in Sanjay Dubri

The majority of the forest is made up of Sal plantations and large areas of bamboo. Palas, Salai, Dhawada, Gurajan, Mahua, Semal, Harra, Ber, and Tendu are among the most significant plants found in the sanctuary. A wide variety of wild animals may make use of the lush and varied flora created by these plants. Sanjay National Park consists of both hilly and flat terrain, as well as humid tropical peninsular forests and dry mixed deciduous woods in the south.

4. RESULTS

4.1 Flowering Plants that are Rare or Endangered

Heavy biotic pressure, habitat loss, megaprojects, overexploitation, trade value, overgrazing, and aggressive invasion of alien species are all threats to Sidhi district's phytodiversity to varying degrees. Thirty-five species of rare and endangered flowering plants are reported here, representing 86 different genera and 46 different families (Table 1). Because they are found in such tiny numbers or in widely dispersed, very vulnerable, localized habitats, rare taxa are particularly vulnerable to environmental degradation. The reproductive method and the success of seeds might be other factors. The population structure and natural dynamics of native flora are disrupted as a result of the allelopathic impacts of invading species.

When a species is in imminent danger of becoming extinct in the wild, we classify it as Critically Endangered. There are 14 species in the region that are considered Critically Endangered. There is a serious threat of extinction for some plant species, including the Acampepraemorsa, Acorus calamus, Cheiolocostusspeciosus, Didymocarpus pygmaeus, and Geodorumdensiflorum. When a species' likelihood of extinction in the wild is high but it is not yet classified as Critically Endangered, we term it "endangered." There are 29 plant species known that fall under this group. There has been a decline in the population, threatening species such as Asparagus racemosus, Centella asiatica, Crinum latifolium, Gloriosa, Habenaria marginata, Sarcostemmaacidum, and Zingiber roseum. In the absence of Critical or Endangered status, but nevertheless facing an extremely high risk of extinction in the wild in the foreseeable future, a taxon is classified as Vulnerable. There are 21 different types of plants that are considered endangered. These plants were formerly abundant in the region, but they are now rapidly disappearing because of human collection for their medicinal, commercial, and trade value. Baliospermummontanum, Curculigoorchiodes, Drimia indica, Enecostemaaxillare, Hemidesmus indicus, Chlorophytum tuberosum, Trichosanthespalmata, Tylophora rotundifolia, Urariapicta, and Chlorophytum tuberosum are all examples of plants that belong to this group. Threats to native flora are exacerbated by the prevalence of invasive species such as Lantana aculeata, Gliricidiasepium, Senna uniflora, Stachytarphetajamaicensis, Eichornia crassipes, and Pistia stratiotes.

Table 1: Rare and Endangered Plants in the Sidhi District of M.P.

