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Floristic study of Shahdol district with special emphasis to dominant family

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Abstract

Shahdol is one of the districts in Madhya Pradesh known “as Virat Nagari” with highly rich floristic biodiversity of plants. Shahdol is also known as the “town of Ponds”. Due to recent drastic changes after urbanization have affected the flora of the district. In review of it after studied it is necessary to update and revise the flora of Shahdol. It has some hilly tracks covered with luxuriant vegetation along with the forest area is represented by mixed deciduous forest. Taxonomical investigation were undertaken to explore the floristic status of the ten dominant families.

Keywords: Shahdol district, floristic study, dominant families, digital database

1. Introduction

Shahdol is a district of Madhya Pradesh state. It is located in the central part of India. Shahdol is situated at the eastern part of Madhya Pradesh. The district Shahdol lies between 22^o38' N - 24^o20' N Latitude and 80^o28' E - 82^o12' E Longitude. Shahdol is surrounded by districts – Sidhi in the north east, Korea in the east, Anuppur in east-south Umariya in the west and Satna west-north. Shahdol district has an area of 5671 Km². The region forms a compact area extending to a maximum of 170 Km in North-South direction and 110 Km in East-West direction. 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 Mahabharat Shahdol has been described as Virat Nagar. The legendry King Virat is stated to have ruled this area in that time. Yudhisthir, Bheem, Arjun, Nakul and Sahdev - 5 Pandavs are stated to have spent there last years of exile in this area. Arjun's son Abhimanyu was latter married with Uttara the daughter of Virat. The king Virat had 100000 cows and he had built 365 ponds in his capital. Arjun is stated to have built Banganga. There is a famous temple Virateshwar Mandir. This temple was built by Kalchuri King in the 10th-11th century. This shiv temple resembles with Khajuraho temples. So, the main focused on comprehensive taxonomic biodiversity and conservation point of view, because it very necessary to explore existing floristic structure of Shahdol region update and revise the earlier data. This work has been done by using DELTA (Descriptive Language for Taxonomy) software (Dallwitz, 1980 [1], Dallwitz, *et al.* 2000 & 2002 [2,3]).

2. Material and Methods

The plant exploration work was conducted in Shahdol region to document the floral diversity during the year 2014-2016. Intensive and extensive plant survey had been carried out covering almost all habitats in different season. The vegetation and distribution pattern of the plants were studied. Standard method had been followed for plant collection and herbarium preparation (Jain and Rao 1977) [4]. Plant species were identified with the help of flora and Keys and other available literature (Hooker 1892-1897 [5]; Ray 1984 [6]; Mudgal *et al.*, 1977 [7]; Singh *et al.*, 2001 [8]; Hains 1921-1924 [9] and Saket & Saini, 2016 [12]). Some plant specimen were examined and identified from BSI Central circle, Allahabad. The entire plant specimen was deposited in Botany Department of Pt. S.N.S. Govt. P.G. College, Shahdol (M.P.).

3. Results and Discussion

The present outcome of the study undertaken during the years 2014 to 2016. It includes the floristic study of rich diversity of Shahdol. The main focused on ten families belonging to different taxa of Angiosperms have been given in this work.

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The ten dominant families in order of their species content were made for the flora of Jabalpur (Oommachan and Shrivastava, 1996) [10] the result of which are given viz., Leguminosae (I), Gramineae (II), Asteraceae (III), Euphorbiaceae (IV), Acanthaceae (V), Scrophulariaceae (VI), Malvaceae (VII), Labiatae (VIII), Convolvulaceae (IX) and Verbenaceae (X) respectively.

Similarly ten dominant families in order of their species content were made for the flora of Bhopal (Oommachan, 1977) [11]. The result of which are given viz., Leguminosae (I), Asteraceae (II), Gramineae (III), Acanthaceae (IV), Euphorbiaceae (V), Scrophulariaceae (VI), Verbenaceae (VII), Labiatae (VIII), Malvaceae (IX) and Convolvulaceae (X) respectively.

Graph 1 shows the dominant families with respect to genera and species level. While, the table 1 data revealed that the comparison of relative dominance of ten large families of Angiospermic in respect to the number of species are also given viz., Papilionaceae stands in first position as far as number of species and genera are also included Poaceae (II), Asteraceae (III), Malvaceae (IV), Apocynaceae (V),

Euphorbiaceae (VI) Apocynaceae (VII), Verbenaceae (VII), Solanaceae (VIII), Mimosaceae (IX) and in tenth positions three families were found in tenure viz., Caesalpiniaceae (Xa), Lamiaceae (Xb) & Moraceae (Xc) respectively.

Table 1: Ten dominant families recorded during tenure (2014- 2016) and their position with respect to genera and their species in Shahdol district.

S. No.	Family	Genera	Species	Position
1.	Papilionaceae	26	47	I
2.	Asteraceae	24	26	II
3.	Poaceae	19	26	III
4.	Malvaceae	7	15	IV
5.	Apocynaceae	10	14	V
6.	Euphorbiaceae	6	14	VI
7.	Verbenaceae	8	11	VII
8.	Solanaceae	5	11	VIII
9.	Mimosaceae	7	10	IX
10.	A. Caesalpiniaceae	6	10	X
	B. Lamiaceae	5	10	X
	C. Moraceae	3	10	X

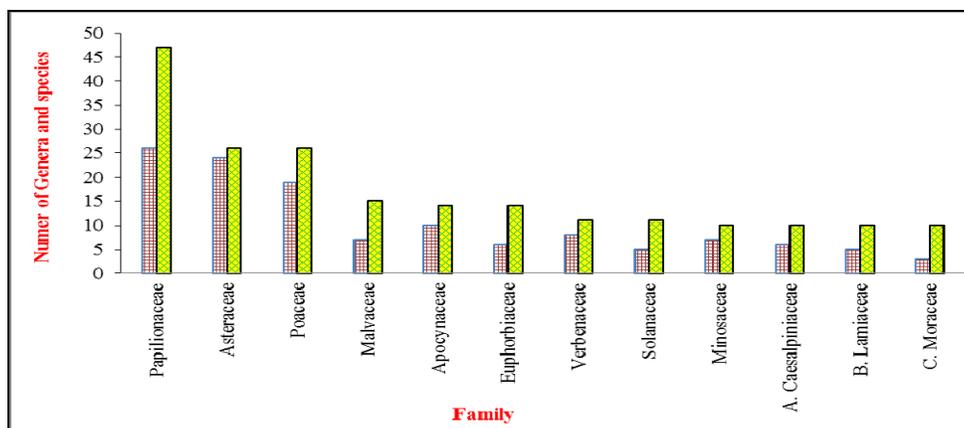


Fig 1: Graphics analysis of ten dominant families recorded during tenure (2014-2016) and their position with respect to genera and their species in Shahdol district

4. Conclusion

In present study, a total 105 families have been recorded from Shahdol district (M.P.) during tenure. Out of these, 10 dominant families were compared to earlier flora such as flora of Jabalpur and flora of Madhya Pradesh. The study site indicates that is one of the biodiversity rich regions 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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