



Distribution of some annual and perennial plants of campus flora of Alirajpur college, Madhya Pradesh, India

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Abstract

An extensive and intensive plant survey of Alirajpur district of Madhya Pradesh was carried out.

Preliminary study of Alirajpur district shows rich plant diversity in respect to 47 families and 139 genera and 191 plant species have been collected and identified from our garden. Present study observes herbs are 104, climbers are 31, Shrubs are 18 and trees are 38. The dominant 5 families are Poaceae (18 species) Dipterocarpaceae (15 species), Leguminosae (45 species), Compositae (10 species), Apocynaceae (8 species), and Acanthaceae (8 species).

Keyword: Alirajpur, Floristic studies, vegetation, Botanical garden, Dry deciduous forest.

Introduction

Alirajpur is situated in the south west corner of Madhya Pradesh. It is declared as tribal district due presence of thick population of tribals in the region. Dry deciduous forest is found in the area. Major part of the area is covered by the Deccan trap. Floristic studies were carried out in The Govt. PG College Alirajpur, Madhya Pradesh. College campus is extended over 14.5 acres of land. The campus area are the representative of climax vegetation and exhibit the diversity of species such as trees, climbers, epiphyte and other shade loving herbs. Botanical gardens are the storehouses of valuable medicinal and other plants having high economic value and serve as a refuge to threatened species. An extensive plant survey was carried out in the Govt. P. G. College, Alirajpur campus during 2019-2020 and collected more than 300 plants.

Study area:

Alirajpur District was carved out of Jhabua District on 17th May 2008. The distance of Alirajpur from Indore is 220 km. whereas Vadodara is only 150 km. away. Dahod is the nearest railway station, which is connected by road by 70km. A village called Amkhut is considered as Switzerland of M.P. and another village named "Kathiwada" is called 'Cherapunji' of M.P. In 18th century the ruler of this town known as Rajpur had the

capital at "Aali ", nearby village but unfortunately the capital was destroyed by fire and hence transferred to this town and was renamed as 'Alirajpur'. Alirajpur district lying between 22°18'N latitude and 74°20'E longitude, covers an area of 3182 square kilometers. Mahee and Narmada rivers make its Eastern and Southern border. According to census 2011, Alirajpur population is 728,999. Alirajpur District average Rainfall is 850 mm. Alirajpur District temperatures ranges between 23° - 30°C are observed. Bhagoriya is a special cultural public festival of Alirajpur district.



Fig.2: map showing study area

Methodology

An extensive plant survey was carried out in the Govt. P. G. College, Alirajpur campus during 2019-2020. Collecting the plant species and data in different seasons. All habitats of the study area surveyed carefully. Plant collection carried out by standard method (Jain and Rao,1977). Plant specimens were preserved by dipping the whole specimens in saturated solution of Mercuric chloride and alcohol. Dry and preserved plants mounted on herbarium sheets by adhesive glue and fevicols. Identification of plants done with the help of flora (Verma et.al., 1993; Sing et al.,2001; Mudgal et al.,1997; Khanna et al., 2001; Oommachan, 1977; Shah, 1978; Duthi, 1960; Gamble, 1915; Hains,1921-1924; Cook, 1903; Hooker, 1872-1897; Naik, 1998) and other taxonomic literature.

Result & discussion

During the survey more than 300 plants were collected from Govt. P. G. College, Alirajpur campus. Among them 191 plant have been identified. In the present survey 139 genera and 47 families and 191 plant species (**Table-1**) are recorded from our garden. The dominant 5 families are Poaceae 18, Dipterocarpaceae 15, Leguminosae 45, Compositae 10, Apocynaceae 8, and Acanthaceae 8 (**Table-3**). The plants distributed as herbs 104 climbers 31, Shrubs 18 and trees 38 (**Table-2**). Due to various factors such as changing

environmental conditions, biotic factors, destruction of habitat etc. biotic factors, destruction of habitat some plant species facing threats for their existence. Conservation of the campus flora is one of the vital segments in the natural resource management. Before few decades, Govt. P.G. College Alirajpur campus has floristically very rich with diverse habitats. But due to various factors the vegetation of the campus has caused rapid destructions of habitats of the plants. The floristic composition of the region but also pose a great threat to some species which have low abundance and are rare in this area so the present study may be helpful for the future researchers specially to ecologists and taxonomists to study the flora of this area and design research in such way for protecting and maintain of its biodiversity before these species inhibited to this area become completely vanished.

