Flora of Madhya Pradesh
(Western Part)

V.P. Singh

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Flora of MADHYA PRADESH
(Western Part)

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Preface

Previous Botanical explorations bringout the fact that present area is unexplored. Soil, climate and Biotic factors, which for the most part determine the flora of a place are discussed with reference to their on the prevailing vegetation pattern.

The description of the species and various vegetation types are also included. Grassland vegetation, Forest vegetation and medicinal species are separately enumerated. As the flora changes with season, the seasonal aspects of the vegetation is also studied.

The western part of MP are facing sever anthropogenic stresses, produces new areas for the occupation by species. Roadsides, trackside, fallow land, Rubbish heaps, croplands are few such situations, they have been studied for their characteristic flora.

The present study shows the changing pattern of vegetation and flora of the region, which if goes unchecked and unplanned can results into deserts. We can only admire the truth of the situation if we foresee the present trend in vegetation change. The natural areas as shown by study are absent from the area and the Therophytic vegetation of the present time is the degraded "forest" of the past, and have developed and maintained solely by man through his activities and grazing animals.

In present study every care is taken to include the species growing in the area,but still newer and newer introduction, at times overcome the pace of collection. The New approach in presenting data has been taken to solve the identification process more easier. Apart from genera and species, the information of families has been given more stress to understand the characters of the family.

Further, the delay in identification and confirmation reports of debatable species from authentic centre make their inclusion and omission equally problematical. And such few species are reluctantly been omitted.

Whenever possible, the key for identification is prepared on the basis of characters assessable in the field. Maximum photographs were taken in the field for easiest way for identification. The work may be of help and may serve as a unique source of information to whosever, interested in this field of Botany.

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Finally I hope this book gives critical knowledge to student of Angiosperm taxonomy as well as to those who love Taxonomy.

I am very much grateful to the Directors and curator as of the herbaria- At RBG-Kew; British Museum, Edinburgh; Rijks herbarium, Leiden; Missouri Botanical Garden, St. Louis, USA; Central National Herbarium, Calcutta: National Botanical Research Institute, Lucknow and many friends and taxonomists for their valuable comments and suggestions on various taxonomic problems including the new style and data has been included in this book

My sincere gratitudes are to the Members of Technical support group of Biodiversity of Ujjain Division, Specially Shri Jaydeep Govind, Commissioner, Ujjain, Shri B.M.S. Rathore, Member secretary, M.P. State Biodiversity Board; Shri GD Sagar, CF-Coordinator, T.S.G. and Shri Rajesh Kumar, C.F., Ujjain, for various help.

Lastly, I am grateful to Shri Pawan Kumar, Managing Editior, Scientific Publishers (India), Jodhpur for printing this book.

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INTRODUCTION

On account of being MP situated centrally in the territories of Indian Union the state has acquired its name Madhya [Central] Pradesh [State]. The state neither is in contact of any sea nor border of some other country. The northern, eastern, western and southern boundaries of the state and lined by UP, Bihar, Orissa, Rajasthan and Gujrat, Maharashtra and Andhra Pradesh. MP Is the largest state of Indian Union covering an area of 4,43,452 sq. km. The line of cancer passes through the N part of the state. The state is land locked, but discontinuity of great barriers like sea, mountains and the land mass is absent. And as such the migration in the area is a common features. The western part of MP are attached to Rajasthan and Gujarat States. The district of MP Ratlam, Neemuch, Mandsaur and Shajapur are most effective districts of MP, where the effects of Rajasthan desert is very severe apart from other anthropogenic factors. The area although is one of the most fertile part of the state with black cotton soils, is included under Malwa plateau and is comparatively at higher altitude in the state, result is this area has very different climate than other parts of MP.

Hence, climate change is likely to have considerable impacts on most or all ecosystems. The distribution patterns of many species and communities are governed and determined to a large part by climatic parameters, however, the responses to changes in these parameters are rarely simple. Temperature is largely dependent on the incidence of solar radiation, which is turn directly associated with latitude. Because precipitation patterns are strongly influenced by major wind patterns, which are also associated with latitude, it can be inferred that climate is important in the distribution of major communities. It is the interaction of temperature and rainfall that is of climatic significance in major communities distribution.

Hence Malwa region is the result of major climatic interaction, a low rainfall coupled with high temperature, might sustain a tropical dry deciduous forest or grassland Malwa, is a region in west-central northern India occupying a plateau of volcanic origin.