S.No.	Botanicalname	Ver.name	Locality	Status	Reason	Cons.Str.
1	*Acampe praemorsa (Roxb.) Bla.&Mcm.Orchidaceae*	Waierdo	Bhuimad	CR	LH, C	ESC, PTC
2	*Acacia pinnata (L) Willd. Leguminosae*	Raoni	Kusmi	R	L	Ins
3	*Acorus calamus L.Araceae*	Bach	Rauhal	CR	T	ISC
4	*Amorphophalus konkanesis Hett.S.R.Yadav&K.S.PatilAraceae*	Janglisuran	Sarai	CR	Hm	TC
5	*Alangium savlifolum (L.f)WangerinComaceae*	Ankola	Dhoopkhad	VU	Hm	ISC
6	*Andrographis paniculate (Bru.f.)Wal.ex.Nes.Acanthaceae*	Apmarg	all sidhi forest	VU.	Hm	ISC
7	*Aristolochia bracteolate Lam .Aristolochiaceae*	Kidamar/ Esamul	Kusmi forest	VU.	L/OV	ESC, BG
8	*Asparagus racemosus Willd.Asparagaceae*	Satawari	Bastua	EN.	T	ISC
9	*Baliospermum montanum (Willd.)Muell.Euphorbiaceae*	Jamalghotai	Bastua	EN.	L	ISC
10	*Boerhaviiarepens.L.Nyctaginaceae*	Punarnava	Bastua and nearby area	VU.	Hm	CUL
11	*Boswellia serrata Roxb.Burseraceae*	Salai	All forest area in Sidhi	CR	OV	ISC
12	*Butea superba Roxb.Leguminosae*	Palasbel	All forest area in Sidhi	R	L	ISC
13	*Cadamba fruticosa (L)DruceCapparaceae*	Kadamb	All forest area in Sidhi	R	L/C	ISC
14	*Carallocarpus coronopus Cucurbitaceae*	Mirchikand	tamsar	EN	Hm/L	ISC
15	*Careya arborea Roxb.Lecythidaceae*	Kumbhi	tamsar	VU	L	RT
16	*Cassytha filiformis Lauraceae*		tamsar	VU	LH	ISC
17	*Catanaregam spinosa(Thin.)Tir.*	Gelphel	lurghuti	VU	D,L	ISC
18	*Centella asiatica (L.) UrbanApiaceae*	Brahami	Local sidhi area	EN	Hm	CU
19	*Ceropegia bulbosa RoxbApocynaceae*	kaparikand	majhauli	CR	Hm/OV	TC
20	*Chlorophytum arundinaceum Baker.Asparagaceae*	Musali	All forest area in Sidhi	VU	T	ISC
21	*Citrullus colocynthis (L.) Schard.Cucurbitaceae*	Indrayan	All forest area in Sidhi	VU.	I/OV	CU
22	*Rotheca serrata (L.) MoonLamiaceae*	Bhrangi	majhauli	VU.	C/ OV	ISC
23	*Cordiama macleodii (Griff.)Hook.F.Thom. Boraginaceae*	Daiwas	kusmi	R	D	RT
24	*Cheiolocostus speciosus (J.koening.)J.E.Sm.Costaceae*	Kavkand	madwas	CR	Hm	ISC
25	*Commelina coroliana WalterCommelinaceae*		majhgawan	R	C	ISC
26	*Crateva religiosa Forst. L.Capparaceae*	Barna	Lurghooti	R	C	ISC
27	*Crinu mlatifolium L. Amarayllidaceae*	Jaglikanda	Kusmi all forest area	EN.	Hm	ISC
28	*Curculigo orchioides Gaertn. Hypoxidaceae*	Kalimusali	local and forest in sidhi	VU.	T	CU
29	*Curcuma angustifolia RoxbZingiberaceae*	Thikur	naudhiya	EN.	T	ISC
30	*Curcuma decipiens DalzelZingiberaceae*		Pondi	EN	Hm	TC
31	*Cullen corylifolium(L) MedikLeguminosae*	Babhachi	niwas	VU	Hm	CU
32	*Cyperus dives DelileCyperaceae*		tikari	R	C	ISC
33	*Digitaria abludens (Roem & Schult)VUeldKampPoaceae*		majhauli	R	T	ISC
34	*Drimia indica(Roxb.) JessopAsparagaceae*	Janglikando	dubri	VU	Hm	CU
35	*Diplocyclo spalmatus (L) JeffreyCucurbitaceae*	Bankakadi	dubri	EN	Hm	ISC

Abbreviations: ISC: In-situ conservation, TC: Traditional conservation, CUL: Cultivation, ESC: Ex-situ conservation, PTC: Plant Tissue Culture, BG: Botanical Garden, Hm: Harvesting of medicine, Hf: Harvesting of food, C: Climatic, L: Loss of habitat, LH: Loss of Host plant, OV: CLB: Indiscriminate collection of leaves and young branches. RT: Reintroduction. T: Trade, RT: Reintroduction, LH: Loss of Host.

