

Studies on the Plant Diversity in the Government Post Graduate College Campus, Bundi, (Rajasthan)

Abstract

Trees found in forests are priceless gifts of nature to humans. The existence of all mankind is dependent on the existence of plants and organisms. Plants are integral part of various social traditions. From them, we get high quality food items, raw materials for goods, beauty products and many common commodities. The plant diversity is responsible for ecological balance. Due to the continuous exploitation of wild floristic species by urbanization, the existence of many plant species has been threatened. Preservation of the local plant communities in the premises of government offices, universities, colleges and schools as well as establishment and care of new plant species is an important step in protecting the endangered plants and environment. Present study deals with biodiversity of plant species found in the campus of Government Post Graduate College campus, Bundi.

Keywords: Floristic Diversity, Bundi, Rajasthan.

Introduction

Rajasthan, being the largest state of India, shares about 10.4% geographical area of the country. It is situated in the north-western part of the India between 23° 30' to 30° 12' north latitudes and 69° 29' to 78° 17' east longitudes. About 9.4 percent of the total geographical area of Rajasthan is recorded as forest. The southern part the state is traversed by a number of rivers including the district of Kota, Bundi, Jhalawar and Baran comprising fertile, green and well irrigated areas. The region is well known as Haroti Plateau. Bundi district is also a part of Haroti Plateau. Govt. P.G. College Campus is having a big compound and its considerable area is covered with a large number of varieties of plant. The campus is surrounded from all side by scattered residential and commercial houses and shops. The present work is carried out in Govt. P.G. College Campus Bundi Rajasthan, to explore and document floristic the diversity.

Aim of the Study

Government Post graduate college Bundi in the only P.G.College in the Bundi district run by the state government college Rajasthan. The campus of college is shelter for many plant species. The aim of present study is documentation of plant species around in the campus of the Government P.G.College Bundi.

Material and Methods

Study Area

Bundi is known for its cultural heritage as *Chhoti Kashi*. It is situated on the Jaipur-Jabalpur National Highway at a distance of about 37 Kilometers from Kota. Keeping in mind the educational needs of this region an educational institution by the name of Hadendra College was setup in 1945. In 1959 the then Hadendra College was recognized as an Undergraduate Government College and in 1964 it shifted to the present building. The campus is green and spread on about 25 acres. College building and library is installed on about 25 acres of the land, and remaining area is covered by various plant species.

To the East of the college, spread in two *bighas* is the newly developed botanical garden. The Botanical Garden is the main part of the college campus, in which special medicinal plants, ornamental plants, creepers and rare plant species are found. It is fenced off to check any stray animal that might venture to get inside.

Methods of Study

Govt. P.G. College, Campus area was surveyed during May 2016-April 2017 to document Botanical information on both wild and cultivated



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floristic diversity. The Study area was regularly visited on seasonal basis many times during the study period, especially during winter (Dec-Jan), summer (April-May) and rains (Aug-Sept). The materials collected during the visits were duly identified, with the help of Flora of Rajasthan (Volume I, II & III) and preserved and deposited in the Herbarium of department of botany. All the observed plant species were listed according to their systematic position with vernacular names.

Result and Discussion

In present investigation, which deals with study of vegetation in the Govt Post Graduate College campus, Bundi, a total of 77 plant species have been recorded. A perusal of table-1 depicts that the recorded plant species belong to 34 plant families. Among the recorded plant families, the dominant family is Fabaceae which is represented by 14 plant species namely *Acacia nilotica*, *Albizia lebbek*, *Bauhinia variegata*, *Butea monosperma*, *Cassia fistula*, *Cassia siamea*, *Dalbergia sissoo*, *Delonix regia*, *Prosopis cineraria*, *Pongamia pinnata*, *Indigofera cordifolia*, *Indigofera linnaei*, *Tephrosia purpuria* and *Rhynchosia minima*. Family Asteraceae, Apocynaceae and Euphorbiaceae are represented by 07, 05, and 06 plant species, respectively. With respect to the dominance, Fabaceae is followed by 5 families, namely, Malvaceae, Moraceae, Nyctaginaceae, Poaceae and Solanaceae, represented by three plant species each. The data also reveal that 5 plant families, namely Annonaceae, Asclepidaceae, Rutaceae, Oleaceae and Lamiaceae, are represented by two plant species each. However 20 families, viz., Amaranthaceae, Acanthaceae, Arecaceae, Asphodelaceae, Cannaceae, Capparaceae, Capparidaceae, Combretaceae, Commelinaceae, Cucurbitaceae, Cyperaceae, Lythraceae, Meliaceae, Menispermaceae, Musaceae, Myrtaceae, Papaveraceae, Rubiaceae, Sapotaceae and Vitaceae are represented by only one plant species each with respect to the study area. Among the recorded plant species numbers of Herbs, Shrubs, Trees, and Climbers are 31, 12, 25 and 09, respectively.

