

FLORISTIC CHECKLIST OF DATTA, DISTRICT MANSEHRA KHYBER PAKHTUNKHWA, PAKISTAN

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ABSTRACT: The aim of study was to provide a small floristic checklist of Datta, District Mansehra. Floristic investigation was carried out during flowering seasons of, 2015-16. 115 plant species belonging to 44 families and 101 genera were reported from the Study area. Asteraceae was found the most dominant family that contributed 15 species, followed by Poaceae 13, Rosaceae 9, Lamiaceae 7, Fabaceae and Amaranthaceae with 5 species each, while remaining families show less than 5 species each. Among 44 families, 38 were Angiosperms, 2 gymnosperms, 2 Bryophytes and remaining 2 were Pteridophytes families. On the basis of Habit, Herbs were leading by 62%, Trees 22 % and Shrubs with 16%. Perennial life span represented 63 species, followed by Annual 47, and rest of 5 were Biennials.

Keywords: Aim, Datta, Checklist, Study, Each, Span

INTRODUCTION

Inventory of floras by Plant Taxonomists is a regular practice throughout the world to have information about plants. Flora describes complete information about plant species of a particular position. Valuable data is collected through this practice, which give help in future study. Since the world is extremely variable, hence a vast range of floras is available ranging from Field Floras or Concise to Research Floras. The identification of local plants along with the description of an area is very important because it can show exact species of the local area and their occurrence, growing season, species hardness, distinct species, finding new species and the effect of climatic conditions like over-grazing and drought, on vegetation [1]. Globally, about 422000 plant species have been documented [3]. 6000 plant species have been reported from Pakistan and altitude ranged upto 8611m. Pakistan has unique diversity and climatic zones which are the main source of rich vegetation [2].

Datta is a small village and union council (an administrative subdivision) of Mansehra, District in the Hazara Division of Pakistan, with an area of about 2272 acres. It is surrounded by Haryala village from North West, Khushala village from North, Chakia and Pengal Village from the west and Lodhi abad Tannan from the South. The area lies in sub-tropical chirr pine zone. Indigenous people of study area depends on Agriculture, Farming, and Horticulture practices. Area received high rainfall in winter season and temperature becomes decreased. December, January and February are the coldest month and temperature falling down than 0°C. While in summer season the hottest months are June, July, August and September, remain Moderate. In July and August Temperature raised upto 35 °C. The main cultivated crops of study area are *Zea mays*, *Allium cepa*, *Allium sativa*, *Cucurbita spp*, *Pisum sativum*, *Solanum tuberosum*, *Abelmoschus esculentus*, *Triticum aestivum* and *Solanum lycopersicum*. Area is also rich in fruits plants which mainly include *Malus pumila*, *Prunus armeniaca*, *Prunus domestica*,

Citrus spp, *Vitis vinifera* and *Eriobotrya japonica*. Study Area is totally dominated by Angiosperms while Pteridophytes, Bryophytes and Gymnosperms were also present. Due to the variability in topography and climate, there is much diversity in the flora of Datta Valley [4].

MATERIALS AND METHODS

At initial stages of research activities all available literature were carefully and thoroughly reviewed. Information regarding localities, and other relevant parameters were obtained.

COLLECTION OF SPECIMENS

Plant specimens were collected from different sites of study area in flowering season of 2015-16. Plant size, flowering time, color, habit, habitat and localities were noted on notebook during fieldwork.

PLANTS PRESERVATION AND IDENTIFICATION

Plants were placed in blotting papers for pressing, drying and preserve along with natural body structure, i.e. stem roots, leaves and flowers. The collected specimens were identified with the help of available literature and also rechecked with the flora of Pakistan [22-23]. Identified plants were mounted on Herbarium sheet and Voucher number was given to specimens and submitted in the Herbarium of Hazara University Mansehra (HUP).