Geologically, the Malwa Plateau generally refers to the volcanic upland south of the Vindhya Range. Politically and administratively, the historical Malwa region includes districts of western Madhya Pradesh and parts of south-eastern Rajasthan. The definition of Malwa is sometimes extended to include the Nimar region north of the Vindhyas.

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The Malwa region had been a separate political unit from the time of the ancient Malava Kingdom. It has been ruled by several kingdoms and dynasties, including the Avanti Kingdom, the Mauryans, the Guptas, the Parmaras, the Malwa sultans, the Mughals and the Marathas. Malwa continued to be an administrative division until 1947, when the Malwa Agency of British India was merged into Madhya Bharat (also known as Malwa Union) State of independent India.

Although its political borders have fluctuated throughout history, the region has developed its own distinct culture, influenced by the Gujarati, Rajasthani and Marathi cultures. Several prominent people in the history of India have hailed from Malwa, including the poet and dramatist Kalidasa, the author Bhartrihari, the mathematicians and astronomers Varahamihira and Brahmagupta, and the polymath king Bhoja. Ujjain had been the political, economic, and cultural capital of the region in ancient times, and Indore is presently the largest city and commercial centre.

Overall, agriculture is the main occupation of the people of Malwa. The region has been one of the important producers of opium in the world. Cotton and soybeans are other important cash crops, and textiles are a major industry.

Position of Malwa with respect to other states in . 1200. prior to conquest by Delhi Sultanate Dilawar Khan, previously Malwa's governor under the rule of the Delhi sultanate, declared himself sultan of Malwa in 1401 after the Mongol conqueror Timur attacked Delhi, causing the break-up of the sultanate into smaller states. Khan started the *Malwa Sultanate* and established a capital at Mandu, high in the Vindhya Range overlooking the Narmada River valley. His son and successor, Hoshang Shah (1405–35), embellished Mandu. Hoshang Shah's son, Ghazni Khan, ruled for only a year and was succeeded by Sultan Mahmud Khalji (1436–69), the first of the Khalji sultans of Malwa, who expanded the state to include parts of Gujarat, Rajasthan, and the Deccan. The Muslim sultans invited the Rajputs to settle in the country. In the early 16th century, the sultan sought the aid of the sultans of Gujarat to counter the growing power of the Rajputs, while the Rajputs sought the support of the Sesodia Rajput kings of Mewar. Gujarat stormed Mandu in 1518 and 1531, and shortly after that, the Malwa sultanate collapsed. The Mughal emperor Akbar captured Malwa in 1562 and made it a subah (province) of his empire. The Malwa Subah existed from 1568 to 1743. Mandu was abandoned by the 17th century.

Malwa (central India, in yellow), as depicted in the *Ostell's New General Atlas*, 1814. The Malwa region occupies a plateau in western Madhya Pradesh and south-eastern Rajasthan (between 21°10′N 73°45′E / 21.167°N 73.75°E / 21.167; 73.75 and 25°10′N 79°14′E / 25.167°N 79.233°E / 25.167; 79.233), with Gujarat in the west. The region includes the Madhya Pradesh districts of Dewas, Dhar, Indore, Jhabua, Mandsaur, Neemuch, Rajgarh, Ratlam, Shajapur, Ujjain,

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and parts of Guna and Sehore, and the Rajasthan districts of Jhalawar and parts of Banswara and Chittorgarh. Malwa is bounded in the north-east by the Hadoti region, in the north-west by the Mewar region, in the west by the Vagad region and Gujarat. To the south and east is the Vindhya Range and to the north is the Bundelkhand upland.

The geology of Malwa plateau generally refers to thr volcanic upland south of the Vindhyas, which includes the Malwa regions and expand in east to include the upper basin of the Betwa and the headwaters of Dhasan and Ken rivers.The plateau of Volcanic origin, is an extension of the Deccan Traps, formed between 60 and 68 million years ago at the end of the Cretaceous period. In this region the main classes of soil are black, brown and *bhatori* (stony) soil. The volcanic, clay-like soil of the region owes its black colour to the high iron content of the basalt from which it formed. The soil requires less irrigation because of its high capacity for moisture retention. The other two soil types are lighter and have a higher proportion of sand.