The vegetation of Bundi district and surrounding area has been studied by many workers such as Prasad & Sharma (2018), Sharma (2005), Prasad (2014), (2016) which also supports present study. The results also get support from the similar kind of studies carried out by a number of workers such as Sarup (1952), Sarup (1953) Sharma, N.K. 1986, Sharma(1999), Shetty, B.V.&V.Singh(1987), (1991), (1993) Sarup (1953), Agarkar (1952), Bakshi (1954), Sharma(1978), Jain and Kotwal (1960) and Vyas (1962), Sharma, S. and Tiagi, B.(1979), Bhandari, M.M.(1978) in different parts of the state of Rajasthan.

Conclusion

Present study highlighted plant biodiversity in the Govt.P.G.College, campus Bundi. The study resulted in identification and documentation of 77 plant species belonging to 34 families. The college

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campus including Botanical garden may be further used to protect important plant species of general and medicinal uses.

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Table 1: List of Plant Species in the Government Post Graduate College Campus, Bundi (Rajasthan)

Trees			
S.N.	Botanical name	Vernacular name	Family
1	<i>Acacia nilotica</i>	Desi Babool	Fabaceae
2	<i>Aegle marmelos</i>	Beal/ Bel patra	Rutaceae
3	<i>Albizia lebbek</i>	Siris	Fabaceae
4	<i>Annona squamosa</i>	Sitafal	Annonaceae
5	<i>Azadirachta indica</i>	Neem	Meliaceae
6	<i>Bauhinia variegata</i>	Kachnar	Fabaceae
7	<i>Butea monosperma</i>	Dhak, Plash	Fabaceae
8	<i>Cassia fistula</i>	Amaltash	Fabaceae
9	<i>Cassia siamea</i>	Shyam Amaltash	Fabaceae
10	<i>Cratava religiosa</i>	Varun	Capparaceae
11	<i>Dalbergia sissoo</i>	Shisam	Fabaceae
12	<i>Delonix regia</i>	Flame Tree	Fabaceae
13	<i>Embelica officinalis</i>	Amala	Euphorbiaceae
14	<i>Ficus benghalensis</i>	Bargad	Moraceae
15	<i>Ficus carica</i>	Anjeer	Moraceae
16	<i>Ficus religiosa</i>	Pipal	Moraceae
17	<i>Gossypium hirsutum</i>	Gossypium	Malvaceae
18	<i>Manilkara hexandra</i>	Rani	Sapotaceae
19	<i>Morinda tomentosa</i>	Aal	Rubiaceae
20	<i>Musa paradisiacal</i>	Banana	Musaceae
21	<i>Prosopis cineraria</i>	Khejrdi	Fabaceae
22	<i>Phoenix sylvestris</i>	Date Palm/ Khajur	Arecaceae
23	<i>Polyalthia longifolia</i>	Ashok	Annonaceae
24	<i>Pongamia pinnata</i>	Karang	Fabaceae
25	<i>Syzygium cumini</i>	Jamun	Myrtaceae
Shrubs			
1	<i>Adhatoda vasica</i>	Adusa	Acanthaceae
2	<i>Alstonia scholaris</i>	Satpatti	Apocynaceae
3	<i>Calotropis procera</i>	Aak	Asclepiadaceae
4	<i>Datura metal</i>	Dhatura	Solanaceae
5	<i>Euphorbia truncalli</i>	Thor	Euphorbiaceae
6	<i>Hibiscus rosa-sinensis</i>	China rose	Malvaceae
7	<i>Lawsonia inermis</i>	Mehandi	Lythraceae
8	<i>Murraya paniculata</i>	Bux/ Kamini	Rutaceae
9	<i>Nerium</i>	Oleander / Kaner	Apocynaceae
10	<i>Nyctanthes arbor-tristis</i>	Harsingar Parijat	Nyctaginaceae
11	<i>Plumeria rubra</i>	Deshi Champa	Apocynaceae
12	<i>Tabernemontana divaricata</i>	Chandni	Apocynaceae
Herbs			
1	<i>Aloe vera</i>	Gwar	Asphodelaceae
2	<i>Althaea rosea</i>	(Holly hock)	Malvaceae
3	<i>Canna indica</i>	(Keli)	Cannaceae
4	<i>Catharanthus roseus</i>	(Sadabahar)	Apocynaceae
5	<i>Celosia cristata</i>	(Cock's comb)	Amaranthaceae
6	<i>Chloris verigata</i>	Fingergrass	Poaceae
7	<i>Cleome viscosa</i>	Hulhul	Capparidaceae
8	<i>Comelina sinensis</i>	Machunga	Commelinaceae
9	<i>Coriandrum sativum</i>	(Corinder)	Asteraceae
10	<i>Cynodon dactylon</i>	Doob	Poaceae
11	<i>Cyperus rotundus</i>	Nagarmotha	Cyperaceae
12	<i>Digitaria ciliaris</i>	Summer grass	Poaceae
13	<i>Eclipta alba</i>	Bhringraj	Euphorbiaceae
14	<i>Euphorbia hirta</i>	Doodi	Euphorbiaceae
15	<i>Euphorbia pulcherima</i>	Poinsettia	Euphorbiaceae
16	<i>Helianthus annuus</i>	(Sun Flower)	Asteraceae
17	<i>Indigofera cordifolia</i>	Bekara	Fabaceae
18	<i>Indigofera linniaei</i>	Leel	Fabaceae