RESULTS AND DISCUSSION

Total 115 plants were collected from different sites of Datta village, Mansehra. These plants were belonging to 101 genera and 44 families. 109 Plants species represented Angiosperms, 2 gymnosperms, 2 Pteridophytes while remaining 2 species were Bryophytes. Out of 44 families, 38 were Angiosperms, 2 gymnosperms, 2 Bryophytes and remaining 2 were Pteridophytes families. Habit wise Herbs were dominated by 62 %, Shrubs 16 %, while remaining 22 % were Trees. Among these plants Dicots were dominant by 71.30%, Monocots 23.29% while remaining 5.21 were Bryophytes, Gymnosperms and Pteridophytes. From Life span point of view Perennials were leading by 63 species, Annual 47, while remaining 5 was Biennial. Among 44 families Asteraceae was on top with 15 species, followed by Poaceae 13, Rosaceae 9, Lamiaceae 7, Fabaceae, Amaranthaceae 5 species each, Amaryllidaceae, Apiaceae, Euphorbiaceae, Moraceae, Oleaceae, Polygonaceae, Rutaceae, Salicaceae,

Solanaceae having 3 species each. Apocynaceae, Brassicaceae, Papaveraceae, Plantaginaceae, Scrophulariaceae, represented by 2 per family. Remaining 23 families show less than 3 members each.

According to literature review no such study was carried out on floristic composition of study area. There is no proper documentation on floristic wealth of Datta, district Mansehra. Present study provides a small checklist of the flora of Datta village District Mansehra. In this study total 115 species reported from study area which belongs to 101 genera and 44 families. Out of 44 families well represented families were Asteraceae, Poaceae, Rosaceae, Lamiaceae, Fabaceae and Amaranthaceae. Similar work reported from various localities of Country.

[5], 2016 explored the Floristic Structure and Ecological attributes of Jelar valley upper Dir District, 250 species which include 177 genera and 77 families were documented from study area. The study area was dominant by Asteraceae and Lamiaceae members. [6], 2016 done similar work on Floristic and life form composition of District Shangla and documented 515 plant species. Among which Asteraceae were dominant by 63 Taxa, Lamiaceae, Rosaceae and Poaceae species. [7], 2017 explored the floristic wealth of upper Tanawal District Mansehra and documented 246

species, distributed in 89 genera. Among these Asteraceae were dominated by 23 species followed by Rosaceae and Lamiaceae. [8], 2017 studied the floristic composition of Dilbori Tehsil Oghai and reported 104 species distributed in 54 families. Rosaceae was leading by 12 species, while followed by Asteraceae and Lamiaceae. [9], 2015 worked on Floristic exploration in the Toor Ghar district and reported 331 species distributed in 246 genera. Among these 331 species, 6 were gymnosperm, 12 Pteridophytes while remaining were 313 Angiosperms. [10], 2011 studied the floristic structure of Malam Jaba Valley Swat and reported 200 plants species distributed in 75 families. [11], 2010, documented 211 plant species which include 177 genera by studied floristic nature of Haripur Hazara division Pakistan.

CONCLUSION

The study was performed to explore and documented the floristic wealth of Datta District Mansehra. It is concluded that study area is rich in floristic diversity and people have also valuable knowledge about plants. It is ensure that some plants are not recorded and they need long term study to document over all flora of Area. However, the present work will serve to researcher, students and plants loving people for the identification of plants of given study area.

Table 1:Floristic checklist along with Plant Species, Families, Genera, Habit and Life Span of Datta, Mansehra.