4.2 Biodiversity of rare and threatened medicinal plants

In the Dubri Wild Life Sanctuary in the Sidhi district, 422 angiosperm species were identified by taxonomic surveys in the forest regions. In the current study, 422 plant species were gathered and identified, 350 of which were dicots and 72 of which were monocots. Table 2 and Graph 1 provide a summary of the overall number of plant species, genera, and families identified. At the species level, monocots and dicots have a species diversity ratio of 1:4.9; at the genus and family levels, the ratios are 1:3.0 and 1:5.1, respectively. The outcomes are summarized in the table below.

Table 2: Variety of Dicot and Monocot

S. No.		Dicots		Monocots		Total	Ratio
		Number	Percentage	Number	Percentage		
1.	Species	350	83.2	72	16.7	422	1:4.9
2.	Genera	214	79.1	57	20.8	271	1:3.0
3.	Families	83	83.6	16	16.3	99	1:5.1

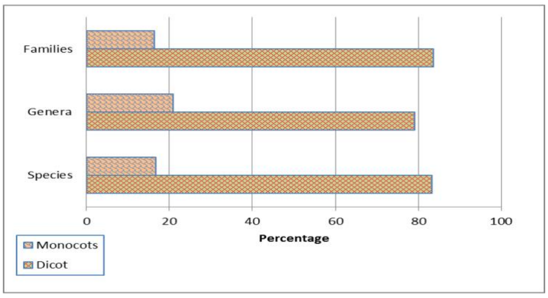

Figure 1: Dicot and monocot distribution

Table 3: List of the Study Area's Rare and Endangered Plants

S.No.	Botanical name	Family	Local name	Habit	Reddatabookcategory	Presentstatusinstudy
1.	*Abutilon bidentatum* Hoesh.	Malvaceae	Kanghi	Herb	Invulnerable	VU
2.	*Acacia catechu** (L.f)Willd.	Mimosaceae	Khair	Tree	Invulnerable	LC
3.	*Adina cordifolia* (Willd)exRoxb.	Rubiaceae	Haldu	Tree	Vulnerable	NT
4.	*Ailanthes execlsa* Roxb.	Simaroubaceae	Aruu	Tree	Vulnerable	VU
5.	*Alangium salvifolium* L.f.Wang.	Alangiaceae	Ankol	Tree	Rare	EW
6.	*Alysicarpus vaginalis* (L.) D.C.	Fabaceae	----	Herb	Invulnerable	EN
7.	*Ampelocis suslatifolia* Roxb.**	Vitaceae	Pannibel	Climber	Invulnerable	CR
8.	*Argyreia nervosa* Dalz.	Convolulaceae	Naar	Climber	Invulnerable	EW
9.	*Bauhinia vahalli* WtAm.**	Ceasalpinaceae	Kachnarbel	Climber	Rare	CR
10.	*Boswellia serrata* Roxb.*	Burseraceae	Salai	Tree	Rare	LC
11.	*Celastrus paniculata* Wild.**	Clastraceae	Malkagini	Climber	Rare	CR
12.	*Chlorophytum laxaum* R.Br.	Liliaceae	Safedmausali	Herb	Rare	EN
13.	*Cissus rependa*Vahl.	Vitaceae	Hadjod	Herb	Rare	EX
14.	*Cordia dichotoma* Forest.	Ehreteaceae	Lasora	Tree	Vulnerable	EN
15.	*Crateva nervosa* DC.	Capparaceae	--	Tree	Rare	EN
16.	*Curcuma pesudomontana* Grah.	Zingiberaceae	Musali	Herb	Invulnerable	VU
17.	*Cythocline purpurea* Roxb.	Asteraceae	Bhandaria	Herb	Vulnerable	VU
18.	*Dalbergia latifolia* Roxb.	Fabaceae	Safedshisham	Tree	Invulnerable	EN
19.	*Didymocarpu spygmea* Clarke.	Gesneriaceae	Patharphodi	Herb	Vulnerable	NT
20.	*Dioscorea bulbifera*L.**	Dioscoreaceae	Jatashan-kari	Climber	Endangered	CR
21.	*Eranthemum roseum* Vahl R.Br.**	Acanthaceae	-------	Shrub	Rare	EW
22.	*Feronia limonia*L.	Rutaceae	Kaitha	Tree	Invulnerable	EN
23.	*Gloriosa superb* Linn.**	Liliaceae	Kalihari	Climber	Endangered	EW
24.	*Ipomoea cairica* (L.) Sweet.	Convolulaceae	----	Climber	Vulnerable	EN
25.	*Justicianeesii* Raman.	Acanthaceae	----	Herb	Vulnerable	VN
26.	*Mallotus philippensis* Lam.	Euphorbiaceae	Sinduri	Tree	Rare	EN
27.	*Manilkara hexandra* Roxb.Dub**	Sapotaceae	Khirani	Tree	Invulnerable	CR
28.	*Melhaniafuttetyporensis* Munro	Sterculeaceae	-----	Shrub	Rare	EN
29.	*Mimosahamata*Willd.	Mimosaceae	Banderkiroti	Shrub	Invulnerable	NT
30.	*Morindatomentosa*Heyne	Rubiaceae	Aal	Tree	Vulnerable	NT
31.	*Nyctanthes arbour tristis* L.**	Nyctagenaceae	Harsingar	Tree	Vulnerable	CR
32.	*Pterocarpus marsupium* Roxb. **	Fabaceae	Bijasal	Tree	Rare	CR
33.	*Salvador apersica* L.	Salvadoraceae	Pilu	Tree	Invulnerable	EN
34.	*Sarcostem maviminale* L.**	Asclepiadaceae	Sambherbel	Climber	Endangered	CR
35.	*Terminalia alata** Heyne.ExRoth.	Combretaceae	Safeda	Tree	Invulnerable	LC
36.	*Terminalia bellinca* Gaertn.	Combretaceae	Baheda	Tree	Invulnerable	EN
37.	*Wrightia tinctoria* *R.Br.	Apocynaceae	Dhudhi	Tree	Invulnerable	LC

