



Floristic diversity assessment in forest of Shahdol district (M.P.)

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Abstract

Floristic diversity is the range of differences of variances along the same set of entities, thus refers to verity within the plant kingdom. In this research paper, we have described the floristic diversity that serves as a framework for analyzing biodiversity of this region. Forests of Shahdol are deciduous. Weather in Forest of shahdol is the best during winters and the tropical climate throughout the year which means that the summers are quite hot with rising temperatures and monsoons are quite heavy as well. The best time to visit Shahdol forest is in winter when the temperature drops down drastically and the climate becomes completely cool, perfect for exploring the wildlife and vegetation. An extensive and intensive plant survey was carried out from 2022 to 2023. Floristic diversity in the forest of Shahdol district in Madhya Pradesh is very rich. Present study records a total of 130 Plants species which are distributed in 132 genera and 52 Families. Diversity of different life forms is climbing herbs 11.54% (15), Herbs 56.15% (73), Shrubs 13.07% (17) and Trees 21.53% (28). The outcome of this work will be a valuable document for botanist, taxonomists and other researchers in various disciplines.

Keywords: Floristic diversity, forest of Shahdol, biodiversity

Introduction

Millions of species are grown in our planet. The biodiversity of millions of individual species present on Earth today is the product of approximately 3.5 billion years of evolution, with species emerging, thriving and disappearing for a variety of (Sainkhediya and Ray, 2014) ^[1]. District Shahdol is located in the northeastern part of Madhya Pradesh state. It lies between 23°17'47" North latitude and 81°02'21" East longitude. The total geographical area sums up to 5671 sq./Km. and has a population of 908148. Shahdol is rich in vast resources of mixed forest and minerals. 20.40% of the district is covered under forests. The major trees are Sal, Teak, Amla, Sarai, Acacia, Sisam, Mahua etc. It is a major mining centre in Madhya Pradesh and is rich in coal, limestone, fireclay, and marble. The Sohagpur Coal field is a major contributor to the state's revenue. It is bounded in the north by Satna and Sidhi district, in the east by Korea district, in the south by Anuppur district, in the west by Umaria district. The region is rich in water springs which trickle down the hill slides. The average rainfall in Shahdol district is 85.11% and the temperature is 13.6°C. Shahdol is one of the tribal districts of Madhya Pradesh. Several tribal communities like Gond, Baiga and Kol living in some villages situated in and around District Shahdol. It is famous for its natural resources, diverse geography, and cultural heritage.

Shahdol is a sacred place of India. Its history goes back upto pre historic times. It is stated that primitive cultures developed on the banks of river Sone. In the Mahabharata, Shahdol is described as Virat Nagar. The region is said to have been ruled at that time by the legendary King Virat. It is said that Yudhishtira, Bhima, Arjuna, Nakul and Sadev—the 5 Pandavas spent their last years of exile in this region. Arjun's son

Abhimanyu later married Virat's daughter Uttara.

King Virata kept 100,000 cows and built 365 ponds in his capital city. Arjun is said to have built Banganga, the famous Virateshwar Mandir temple is located there. This

temple was built by King Kalchuri in the 10th-11th century. This shiva temple resembles with Khajuraho temples. Therefore, there is an urgent need to study the existing floristic structure of Shahdol region and to update and revise previous data, focusing on a comprehensive taxonomic biodiversity and conservation perspective (Dallwitz, 1980 ^[2], Dallwitz, *et al.* 2000 & 2002) ^[3,4].

Material and methods

Plant inventory work was conducted in Shahdol region to document the floristic diversity during 2022-2023. Intensive and extensive plant research work is conducted every season, covering almost all habitats. The vegetation and nature of plant distribution were studied. The preparation of plant species and herbarium is done using standard methods (Jain and Rao, 1976) ^[5]. Plant material is sterilized by mercuric chloride and alcohol and the dried plants are mounted onto herbarium sheets using fevicol. Identification of plant species is done using floras, keys and other available publications (Verma *et al.*, 1993 ^[6]; Sing *et al.*, 2001 ^[7]; Mudgal *et al.* 1997 ^[8]; Khanna *et al.*, 2001 ^[9]; Shah, 1978 ^[10]; Naik, 1998) ^[11] Saket & Saini, 2016) ^[12] and other taxonomic literature. The entire plant specimens are conserved in herbarium of Govt. College Jaitpur, Dist.-Shahdol (M.P.).

