

FLORISTIC ELEMENTS OF LEGUMES OF RAJASTHAN AND THE RAJASTHAN FLORA

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Leguminous species in Rajasthan belong to 11 floristic elements, while the entire flora of Rajasthan belong to 16 floristic elements. The Palaeotropical element has a very poor representation as regards the leguminous plants, but is fairly represented in Rajasthan flora. Strikingly enough, the Leguminosae, inspite of being a cosmopolitan family does not show any Cosmopolitan element in Rajasthan. Elements represented in Rajasthan, but not legumes, are Cosmopolitan, Boreal, Old World and South African. .

Keywords : Floristic elements; Leguminosae; Rajasthan flora; Phytogeography.

Introduction

The State of Rajasthan, situated in the North-west part of India between 23° 03' to 30°12' North latitudes and 69° 30' to 78°17' East longitudes, has an area of ca. 3,42,274 sq kms.

Family Leguminosae comprises three sub-families viz., Faboideae (erstwhile Papilionateae or Papilionoideae), Caesalpinioideae and Mimosoideae. Leguminosae are the second largest family in the State represented by 277 species belonging to 81 genera, including 45 species as cultigens. Flora of Rajasthan comprises 148 families and represented by 2034 species belonging to 887 genera *fide*¹, however, this figure includes 320 species as cultigens.

Rajasthan is located at a junction of two of the floristic sub- kingdoms viz., African and Indo-Malayan *fide*², the desert region being included in the former and the rest of State in the latter. Expressing a similar view, several workers also considered western Rajas-

than to be a floristic region separate from Aravallis and eastern Rajasthan³⁻¹¹.

Patterns of plant distribution have been studied in detail¹²⁻¹⁴. Meher-Homji¹⁵ pointed out the occurrence of Sudano-Rajasthani element in the flora of the region.

Sharma¹⁶ has opined that Rajasthan is a region of confluence of North East African and Asiatic elements. Jain¹⁷ has stated that Mt. Abu is the northernmost limit for some species of the peninsular mountain element, and also the southernmost limit for some taxa of the northern mountain element, besides harbouring the Indian mountain element, and endemic taxa. Notes on phytogeography have also been added in many publications on floristics of Rajasthan¹.

Materials and Methods

Survey of literature, herbarium, field work have been done over the past four years on legumes of Rajasthan. A *Phytogeographical element*, as described by Davis¹⁸ is a taxon confined or centered

in one phytogeographical region (or province). A species whose maximum abundance is clearly in one region is treated as an element of that region, or in association with other elements of its own region, forming enclaves isolated from the main areas. Using this definition, distribution patterns were interpreted to identify floristic elements. The area under study can be broadly divided into three regions viz., Western, Aravallis and Eastern region.

Observations

Western region has 140 leguminous species whereas Aravallis and Eastern region have almost equal number of

species *i.e.* 165. This difference is, however, due to low rainfall, high temperature, desertic condition etc. in the Western region.

A comparative view of the floristic composition of legumes of Rajasthan and the entire flora of Rajasthan can be had from Table 1.

Discussion

Table 1 shows that leguminous species in Rajasthan belong to 11 floristic elements. It can also be concluded from the data given in Table 1 that in contrast to the entire flora of Rajasthan, the leguminous species are dominated by the

Table 1. Floristic composition of Legumes of Rajasthan and the flora of Rajasthan

S.No.	Floristic elements	PERCENTAGE	
		Leguminous species in Rajasthan	Total species in Rajasthan
1.	Cosmopolitan	-	2.00
2.	Pantropical	12.5	10.95
3.	Boreal	-	2.00
4.	Palaeotemperate	03.44	2.37
5.	Palaeotropical	13.36	18.61
6.	Mediterranean	03.44	3.04
7.	African	06.46	6.57
8.	West Asian	02.58	2.86
9.	Indo-Malayan	15.51	16.48
10.	Indian	38.36	31.39
11.	Himalayan	03.01	2.43
*12.	Neotropical	00.86	0.37
13.	Old World	-	0.24
*14.	South African	-	0.12
*15.	Burma	00.43	0.37
*16.	Ceylon	-	0.06

* Discontinuous

Pantropical, Palaeotemperate, Indian and Himalayan elements, while Palaeotropical and Indo-Malayan elements dominate the Rajasthan flora. Mediterranean, African and West Asian elements show almost same proportion in both the cases. The element having a very poor representation as regards the leguminous plants, but fairly represented in Rajasthan flora is the Palaeotropical element. Elements represented in Rajasthan flora but not in the case of legumes are Cosmopolitan, Boreal and Old World.

Conclusion

Chatterjee⁸ opined that Papilionaceae shows greatest diversity in habit form and floristic element. He suggested that the family has reached India from many sources, and this affects chiefly the drier regions. Due to this reason this family has reached Rajasthan from Palaeotemperate, Mediterranean, African, West Asian, Indo-Malayan and Indian Peninsular, so strikingly enough, the Leguminosae, in spite of being a Cosmopolitan family does not show any Cosmopolitan element in Rajasthan.

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