The average elevation of the plateau is 500 m. Some of the peaks over 800 m high are at Sigar (881 m), Janapav (854 m) and Ghajari (810 m). The plateau generally slopes towards the north. The western part of the region is drained by the Mahi River, while the Chambal River drains the central part, and the Betwa

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River and the headwaters of the Dhasan and Ken rivers drain the east. The Shipra River is of historical importance because of the Simhasth mela, held every 12 years. Other notable rivers are Parbati, Gambhir and Choti Kali Sindh. Malwa's elevation gives it a mild, pleasant climate; a cool morning wind, the *karaman*, and an evening breeze, the *Shab-e-Malwa*, make the summers less harsh.

The year is popularly divided into three seasons: summer, the rains, and winter. Summer extends over the months of mid-March to mid-May. The average daily temperature during the summer months is 35°C, which typically rises to around 40°C on a few days. The rainy season starts with the first showers of mid-June and extends to the middle of September. Most of the rain falls during the southwest monsoon spell, and ranges from about 100 cm in the west to about 165 cm in the east. Indore and the immediately surrounding areas receive an average of 140 cm of rainfall a year. The growing period lasts from 90 to 150 days, during which the average daily temperature is below 30°C, but seldom falls below 20°C. Winter is the longest of the three seasons, extending for about five months October to mid-March. The average daily temperature ranges from 15°C to 20°C, though on some nights it can fall as low as 7°C. Some cultivators believe that an occasional winter shower during the months of December to January known as Mawta — is helpful to the early summer wheat and germ crops.

The population of the Malwa region was about 18.9 million in 2001, with a population density of a moderate 231/km². The annual birth rate in the region was 31.6 per 1000, and the death rate 10.3. The infant mortality rate was 93.8, slightly higher than the overall rate for the Madhya Pradesh State.

There are numerous tribes in the region, such as the Bhils—and their allied groups, the Bhilalas, Barelas and Patelias—and the Meenas, who all differ to a remarkable degree from the regional population in their dialects and social life. They encompass a variety of languages and cultures.

The climate of the region varies. Some regions are characterized by hot and dry summer and cool winter whereas some regions are characterized by hot and wet summer and dry winter. The main crops which are grown in this region are millets.

The Constraints are :

1. Over exploitation of forest resources resulting mass conversion of grasslands.
2. Movements of large number cattle, camels, goats and lambs from Rajasthan to adjacent districts of MP, in search of food and fodder, resulting severe impacts on vegetation of this districts.
3. Spreading of desert gradually, changing the ecological conditions of the area.
4. These area facing low rainfall and drought conditions.