F/No	S/No	Family Name	Plant Name	Habit	Life span	Species %	Division
01	1	Amaranthaceae	<i>Achyranthes aspera</i> L.	H	P	4.34	D
	2		<i>Amaranthus viridis</i> L.	H	A		D
	3		<i>Amaranthus spinosus</i> L.	H	A		D
	4		<i>Chenopodium album</i> L.	H	A		D
	5		<i>Chenopodium murale</i> L.	H	A		D
02	6	Amaryllidaceae	<i>Allium cepa</i> L.	H	B	2.60	M
	7		<i>Allium sativum</i> L.	H	B		M
	8		<i>Narcissus poeticus</i> L.	H	A		M
03	9	Apiaceae	<i>Ammi visnaga</i> (L.) Lam.	H	A	2.60	M
	10		<i>Coriandrum sativum</i> L.	H	A		M
	11		<i>Foeniculum vulgare</i> Mill.	H	A		M
04	12	Apocynaceae	<i>Calotropis procera</i> (Aiton) W.T.Aiton	S	P	1.73	D
	13		<i>Nerium oleander</i> L.	S	P		D
05	14	Asteraceae	<i>Ambrosia trifida</i> L.	H	A	13.04	D
	15		<i>Artemisia martima</i> L.	H	P		D
	16		<i>Calendula officinalis</i> L.	H	A		D
	17		<i>Carthamus tinctorius</i> L.	H	A		D
	18		<i>Centaurea iberica</i> Trevir. & Spreng	S	P		D
	19		<i>Cichorium intybus</i> L.	H	A		D
	20		<i>Cirsium arvense</i> (L.) Scop.	H	P		D
	21		<i>Helianthus annuus</i> L.	H	A		D
	22		<i>Leucanthemum vulgare</i> Lam.	H	A		D
	23		<i>Parthenium hysterophorus</i> L.	H	P		D
	24		<i>Silybum marianum</i> (L.) Gaertn.	H	A		D
	25		<i>Sonchus asper</i> (L.) Hill	H	A		D
	26		<i>Tagetes minuta</i> L.	H	A		D

	27		<i>Taraxacum officinale</i> Weber	H	P		D
	28		<i>Xanthium strumarium</i> L.	S	B		D
06	29	Berberidaceae	<i>Berberis lycium</i> Royle.	S	P	0.86	D
07	30	Boraginaceae	<i>Trichodesma zeylanicum</i> (Burm.f.) R.Br.	H	A	0.86	D
08	31	Brassicaceae	<i>Brassica campestris</i> L.	H	A	1.73	D
	32		<i>Nasturtium officinale</i> W.T. Aiton	H	A		D
09	33	Cannabaceae	<i>Cannabis sativa</i> L.	H	A	0.86	D
10	34	Colchicaceae	<i>Colchicum luteum</i> Baker	H	A	0.86	M
11	35	Convolvulaceae	<i>Convolvulus arvensis</i> L.	S	P	0.86	D
12	36	Cupressaceae	<i>Cupressus sempervirens</i> L.	T	P	0.86	G
13	37	Ebenaceae	<i>Diospyros lotus</i> L.	T	P	0.86	D
14	38	Euphorbiaceae	<i>Euphorbia helioscopia</i> L.	H	A	2.60	D
	39		<i>Euphorbia hirta</i> L.	H	A		D
	40		<i>Ricinus communis</i> L.	T	P		D
15	41	Equisetaceae	<i>Equisetum arvense</i> L.	H	P	0.86	P
16	42	Fabaceae	<i>Indigofera heterantha</i> Brandis	S	P	4.34	D
	43		<i>Lathyrus aphaca</i> L.	H	A		D
	44		<i>Medicago polymorpha</i> L.	H	A		D
	45		<i>Trifolium repens</i> L.	H	A		D
	46		<i>Robinia pseudoacacia</i> L.	T	P		D
17	47	Funariaceae	<i>Funaria hygrometrica</i> Hedw.	H	A	0.86	B
18	48	Lamiaceae	<i>Ajuga parviflora</i> Benth.	H	A	6.08	M
	49		<i>Isodon rugosus</i> (Wall.ex Benth.)	S	P		M
	50		<i>Mentha arvensis</i> L.	H	P		M
	51		<i>Mentha longifolia</i> L.	H	P		M
	52		<i>Mentha piperata</i> L.	H	P		M
	53		<i>Ocimum basilicum</i> L.	H	P		M
	54		<i>Salvia moorcroftiana</i> Wall. ex. Benth	H	A		M
19	55	Lythraceae	<i>Punica granatum</i> L.	T	P	0.86	D
20	56	Malvaceae	<i>Malva neglecta</i> Wallr	H	A	0.86	D
21	57	Marchantiaceae	<i>Marchantia polymorpha</i> L.	H	A	0.86	B
22	58	Meliaceae	<i>Melia azedarach</i> L.	T	P	0.86	D
23	59	Moraceae	<i>Ficus carica</i> L.	T	P	2.60	D
	60		<i>Broussonetia papyrifera</i> (L.) Vent.	T	P		D
	61		<i>Morus alba</i> L.	T	P		D
24	62	Myrtaceae	<i>Eucalyptus camaldulensis</i> Dehnh.	T	P	0.86	D
25	63	Oleaceae	<i>Jasminum officinale</i> L.	S	P	2.60	D
	64		<i>Jasminum humule</i> Linn	S	P		D
	65		<i>Olea ferruginea</i> Royle	T	P		D
26	66	Oxalidaceae	<i>Oxalis corniculata</i> L.	H	A	0.86	D
27	67	Papaveraceae	<i>Fumaria indica</i> (Hauskn.) Pugsley	H	A	1.73	D
	68		<i>Papaver hybridum</i> L.	H	A		D
28	69	Pinaceae	<i>Pinus roxburghii</i> Sarg.	T	P	0.86	G
29	70	Plantaginaceae	<i>Plantago lanceolata</i> L.	H	P	1.73	D
	71		<i>Plantago major</i> L.	H	P		D
30	72	Platanaceae	<i>Platanus orientalis</i> L.	T	P	0.86	D
31	73	Poaceae	<i>Agrostis gigantean</i> Roth,	H	P	11.30	M
	74		<i>Arundo donax</i> L.	H	P		M
	75		<i>Avena sativa</i> L.	H	A		M
	76		<i>Cynodon dactylon</i> (L.) Pers.	H	P		M
	77		<i>Digitaria ciliaris</i> (Retz.) Koeler	H	A		M
	78		<i>Eragrostis ciliaris</i> (L) R.Br.	H	A		M
	79		<i>Festuca alaica</i> Drobow.	H	P		M