Conclusion

The anthropogenic activity has affected the floristic composition of the region but also pose a great threat to some species which have low abundance and are rare in this area so the present study may be helpful for the future researchers specially to ecologists and taxonomists to study the flora of this area and design research in such way for protecting and maintain of its biodiversity before these species inhibited to this area become completely vanished.

Acknowledgement

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Table-1: Distribution of angiospermic plants

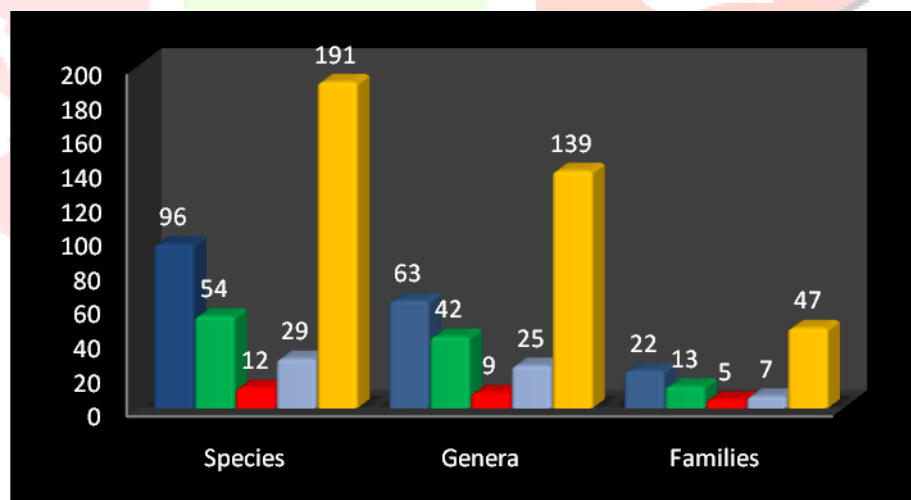
Angiosperm		Species	Genera	Families
	Polypetalae	96	63	22
Dicotyledons	Gamopetalae	54	42	13
	Monochlamydeae	12	09	05
	Total	162	114	40
Monocotyledons		29	25	07
	Grand total	191	139	47

Table-2: Category wise distribution of plants

Category	Climbers	Herbs	Shrubs	Trees
No. of taxa	31	104	18	38

Table-3: Five dominant families of area

Sn	Families	No. of taxa
1)	Apocynaceae & Acanthaceae	8
2)	Compositae	10
3)	Dipterocarpaceae	15
4)	Poaceae	18
5)	Leguminosae	45