19	<i>Jasminum sambac</i>	(Mogra)	<i>Oleaceae</i>
20	<i>Mirabilis jalapa</i>	(Four o' clock plant)	<i>Nyctaginaceae</i>
21	<i>Ocimum basilicum</i>	(Marva)	<i>Lamiaceae</i>
22	<i>Ocimum sanctum</i>	(Tulsi)	<i>Lamiaceae</i>
23	<i>Papaver rhoeas</i>	(GardenPoppy)	<i>Papaveraceae</i>
24	<i>Parthenium</i>	Congress grass	<i>Asteraceae</i>
25	<i>Sonchus asper</i>	Dudhi	<i>Asteraceae</i>
26	<i>Phyllanthus niruri</i>	Bhmi amla	<i>Euphorbiaceae</i>
27	<i>Physalis minima</i>	Gooseberry	<i>Solanaceae</i>
28	<i>Tagetes erecta</i>	(Genda)	<i>Asteraceae</i>
29	<i>Tagetes petula</i>	(Hajara)	<i>Asteraceae</i>
30	<i>Tephosia purpuria</i>	Sharpunka	<i>Fabaceae</i>
31	<i>Tridax procumbens</i>	Gorkhmundi	<i>Asteraceae</i>
Climbers			
1	<i>Bougainvillea glabra</i>	Kagaj fool	<i>Nyctaginaceae</i>
2	<i>Cestrum nocturnum</i>	(Raat Rani)	<i>Solanaceae</i>
3	<i>Jasminum grandiflorum</i>	(Chamali)	<i>Oleaceae</i>
4	<i>Quisqualis indica</i>	(Malti bel)	<i>Combretaceae</i>
5	<i>Pergularia demia</i>	Utaran	<i>Asclepiadaceae</i>
6	<i>Cayratia trifolia</i>	Jangli angoor	<i>Vitaceae</i>
7	<i>Rhynchosia minima</i>	Tin patti	<i>Fabaceae</i>
8	<i>Coccinia indica</i>	Kandoori	<i>Cucurbitaceae</i>
9	<i>Cocculus hirsutus</i>	Jal -jamni	<i>Menispermaceae</i>