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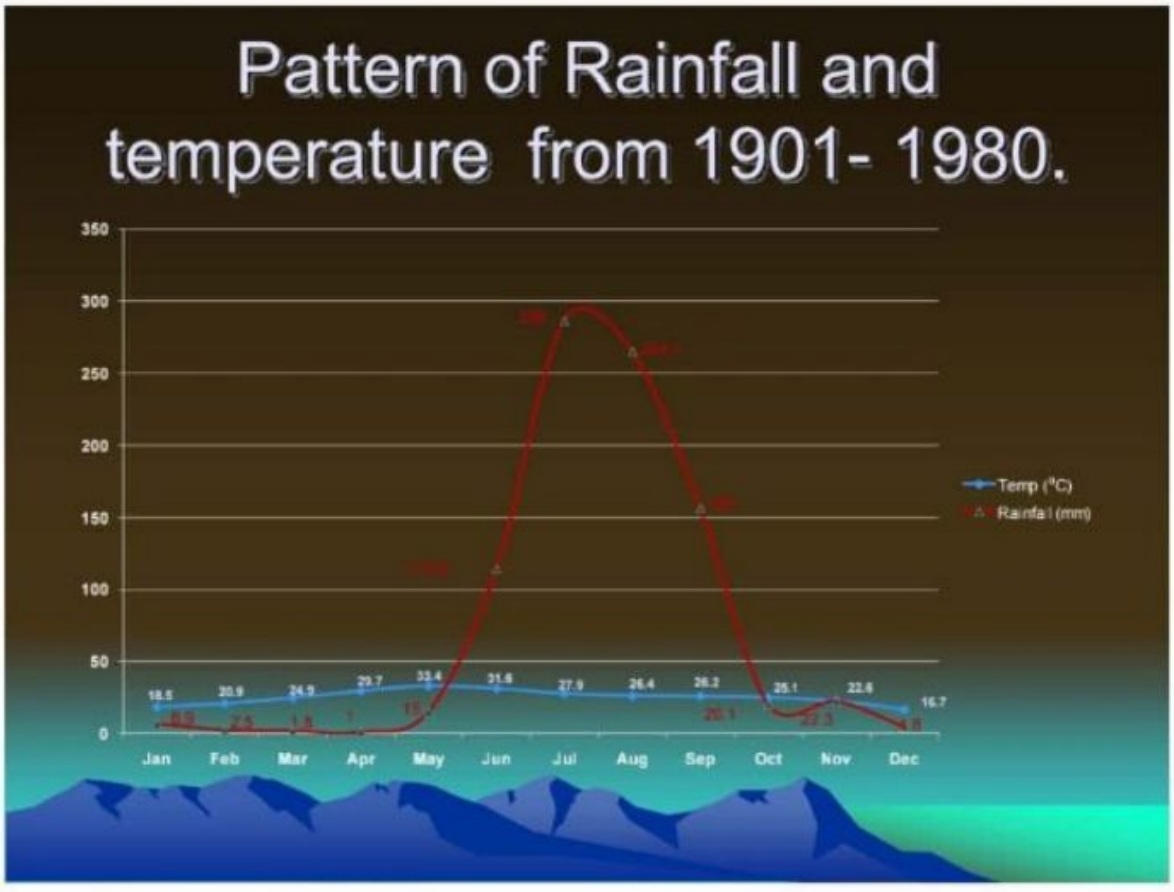
The Flora of Madhya Pradesh province in India, is very rich and diverse. Central, eastern and southern parts of the state are forested, whereas northern and western parts are deficient in forest. Variability in climatic and edaphic conditions brings about significant difference in the forest types and flora of the state. There are four important forest types: Tropical Moist, Tropical Dry, Tropical Thorn, and Subtropical broadleaved Hill forests. Based on composition, there are three important forest formations namely Teak forest, Sal forest and Miscellaneous Forests. Bamboo bearing areas are widely distributed in the state.

The natural vegetation is tropical dry forest, with scattered teak (*Tectona grandis*) forests. The main trees are *Butea, Bombax, Anogeissus, Acacia, Buchanania* and *Boswellia*. The shrubs or small trees include species of *Grewia, Ziziphus mauritiana, Casearia, Prosopis, Capparis, Woodfordia,* Phyllanthus, *and* Carissa.

During the last century, deforestation has happened at a fast rate, leading to environmental problems such as acute water scarcity and the danger that the region is being desertified.



Central, eastern and southern parts of the state are rich, whereas northern and western parts are deficient in forest. Variability in climatic and edaphic conditions brings about significant difference in the forest types of the state. There are four important forest types viz. Tropical Moist, Tropical Dry, Tropical

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Thorn, Subtropical broadleaved Hill forests. The forest area can also be classified based on the composition of forest and terrain of the area. Based on composition, there are three important forest formations namely Teak forest, Sal forest and Miscellaneous Forests. Bamboo bearing areas are widely distributed in the state. To obviate pressure on the natural forests, plantations have been undertaken in forest and non forest areas to supplement the availability of fuel wood , small timber, fodder etc.

Teak forest is by far the most important timber species, with a wide distribution in Madhya Pradesh. It is found in following districts, namely Indore, Khandwa, Harda, Dewas, Sehore, Bhopal, Raisen, Vidisha, Betul, Hoshangaba, Chhindwara, Seoni, Balaghat, Mandla, Dindori, Shahdol, Umaria,Jabalpur, Damoh, Panna, Chhatarpur, Sagar, Satna, Rewa and Sidhi, Sal or Sakhu (*Shorea robusta*) is another important timber species in Madhya Pradesh. It is a large evergreen tree belonging to the family dipterocarpaceae. Sal forests of Madhya Pradesh are ecologically very important as they mark the termination of the great Sal zone of the Central Indian Peninsula. Sal forests are located in the eastern part of the state while teak forests are localised in the western part. In between, there is a transition belt of mixed miscellaneous forests. There are also areas where Teak and Sal both species occur naturally mixed together forming unique ecosystem.

As indicated earlier there are four important forest communities associated in this regions:

1. Tropical Moist- Dominated by Sal
2. Tropical Dry- Dominated by Teak
3. Tropical Thorn- *Acacia* and *Balanites*
4. Subtropical broadleaved Hill forests.