**Fig-1: Distribution of angiospermic plants**

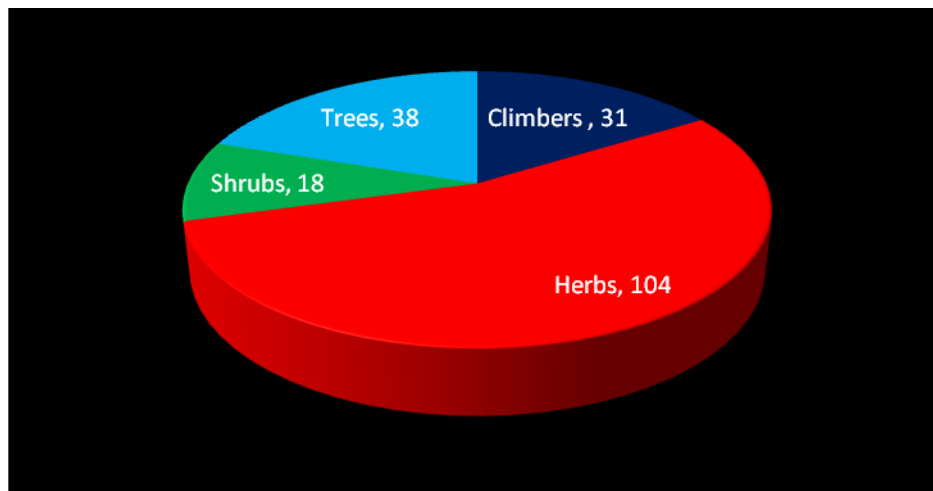


Fig.-2: Category wise distribution of plants

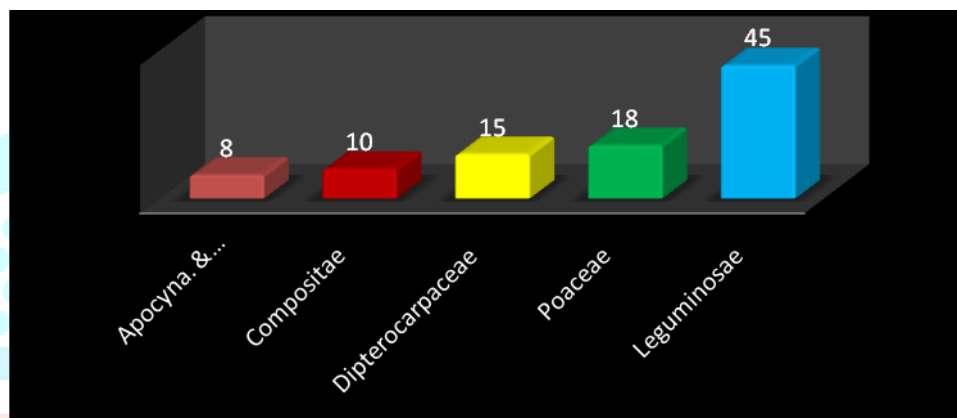


Fig.-3: dominant families of area

Table-4: List of flowering plants

SN	FAMILY	BOTANICAL NAMES	HABIT
1.	Annonaceae	<i>Annona reticulata</i> L.	T
2.		<i>Annona squamosa</i> L.	T
3.	Menispermaceae	<i>Cissampelos pareira</i> L.	C
4.		<i>Cocculus hirsutus</i> (L.) Theob.	C
5.		<i>Tinospora sinensis</i> (Lour.) Merr.	C
6.	Papaveraceae	<i>Argemone Mexicana</i> L.	H
7.	Capparaceae	<i>Capparis decidua</i> (Forssk.) Edgew.	C
8.		<i>Capparis grandis</i> L.f.	C
9.		<i>Capparis sepiaria</i> L.	C
10.	Cleomaceae	<i>Cleome gynandra</i> L.	H
11.	Polygalaceae	<i>Polygala arvensis</i> Willd.	H
12.		<i>Polygala erioptera</i> DC	H
13.	Dipterocarpaceae	<i>Shorea robusta</i> Gaerth f.	T
14.		<i>Abutilon hirtum</i> (Lam.) Sweet.	H
15.		<i>Abutilon indicum</i> (L.) Sweet	H
16.		<i>Adansonia digitata</i> L.	T
17.		<i>Bombax ceiba</i> L.	T
18.		<i>Corchorus aestuans</i> L.	H
19.		<i>Corchorus fascicularis</i> Lam.	H