*Abundantly found in the study area, ** Extremely high risk of extinction in the wild condition EW - Extinct in wild, CR - Critically endangered – Extremely high risk of extinction in the wild, EN - Endangered – High risk of extinction in the wild, VU - Vulnerable – High risk of endangered in the wild, NT - Near threatened – Likely to become endangered in near future, LC - Least concern – Lowest risk to become near threatened.

It's an effort to draw attention to the endangered flora in this region. Government agencies and nongovernmental organizations (NGO's) alike must step up to the plate to conserve the world's plant diversity. It is also important to make an effort to locate and save endangered plant species from all around the nation. Therefore, precautions must be made to safeguard this invaluable resource before it is too late.

5. CONCLUSION

In addition, it has been hypothesized that species with a small range of endemism take advantage of a narrower range of environmental circumstances than their broad counterparts do, and that they co-occur with fewer species that are mostly ecologically similar.These plants have significant economic and therapeutic significance and should be protected as quickly as possible. Acampepraemorsa (Roxb.) Blatt &Mc., Alangiumsalvifolium (Lf.) Wang., Ceropegia bulbosa, and a few more are only a few examples. These taxa are represented: Roxb., Firmianiacolorata (Roxb.) RBr., Geodorumdensiflorum (Lam.) Sch., Habenaria marginata Colebr., Nervila concolor (Blume) Schltr., Oroxylum indicum(L)Kurz., Oryza rufipogon Griff., Stereospermumchelonoides (Lf.) Dc. Both the protected and unprotected forest play an important part in preserving the world's flora. Good places for in-situ conservation of plants may also be found in national parks and sanctuaries. Many rare and endangered plant species may be found in the forested region that has been set aside as a conservation model.

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Corresponding Author

Shashi Singh*

Research Scholar, Depart. of Botany, SGS Govt. Autonomous College Sidhi (M.P.)