In Western part of MP, there are three types of main natural community organization within tropical dry climate:

1. Tropical dry deciduous forest dominated by Teak and *Butea*
2. Tropcal thorn forest dominated by *Acacia* and *Balanities*
3. Grassland dominated by *Bothriochloa-Themeda- Dichanthium* spp.

The maximum forest cover in the state is that of mixed forests, which includes Teak *(Tectona grandis)* or Sal (*Shorea robusta*) mixed with other species like saja *(Terminalia tomentosa)*, bija *(Pterocarpus marsupium)*, lendia *(Lagerstroemia parviflora)*, haldu *(Adina cardifolia)*, dhaora *(Anogeissus latifolia)*, salai *(Boswellia serrata)*, aonla *(Emblica officinalis)*, amaltas *(Cassia fistula)*, gamhar (*Gmelina arborea* etc. Dazzling white kulu *(Sterculia urens)* trees produce is regulated by the state. Medicinal trees and plants of various kind are found in abundance in the forests of Madhya Pradesh. Important ones are: *Aegle marmelos, Azadirachta indica, Apium graveolens, Alangium lamarckii,*

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Antidesma ghaesembilla, Alstonia scholaris, Aquilaria agallocha, Adhatoda vasica, Agave americana, Abrus precatorius, Abutilon indicum, Accacia coccina, Biophytum sensitivum, Balanities aegyptica, Berlaria prionitis, Boerhavia diffusa, Bixa orellana, Butea monosperma, Asparagus racemosus, Argemone mexicana, Buchanania lanzan, Aloe barbadensis, Acorus calamus, Cassia tora, Curculigo orchiodes, Curcuma longa, Embelia ribes, Clitoria ternatea, Mangifera indica, Cassia fistula, Evolvulus alsinoides, Commiphora mukul, Helicteres isora, Holorrhaena antidysenterica, Glycyrrhiza glabra, Woodfordia fruticosa, Dioscorea spp, Plumbago zeylaniea, Terminalia bellirica, Tamarindus indica, Mucuna pruriens, Pongamia pinnata, Psoralea corylifolia, Phyllanthus embilica, Ocimum americanum, Rauvolfia serpentina, Tinospora cardifolio, Swertia chirayita, Tribulus terrestres, Chlorophytum tuberosum, Cyprus rotundus, Wrightia tinctoria, Withania somnifera and *Vitex negundo etc.*

The grassland is another bioresource of this area. The grassland area which was once dominated by dry deciduous forest, such trend of change in the vegetation type is the support to dynamics aspect of the vegetation. The vegetation consists of communities and they are in turn the aggregation of species. Such species population has a potential optimum size which is affected by internal and external interference so that the population size and space is invariably modified according to competitive, reproductive and tolerance capacities of the individuals, relative to the magnitude and type of interference. The community of vegetation which finally attains stability on a site may be assumed to be adapted to a maximum sustained utilization of the environmental resources, and the interference caused either due to man and his activities or the effect of grazing animals. One of the important aspect of Urbanization is the steadily increasing demand for space, both for agricultural practices and constructions. As the size of the population is increasing newer and newer areas which were previously under the cover of natural vegetation are denuded by such practices, leading to destruction of natural vegetation and habitats. As a consequence the forest from these areas have disappeared and grasses took over. The grasslands in this regions are more recent origin which are result of anthropogenic factors, like animal grazing, cutting and fire. In India, there is no true grassland, and the grassland here are purely temporary communities of seral rank.

Variability in climatic, biotic and edaphic conditions brings about significant difference in the vegetion type. In western part natural vegetation is grassland. The grassland in this regions are dominated by- *Dichanthium annualtum, D. caricosum, Themeda triandra, Bothriochloa pertusa, B. intermedia, Isielema anthephoroides, I. laxum, I. prostratum, Apluda mutica, A. varia, Setaria glauca, Desmostachya bipinnata, Digitaria cruciata, Paspalidium flavidum, Eleusine indica, Ishaemum rugosum, I. pilosum, Andropgon pumilu, Brachiaria erucifrmis, Heteropogon contortus, Eragrostis tenella, Arundinella tuberculata, Brachiaria remosa, Br. eruciformis, Cymbopogon martini, Echinochloa colonum, Aristida cyanantha, Cenchrus cilliaris, Dactyloctenium aegyptium, Dinebra*

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arabica, Hackelochloa granularis, Panicum javanicum, Polypogon monspellensis and *Saccharum munja, etc.*

The present study was conducted on western part of MP with only 6 districts, which are located on border side of Rajasthan. The important ecological factors like, climate, edaphic and biotic factors of these regions are very diverse and harsh because of impact of desert of Rajasthan and huge nomadic populations of grazers, change the ecological stability, diversity and dominancy of this regions.