20.		<i>Corchorus olitorius L.</i>	H
21.		<i>Grewia flavescens Juss.</i>	S
22.		<i>Grewia hirsuta Vahl.</i>	S
23.		<i>Grewia sapida Roxb. ex DC.</i>	S
24.		<i>Sida acuta Burm. F.</i>	H
25.		<i>Sida cordata (Burm.f.) Borss.Waalk.</i>	H
26.		<i>Sida cordifolia L.</i>	H
27.		<i>Triumfetta malebarica J.Koenig ex Rottb.</i>	H
28.	Malpigiaceae	<i>Hiptage benghalensis (L.) Kurz</i>	H
29.	Zygophyllaceae	<i>Tribulus terrestris L.</i>	H
30.	Oxalidaceae	<i>Biophytum reinwardtii (Zucc.) Klotzsch.</i>	H
31.		<i>Biophytum sensitivum (L.) DC.</i>	H
32.		<i>Oxalis corniculata L.</i>	H
33.	Rutaceae	<i>Aegle marmelos (L.) Correa</i>	T
34.		<i>Murraya paniculata (L.) Jack</i>	H
35.	Simaroubaceae	<i>Ailanthus excelsa Roxb.</i>	T
36.	Meliaceae	<i>Azadirachta indica A.Juss.</i>	T
37.		<i>Melia azedarach L.</i>	T
38.	Rhamnaceae	<i>Ventilago denticulata Willd.</i>	C
39.		<i>Ziziphus mauritiana Lam.</i>	T
40.		<i>Ziziphus nummularia (Burm.f.) Wight & Arn.</i>	T
41.	Vitaceae	<i>Ampelocissus latifolia (Roxb.) Planch.</i>	C
42.	Sapindaceae	<i>Cardiospermum halicacabum L.</i>	C
43.	Anacardiaceae	<i>Mangifera indica L.</i>	T
44.	Leguminosae	<i>Abrus precatorius L.</i>	C
45.		<i>Aeschynomene aspera L.</i>	H
46.		<i>Aeschynomene indica L.</i>	H
47.		<i>Alysicarpus bupleurifolius (L.) DC.</i>	H
48.		<i>Alysicarpus tetragonolobus Edgew.</i>	H
49.		<i>Butea monosperma (Lam.) Taub.</i>	T
50.		<i>Cajanus platycarpus (Benth.) Maesen</i>	C
51.		<i>Cajanus scarabaeoides (L.) Thouars</i>	C
52.		<i>Clitoria annua J.Graham</i>	C
53.		<i>Clitoria ternatea L.</i>	C
54.		<i>Crotalaria albida Roth .</i>	H
55.		<i>Cullen corylifolium (L.) Medik.</i>	H
56.		<i>Dalbergia latifolia Roxb.</i>	T
57.		<i>Dalbergia sissoo DC.</i>	T
58.		<i>Desmodium dichotomum (Willd.) DC.</i>	H
59.		<i>Desmodium scorpiurus (Sw.) Desv.</i>	H
60.		<i>Indigofera trifoliata var. duthiei (Naik) Sanjappa</i>	H
61.		<i>Indigofera linifolia (L.f.) Retz.</i>	H
62.		<i>Indigofera linnaei Ali</i>	H
63.		<i>Indigofera tinctoria L.</i>	H
64.		<i>Lathyrus aphaca L.</i>	C
65.		<i>Pongamia pinnata (L.) Pierre</i>	T
66.		<i>Rhynchosia minima (L.) DC.</i>	C
67.		<i>Rhynchosia bracteata Baker</i>	C
68.		<i>Tephrosia pumila (Lam.) Pers.</i>	H
69.		<i>Tephrosia purpurea (L.) Pers.</i>	H
70.		<i>Zornia gibbosa Span.</i>	H