Plan of work

Forest of Shahdol district are selected because of thick population are presented and village wise study is conducted whereas the deep forest areas and these areas are selected randomly. Plants related information is obtained and detailed discussion is note down on field dairy. During the study villagers interviewed are arranges with senior persons who are aware about vegetation pattern of the area and diversity survey of different targeted sites of Shahdol district forest were selected. For this 25 field trips are made and field's sites were frequently visited for diversity studies. The plant specimens are collected into different time and

seasonal data are gathered and climatological data like temperature, humidity etc. recorded. Field notes have been also 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 author citations are given of listed texa is provided. Current nomenclature of ICBN is followed and botanical name as well as families modified name enhance type of APG-IV has been accompanied.

Result & discussion

Outcome of the present study undertaken during the years 2022-2023. It includes the floristic study of rich diversity in Shahdol district. Present study reports 130 plant species which is distributed in 52 families 132 genera. Dicotyledons consist of 104 species with 109 genera and 42 families and monocotyledons consists 26 species, 23 genera and 10 families (Table-1).

Our study reports 130 species and 132 genera which appear to be a good representation of the flora for a small region. Out of the 52 families 132 genera and 130 species monocotyledons share 10 families (19.23%), 23 genera (17.42%) and 26 species (20%) and Dicotyledons share 42 families (80.76%), 109 genera (82.57%) and 104 species (80%) (Table-2 & fig.-1). Life forms diversity is presented in figure -2. The vegetation structure of the area is remarkably changing due to anthropogenic pressure and urbanization. The biodiversity of the world is reducing 10% due to eradication. For this action and care should taking to conserve the taxa. Table-3 showed the Phyto-diversity in forest of Shahdol district.

Table 1: Distribution of taxa in Shahdol

Angiosperm		Species	Genera	Families
	Polypetalae	55	58	22
Dicotyledons	Gamopetalae	38	40	12
	Monochlamydeae	11	11	8
	Total	104	109	42
Monocotyledons		26	23	10
	Grand total	130	132	52

Table 2: Diversity of Family, Genera and Species

Angiosperm	Species	%	Genera	%	Families	%
Dicotyledons	104	80	109	82.57	42	80.76
Monocotyledons	26	20	23	17.42	10	19.23

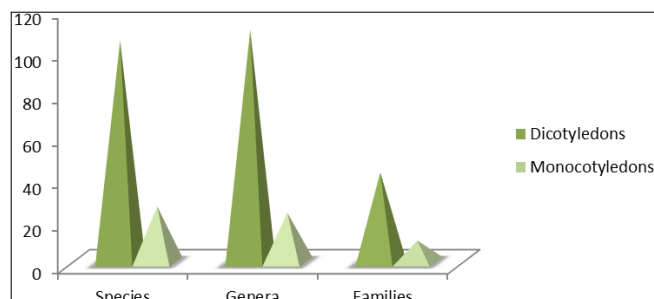


Fig 1: Diversity of Family, Genera And Species

Table 3: Phyto-diversity in forest of Shahdol district

S. No.	Life forms	No. of species	%age
1	Climbing herbs	15	11.54
2	Herbs	73	56.15
3	Shrubs	17	13.07
4	Trees	28	21.53

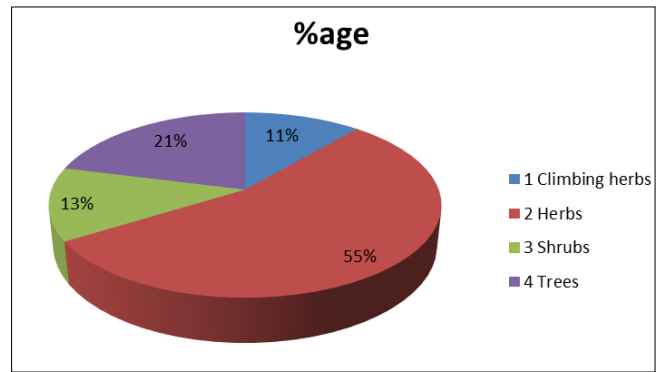


Fig 2: Phyto-diversity in forest of Shahdol district

Conclusion

The present study, a total 52 families, 132 genera and 130 species has been recorded from Shahdol district (M.P.) during tenure. The study site indicates that is one of the biodiversity rich region for medicinal and economically important of plants. The flora of Shahdol district with some advancement that is very useful for the future.

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