In the present study, following districts were taken to details taxonomic study, each and every part of district with reference to community organization were made.

District	Area in ha.
1. Ujjain	609100
2. Shajapur	619500
3. Ratlam	486100
4. Mandsaur	553500
5. Neemuch	425600
6. Dewas	702000
Total	3395800

Ujjain:` Avanti [an old name of Ujjain] is one of the seven sacred cities of India. The river Shipra on which it is situated and the great temple of Mahakal. Ujjain has glorious past. From times immemorable, it has been renowned as the centre of Aryan civilization and culture and was once a famous seat of learning. It is alleged that Lord Krishna and his brother Balram with Sudama were educated at 'Sandipani Asharam' here. The mention of 'Ozene by Greek Geographer Ptolemy [150AD] in his work' periplus of the Erythrea sea' is an undoubted claim of its remote antiquity. When Gwalior State merged with Madhya Bharat Union, Ujjain enjoyed the status of a district headquarter administered by a District Collector and governed by the Head of the Madhya Bharat Union designated as the "Rajpramukh".

Since November 1, 1956, with the reorganization of the Indian States, Ujjain became an integral part of Newly formed 'Madhya Pradesh", State with Governor as the Head of the state, appointed by the President of India from time to time. At present Ujjain is important centre for education and research.

Shajapur is a district of Madhya Pradesh State of Central India. The town of Shajapur is the district headquarters. Shajapur District is part of the Malwa Plateau. The district is situated in the northwestern part of the state and lies between latitudes 32"06' and 24" 19' North and longitudes 75" 41' and 77" 02' East. The district is bounded by Ujjain District to the west, Dewas and Sehore to the south, Rajgarh to the east, and Jhalawar District of Rajasthan to the north.

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Shajapur District is part of Ujjain Division.Shajapur was recognised at the time of Shahjahan. Observing the natural beauty of this area, Fauj of Shahjahan decided to take a halt here. This place was known as "Khankarakhedi". Shahjahan and his fauj liked this place very much and consequently when Shahjahan became SAMRAT he considered the importance of this place for his Southern campaign .In 1640 Meer Bigo was appointed here as Koutwal . He with Shri jagannath Rawal prepared four DWARs in four directions. In centre a marketing centre was developed. Consequently this area was populated gradually and converted in colony. Surrounding this place a wall was also prepared. Then in respect of king Shahjahan it was named as "Shahjahanpur". In Shahajahanpur.

Ratlam : The District of Ratlam was created in June 1948 and was reorganised in January 1949. It covers the area of the former princely State of Ratlam, Jaora, Sailana, Piploda. Ringnod Tehsil of Dewas Senior, Alot Tehsil of Dewas Junior and parts of Mandsaur Tehsil of Gwalior State, a few villages of Dhar State and Chief Commissioners provinces of Pant Piploda.

Ratlam is one of the important Districts of Madhya Pradesh Which is situated in the North West part of the State "The MALWA" Region. The New Town of Ratlam was founded by Captain Borthwick in 1829 with regular and broadened streets and well built houses. Ratlam was once one of the first Commercial Towns in Central India being the centre of an extensive trade in opium, tobacco and salt. It was also famous in Malwa for its bargains called Sattas. Before the opening of the Railway Line to Kahndwa in 1872, there was no better mart than Ratlam

Mandsaur District forms the northern projection of Madhya Pradesh from its western Division, i.e.,Ujjain Commissioner's Division. It lies between the parallels of latitude 230 45'50" North and 250 2'55" North, and between the meridians of longitude 740 42'30" East and 750 50'20" East. The District is bounded by four Districts of Rajasthan, namely Chittorgarh in the west and north, Bhilwara in north, Kota in the north-east and Jhalawar in the east while Ratlam District of Madhya Pradesh bounds it in the South. It extends for about 142 km. from north to south and 124 km. from east to west. The total area is 5521 sq. km. with a population of 1183274 in 2001. The District takes its name from the headquarters town, Mandsaur