	80		<i>Lolium temulentum</i> L.	H	A		M
	81		<i>Poa annua</i> L.	H	A		M
	82		<i>Saccharum spontaneum</i> L.	H	P		M
	83		<i>Sorghum halepense</i> (L.) Pers.	H	P		M
	84		<i>Triticum aestivum</i> L.	H	A		M
	85		<i>Zea mays</i> L.	H	A		M
32	86	Polygonaceae	<i>Polygonum viviparum</i> L.	H	P	2.60	D
	87		<i>Rumex dentatus</i> L.	H	A		D
	88		<i>Rumex hastatus</i> L.	H	A		D
33	89	Pteridaceae	<i>Adiantum capillus-veneris</i> L.	H	P	0.86	P
34	90	Ranunculaceae	<i>Ranunculus muricatus</i> L.	H	A	0.86	D
35	91	Rosaceae	<i>Cirsium arvense</i> (L.) Scop.	H	P	7.82	D
	92		<i>Eriobotrya japonica</i> (Thunb.) Lindl	T	P		D
	93		<i>Malus pumila</i> Miller	T	P		D
	94		<i>Prunus armeniaca</i> L.	T	P		D
	95		<i>Prunus domestica</i> L.	T	P		D
	96		<i>Prunus persica</i> (L.) Batsch	T	P		D
	97		<i>Pyrus communis</i> L.	T	P		D
	98		<i>Rosa webbiana</i> L.	S	P		D
	99		<i>Rubus ulmifolius</i> Schott	S	P		D
36	100	Rutaceae	<i>Citrus limon</i> (L.) Osbeck	T	P	2.60	D
	101		<i>Citrus aurantium</i> L.	T	P		D
	102		<i>Zanthoxylum armatum</i> DC.	S	P		D
37	103	Salicaceae	<i>Salix tetrasperma</i> Roxb	T	P	2.60	D
	104		<i>Populus euphratica</i> Oliv.	T	P		D
	105		<i>Populus ciliata</i> Wall. ex Royle	T	P		D
38	106	Sapindaceae	<i>Dodonaea viscosa</i> Jacq.	S	P	0.86	D
39	107	Scrophulariaceae	<i>Verbascum thapsus</i> L.	H	B	1.73	D
	108		<i>Veronica persica</i> Poir.	H	A		D
40	109	Simaroubaceae	<i>Ailanthus altissima</i> (Mill.) Swingle	T	P	0.86	D
41	110	Solanaceae	<i>Datura stramonium</i> L.	H	A	2.60	D
	111		<i>Solanum nigrum</i> L.	S	P		D
	112		<i>Solanum surattense</i> Burm.f.	H	B		D
42	113	Thymelaeaceae	<i>Daphne mucronata</i> Royle	S	P	0.86	D
43	114	Verbanaceae	<i>Lantana camara</i> L.	S	P	0.86	D
44	115	Vitaceae	<i>Vitis vinifera</i> L.	S	P	0.86	D