71.		<i>Bauhinia purpurea</i> L.	T
72.		<i>Bauhinia racemosa</i> Lam.	T
73.		<i>Caesalpinia bonduc</i> (L.) Roxb.	C
74.		<i>Cassia fistula</i> L.	T
75.		<i>Cassia javanica</i> L.	T
76.		<i>Senna alata</i> (L.) Roxb.	T
77.		<i>Senna alexandrina</i> Mill.	S
78.		<i>Senna hirsuta</i> var. <i>puberula</i> H.S.Irwin & Barneby	S
79.		<i>Senna occidentalis</i> (L.) Link	S
80.		<i>Tamarindus indica</i> L.	T
81.		<i>Acacia auriculiformis</i> Benth.	T
82.		<i>Acacia leucophloea</i> (Roxb.) Willd.	T
83.		<i>Acacia nilotica</i> (L.) Delile ssp. <i>indica</i> (Benth.) Brenon	T
84.		<i>Albizia amara</i> (Roxb.) B.Boivin	T
85.		<i>Albizia lebeck</i> (L.) Benth.	T
86.		<i>Mimosa rubicaulis</i> Lam.	H
87.		<i>Pithecellobium dulce</i> (Roxb.) Benth.	T
88.		<i>Prosopis cineraria</i> (L.) Druce	T
89.	Myrtaceae	<i>Syzygium cumini</i> (L.) Skeels	T
90.	Onagraceae	<i>Ludwigia octovalvis</i> (Jacq.) P.H.Raven	S
91.	Cucurbitaceae	<i>Citrullus colocynthis</i> (L.) Schrad.	C
92.		<i>Coccinia grandis</i> (L.) Voigt	C
93.		<i>Ctenolepis garcini</i> (L.) C.B.Clarke	C
94.		<i>Luffa echinata</i> Roxb.	C
95.		<i>Luffa tuberosa</i> Roxb.	C
96.	Apiaceae	<i>Centella asiatica</i> (L.) Urb.	T
97.	Rubiaceae	<i>Catunaregam spinosa</i> (Thunb.) Tirveng.	T
98.		<i>Spermacoce articularis</i> L.f.	H
99.		<i>Spermedictyon suaveolens</i> Roxb.	H
100.	Compositae	<i>Ageratum conyzoides</i> (L.) L.	H
101.		<i>Blumea eriantha</i> DC.	H
102.		<i>Blumea fistulosa</i> (Roxb.) Kurz	H
103.		<i>Conyza japonica</i> (Thunb.) Less. ex Less.	H
104.		<i>Cyathocline purpurea</i> (Buch.-Ham. ex D.Don) Kuntze	H
105.		<i>Eclipta prostrata</i> (L.) L.	H
106.		<i>Sonchus asper</i> (L.) Hill	H
107.		<i>Sonchus brachyotus</i> DC.	H
108.		<i>Tridax procumbens</i> (L.) L.	H
109.		<i>Xanthium strumarium</i> L.	H
110.	Sapotaceae	<i>Madhuca longifolia</i> var. <i>latifolia</i> (Roxb.) A.Chev.	T
111.	Oleaceae	<i>Nyctanthes arbor-tristis</i> L.	T
112.	Apocynaceae	<i>Nerium oleander</i> L.	S
113.		<i>Tabernaemontana divericata</i> (L.) R.Br. ex Roem. & Schult.	S
114.		<i>Hemidesmus indicus</i> (L.) R. Br. ex Schult.	C
115.		<i>Calotropis gigantea</i> (L.) Dryand.	S
116.		<i>Calotropis procera</i> (Aiton) Dryand.	S
117.		<i>Pergularia daemia</i> (Forssk.) Chiov.	C
118.		<i>Telosma pulida</i> L.	C
119.		<i>Dregea volubilis</i> (L.f.) Benth. ex Hook.f.	C
120.	Gentianaceae	<i>Canscora diffusa</i> (Vahl) R.Br. ex Roem. & Schult.	H
121.		<i>Enicostema axillare</i> (Poir. ex Lam.) A.Raynal	H

