

A Comprehensive Floristic Study of Jabalpur District with Special Emphasis to Dominant Family

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Abstract: *Jabalpur is one of the districts in Madhya Pradesh as known “heart of the state” with highly rich floristic biodiversity of plants. Jabalpur is also known as the “City of Ponds”. Due to recent drastic changes after urbanization and industrialization have affected the flora of Jabalpur district. In review of it after studied it is necessary to update and revise the flora of Jabalpur. 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. The updated data based on DELTA (description language for taxonomy) software with new advancement.*

Keywords: Jabalpur district, Floristic study, Dominant families, digital database

1. Introduction

Jabalpur is one of the districts of ‘Mahakaushal’ region Madhya Pradesh state in central part of India with rich floristic biodiversity. Jabalpur is situated on Varanasi-Nagpur NH-7. The district lies between latitudes 23° 10 North and 79° 59 East longitude. Climate of the region has fallows as hot season March to Middle June, monsoon/ rainy seasons mid June to September and winter/ cold season October to mid March. The city of Jabalpur is located at an altitude 411 meters and area of the district is 10, 160 sq. km. Jabalpur is prominent place for the “Marble Rock” city of India. Out of the total 4, 20,000 flowering plants reported from the world [16]. The “Flora of Jabalpur” studied earlier by [7]. Thenceforward, publication of Flora of Jabalpur several research works have been done [10][13]. However, recent urbanization and industrialization has affected the flora of Jabalpur and its surroundings a lot. So, the main focused on comprehensive taxonomic biodiversity and conservation point of view, because it very necessary to explore existing floristic structure of Jabalpur region update and revise the earlier data. This work has been done by using DELTA (Descriptive Language for Taxonomy) software [1][2][3].

2. Material and Methods

Field visits were undertaken to different localities of Jabalpur city throughout the year (various seasons) and collected the digital photographs in natural habitat and plant specimens for observation, identification and data preparation in the laboratory during the study period.

The plant species were identified with help of different floras viz., Flora of Jabalpur [7]; Flora of Bhopal [9]; Flora of Flora of Madhya Pradesh [14][8][12]. The digital electronic herbarium was constructed and the whole data of plant specimens were fed in the DELTA software with more than 192 morphological characters. The digital images were attached to the respective plant descriptions in the database.

The traditional herbarium method also adopted from Santapau [11], Jain and Rao [15] and the prepared herbarium specimens was confirmed at S.F.R.I., Jabalpur (M.P.). Various experts were also consulted for identification, their systematic position and nomenclature of the species, genera and families and other literatures.

3. Results & Discussion

The present outcome of the study undertaken during the years 2011 to 2013. It includes the floristic study of rich diversity of Jabalpur. The main focused on ten families belonging to different taxa of Angiosperms have been given in this work.

The ten dominant families in order of their species content were made for the flora of Jabalpur (Oommachan and Shrivastava, 1996) 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). 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 3.1 shows the dominant families with respect to genera and species level. While, the table 3.2 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.

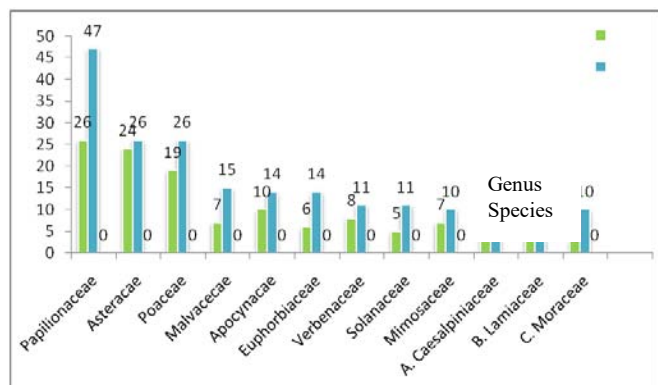
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3.1 Figures

The figure and table shows ten dominant families recorded during tenure (2011- 2013 with respect to genera and their species in Jabalpur district.



3.2 Tables

The table shows ten dominant families recorded during tenure (2011- 2013) and their position with respect to genera and their species in Jabalpur district.

| S.N. | 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 | VI |
| 10. | Caesalpiniaceae | 6 | 10 | X |
| | B. Lamiaceae | 5 | 10 | X |
| | C. Moraceae | 3 | 10 | X |

4. Conclusion

In present study, a total 90 families have been recorded from Jabalpur 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. Digital database preparation is technologically a step ahead in the revision of the flora of Jabalpur district with some advancement that is very useful for the future.

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