Neemuch :District Neemuch is situated in the north west border of Madhya Pradesh and south-east of Rajastan. Neemuch has been declared as a seperate district by MP Govt as on 30th June 1998. Earlier it was a part of the Mandsaur district. Three tehsils of undivided Mandsaur district fall under this new district namely Neemuch, Jawad and Manasa. It lies between the parallels of latitude 240 .15 - 240.35 North, and between the meridians of longitude 740 45 - 750 37 East. During British rule an army cantonment was established here. After independence, this cantonments has been converted into cantonements of

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paramilitary forces by the Govt. of India. Presently it is known as CRPF. Neemuch is also known as birth place of CRPF. Similar to Mandsaur district, Neemuch is also famous for its opium production

Dewas : Dewas District in Ujjain Revenue Division, is situated on the Malawa plateau in the West-central part of Madhya Pradesh and lies between 20°17' and 23°20' North latitude and 75°54' and 77°08' East longitude. The district is bounded by Ujjain district in the north, Indore district in the west, West-Nimar district in the south-west, East Nimar district in the south, Hoshangabad district in the South East, Sehore district in the east and Shajapur district in the North-East. The tropic of cancer passes through the district near Nemawar village south of Khategaon town. The district gets its name from the district headquarters town, Dewas (dev-vas) which is said to have been derived on the basis of two traditions. One is that Dewas lies on the foot of a conical hill, known as Chamunda hill about 300 ft. above the ground level on top of which the shrine of Chamunda is located

The study was planned so as to cover large areas of Western part of MP, collection of the species from different habitats in different parts were made. The listing and distribution pattern of species, in addition to their ecological, morphological and phonological parameters were noted. At the same time, the photographs of the species were taken if they were in flowering and fruiting stage specially.

As is clear from the reports map of Botanical Survey of India, the, the major part of the MP has remained unexplored or under exploration. The literature available pertaining to the taxonomy of this region of India is very meager, and to be very precise it has no flora of its own. Although the other states have their own flora, among them, the following are notable:

MP does not have any consolidated flora. Most of the work are centered towards some particular region of the state. The important one's are as follows.

The Plant of Chota Nagpur including Jaspur and Sarguja [Weod, 1902].

- Forest flora of Jabapur Division [Hole, 1904].
- Trees and shrubs of Indore State [Biscoe,1910].
- Weed manual of Gwalior State and Adjacent part of India [Kenoyer, 1924].
- Flora of Bailadilla Range in Bastar State [Mooney, 1942].
- A contribution to the flora of Bori Reserves forests of Hoshangabad [Joseph, 1963].
- Grasslands of Sagar, MP [Pandeya, 1952].
- The Grasses of MP [Tiwari, 1955, 1963].

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- Flora of Panchmarhi plateau and the adjacent region [Rao and Narayanswamy, 1960].
- Vascular flora of Bastar [Subramaniyam, 1961].
- The vegetation of Marshes, swamps and river side in Khandwa District [Maheshwari, 1961].
- A study of the hydrophytes and plants of low lying habitats in Jabalpur [Seerwanie, 1962].
- A contribution to the Flora of North Eastern MP [Sesbastine and Balakrishnan, 1963].
- The Cyperaceae and Orchids of MP [Tiwari and Maheshwari, 1963, 1964].
- Notes on the flora of Black Cotton soils in East Nimar MP [Maheshwari, 1963].
- Contribution to the Flora of Kanha National Park MP [Maheshwari, 1963].
- An account of the flowering plants of Indore District of MP [Rao and Sastry, 1964].
- Contribution to the Botany of MP [Panigrihi and Arora, 1965].
- Flora of Bhopal- Oommachan-1973
- Flora of Ujjain- VP Singh and VS Khare, 1996.
- Flora of Jabalpur- Oommachan and J.L. Srivastava-1996.
- Flora of Madhya Pradesh-Chhatarpur and Damoh- GP Roy, BK Sukla & Bhaskar Dutt-1992.
- Biodiversity and Vegetation of Pachmarhi Hills- VP Singh and A Kaul-2002
- Ethnobotany of Bhil Tribe-VP Singh & Dinesh Jadhav-2011

There are many other publications, which I have not mentioned here. Looking to the list of the publications, it seems that there is no valid documentation of this regions, hence this work was conducted.

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