Legends: H; Herb, S; Shrub, T; Tree, P; Perennial, B; Biennial, A; Annual, A; Angiosperms, B; Bryophytes, G; Gymnosperms, P; Pteridophytes

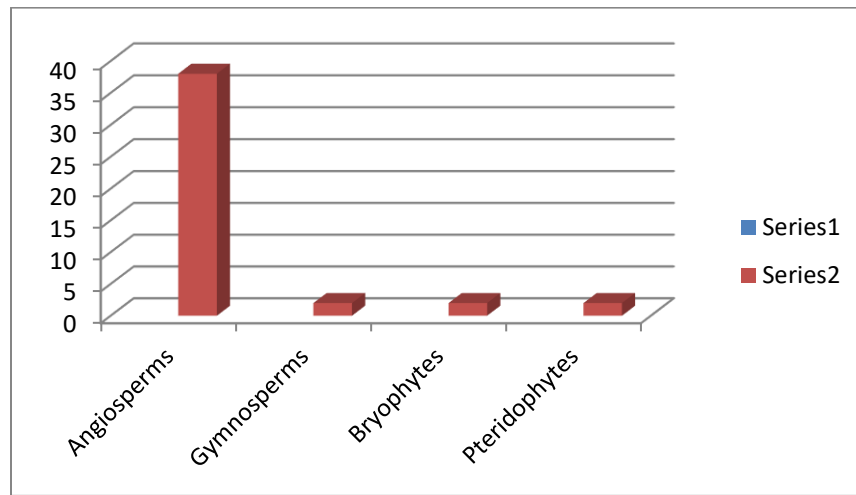


Figure 1: Division of the plant species recorded from the study area.

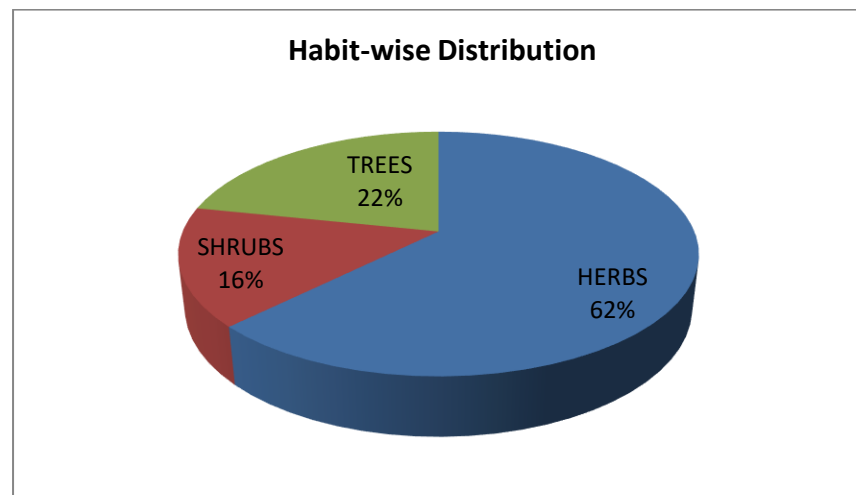


Figure 2: Habit-wise graphical representation of species diversity in the study area.

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