122.		<i>Exacum tetragonum</i> Roxb.	H
123.		<i>Exacum pedunculatum</i> L.	H
124.		<i>Hoppea dichotoma</i> Willd.	H
125.	Boraginaceae	<i>Bothriospermum tenellum</i> (Horn.) Fisch. & Mey.	H
126.		<i>Cynoglossum zeylanicum</i> (Vahl) Brand	H
127.	Convolvulaceae	<i>Argyreia bella</i> Raizada	C
128.		<i>Ipomoea hederifolia</i> L.	C
129.	Solanaceae	<i>Datura stramonium</i> L.	S
130.		<i>Physalis minima</i> L.	H
131.		<i>Solanum anguivi</i> Lam.	H
132.		<i>Solanum incanum</i> L.	H
133.		<i>Withania somnifera</i> (L.) Dunal	S
134.	Acanthaceae	<i>Barleria cristata</i> L.	S
135.		<i>Gantelbua urens</i> (B.Heyne ex Roxb.) Bremek.	H
136.		<i>Haplanthodes tentaculatus</i> (L.) R.B.Majumdar	H
137.		<i>Haplanthodes verticillatus</i> (Roxb.) R.B.Majumdar	H
138.		<i>Hemigraphis hirta</i> (Vahl) T.Anderson	H
139.		<i>Rungia pectinata</i> (L.) Nees	H
140.		<i>Rungia repens</i> (L.) Nees	H
141.		<i>Thunbergia fragrans</i> Roxb.	H
142.	Verbenaceae	<i>Lantana aculeata</i> L.	S
143.	Lamiaceae	<i>Hyptis suaveolens</i> (L.) Poit.	H
144.		<i>Leucas aspera</i> (Willd.) Link	H
145.		<i>Leucas biflora</i> (Vahl) Sm.	H
146.		<i>Ocimum basilicum</i> L.	H
147.		<i>Ocimum americanum</i> L.	H
148.	Nyctaginaceae	<i>Boerhavia diffusa</i> L.	H
149.		<i>Boerhavia repens</i> L.	H
150.	Amaranthaceae	<i>Achyranthes aspera</i> L.	H
151.		<i>Achyranthes aspera</i> var. <i>porphyristachya</i> (Wall. ex Moq.) Hook.f.	H
152.		<i>Aerva lanata</i> (L.) Juss.	H
153.		<i>Amaranthus viridis</i> L.	H
154.		<i>Celosia argentea</i> L.	H
155.	Aristolochiaceae	<i>Aristolochia bracteolata</i> Lam.	C
156.	Euphorbiaceae	<i>Acalypha indica</i> L.	H
157.		<i>Euphorbia caducifolia</i> Haines	S
158.		<i>Euphorbia chamaesyce</i> L.	H
159.		<i>Euphorbia hirta</i> L.	H
160.		<i>Jatropha curcas</i> L.	S
161.		<i>Jatropha gossypifolia</i> L.	S
162.	Phyllanthaceae	<i>Phyllanthus emblica</i> L.	T
163.	Moraceae	<i>Ficus hispida</i> L.f.	T
164.		<i>Ficus religiosa</i> L.	T
165.	Hypoxidaceae	<i>Curculigo orchoides</i> Gaertn.	H
166.	Asparagaceae	<i>Asparagus racemosus</i> Willd.	C
167.	Commelinaceae	<i>Commelina benghalensis</i> L.	H
168.		<i>Commelina diffusa</i> Burm.f.	H
169.	Arecaceae	<i>Phoenix sylvestris</i> (L.) Roxb.	T
170.	Araceae	<i>Amorphophallus bulbifer</i> (Roxb.) Blume	H
171.	Cyperaceae	<i>Bulbostylis barbata</i> (Rottb.) C.B.Clarke	H

172.		<i>Cyperus alopecuroides</i> Rottb.	H
173.		<i>Cyperus rotundus</i> L.	H
174.	Poaceae	<i>Alloteropsis cimicina</i> (L.) Stapf	H
175.		<i>Andropogon pumilus</i> Roxb.	H
176.		<i>Apluda mutica</i> L.	H
177.		<i>Arundo donax</i> L.	H
178.		<i>Bambusa bambos</i> (L.) Voss	H
179.		<i>Cymbopogon martini</i> (Roxb.) W.Watson	H
180.		<i>Cynodon baharberi</i> Rang. & Tadul.	H
181.		<i>Cynodon dactylon</i> (L.) Pers.	H
182.		<i>Dactyloctenium aegyptium</i> (L.) Willd.	H
183.		<i>Digitaria ciliaris</i> (Retz.) Koeler	H
184.		<i>Dinebra retroflexa</i> (Vahl) Panz.	H
185.		<i>Echinochloa colona</i> (L.) Link	H
186.		<i>Eragrostis ciliaris</i> (L.) R.Br.	H
187.		<i>Heteropogon contortus</i> (L.) P.Beauv. ex Roem. & Schult.	H
188.		<i>Isachne globosa</i> (Thunb.) Kuntze	H
189.		<i>Polytrias indica</i> (Houtt.) Veldkamp	H
190.		<i>Sorghum halepense</i> (L.) Pers.	H
191.		<i>Tripogon jacquemontii</i> Stapf	H

