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Biodiversity of Weeds in Tehsil Zhob of Distric Zhob

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ABSTRACT

The present study is based on research work carried out during September 2020 to April 2021 to explore the diversity of weeds, various weeds were of different species of the Tehsil zhob, Balochistan. During the study, on the basis of the area, ten different locations were randomly selected for collecting samples, Hassanzai, Islamyar Zhob, Mir Ali Khel, Murgha Kibzai, Nasirabad, Omza Viala, Sambazah, Shahbzai, Sheikhan, Sherani Bazar. From the various positions of Tehsil Zhob, total 38 species were collected. These plants were distributed as 38 genera and 23 families. 37 plants represented as Angiosperms and 1 was Pteridophytes. Out of 21 families, 35 were Dicots, 2 were monocot and 1 was Pteridophytes families. Out of these 21 families, the predominance shown by family Astraceae (6) species for different Forest management projects like taxonomic, ecological, ethnobotanical, phytochemical investigations, the inventory of a region provides a reference line. The inventory includes native, agriculture, horticulture and weed flora of a region. Plants are the major components of an ecosystem, that's why they have great importance globally. Detailed floristic survey of the whole district and even any tehsil of the district are not reported so this research provides basic information about the weed flora of Tehsil Zhob.

Key words: *Biodiversity; Weeds; Tehsil; District Zhob; Pakistan; Unwanted plants; Flora*

Introduction

Zhob was considered as a separate district on February 1890. The name comes from Pushto word which means oozing or seep water. The Zhob is given is also the name of an important river in the district. The district headquarter is in "Zhob" town. The district is located in the north-east of the Quetta City, the provincial capital of Balochistan, sharing its boundaries in the east with Musakhail and Qilla Saifullah and sherani in the west. Afghanistan is on the north and Loralai District is in the south. The terrain of the district consists of mountains and valleys ranging in ground elevation from 930-2,658 meters above MSL (Mean Sea Level). Zhob is the tehsil of District hob, Balochistan. The latitude of zhob Pakistan is 31.350000 and the longitude is 69.449997.

Tull, defined first time a term "Weed" as 'a plant growing where it is not desired' in his much esteemed book 'Horse Hoeing Husbandry'. The weeds are common dominant, unwanted, undesirable and plant that compete with cultivated crop for water, nutrient and sunlight and another several reasons such as, high growth rate, high reproductive rate and produce harmful or beneficial allelopathical effect of cultivated crops [1]. There are approximately 250,000 species of plants worldwide, of those about 3% or 8,000 species, act as weeds and 200 to 250 weeds found to cause major problems in worldwide cropping systems. They spread like wild fire and grow abundantly in the crop fields and harm to the main crops.

Weeds can be categorized as annuals, biennials and perennials which are responsible for the production decrease per unit area in various agricultural crops and forests. Weeds are further divided into Rabi and Kharif weeds. Rabi weeds infest the Rabi season crops, while, Kharif weeds infest the kharif crops. The majority of weeds are annuals with high reproductive potential [2].

Materials and Methods

The research area was extensively surveyed and different types of species were collected from different locations of Tehsil Zhob. The collected plant specimens, through standard taxonomic methods, were pressed, dried and mounted on standard herbarium sheets. The same was identifying by using accessible taxonomic works and operational folders.

Weeds collected and mounted on herbarium sheets. The specimen were preserved according to the standard protocol of Smith i.e. specimen were passed in plant presser which was consisted of wooden frame (for rigidity), corrugated hardboard ventilators (to allow air pass through the presser), blotter paper (absorb moisture), and folded newspaper (to contain plant material).The weeds species are arrange in alphabetical order following the scientific names of weeds. Local names wherever available of the weeds are provided. For naming of species and their placement in different taxa, many taxonomic data bases and different websites are used. Plants were collected and identified also with the help of available literature [3]. After the identification of weeds the habitats, classification and their morphology were studied from published source, weeds specimen were compared with photograph of the published source and illustration. The nomenclature has been brought up to date, following in general the flora of Pakistan and other taxonomic literature.

Results

From the various positions of Tehsil Zhob, total 38 species were collected. These plants were distributed as 38 genera and 23 families. 3 plants represented as Angiosperms and 1 was Pteridophyt out of 23 families, 34 were Dicots, 3 were monocot and 1 was Pteridophytes families (Table 1). Out of these 23 families ,the predominance shown by family Asteraceae (6) species, Fabaceae, Euphorbiaceae and Poaceae (3) species Amaranthaceae, Chenopodaceae, Plantoginaceae, Ranunculaceae each having 2 species each. Brassicaceae, Convolvulaceae, Caryophyllaceae, Polygonaceae, Combretaceae, Ephedraceae, Equisetaceae, Fumaraceae, Laminaceae, Malvaceae, Primulaceae, Oleraceae and Solanaceae each have 1 specie respectively (Figures 1 and 2).

Table 1: Floristic checklist of weeds in Tesil Zhob.

S.No	Family	Botanical Name	Common Name	Location	Habit
1	Astraceae	*Parthenium hysterophorus*	Sofade boti	Qili sheikhan	H
		Sonchus oleraceus	Dodak	Hassanzai	H
		Soncus asper	Gurwa	Silyaza	H
		Tagets erecta	Zard genda	Sherani bazar	H
		Taraxacum officinale	Gule qasda	Silyaza	H
2	Amaranthaceae	*Cornulaca aucheri*	Tahalj	Grave yard	S
		Sasola tragus	Kalbhai	Shahbzai	S
3	Combretaceae	*Coronapus erectus*	Arjun	G.G.D.C.Zhob	S
4	Compositae	*Aster subculantus*	Rageen phol	Qili sheikhan	S
5	Convolvulaceae	*Convolvulus arvensis*	Bakar bali	G.G.D.C.Zhob	H
6	Caryophyllaceae	*Acanthophyllum squarrosum*	Techurdu	Qili sheikhan	S
7	Chenopodaceae	*Chenopodium album*	Bathu	Islamiyar	H
		Chenopodium galcum	Cholai	Babu mohala	H
8	Ephedraceae	*Ephedra geradiana*	Asman	Sambazah	S
9	Euphorbeaceae	*Euphorbia helioscopic*	Gandi boti	Mir ali khek	H
		Ricinus comunis	Arand	Kakar town	S/H
		Andrache telephoides	Sumbluu	Qili sheikhan	H
10	Equisetaceae	*Equistem edibile*	Sanp ghas	Silyaza	H
11	Fabaceae	*Viccia sative*	Chatri	Mir ali khel	H
		Sphora molis	Ghuzera	Qili sheikhan	H
		Medicago lepulena	Eurpy jarri boti	Mir ali khel	S
12	Fumriaceae	*Fumaria Indica*	paparra	Siyaza	H
13	Lminaceae	*Eremostachys vicaryi*	Gurgana	G.G.D.C.Zhob	H
14	Malvaceae	*Malva parviflora*	Goji saag	Sherani bazar	H
15	Oleaceae	*Olea europea*	Jangli zetoon	Silyaza	S/H
16	Plantaginaceae	*Plantago major*	Barting	Home garden	H
		Kickxia elantina	Sharpal	silyaza	H
17	Primulacaea	*Anagallis arvensis*	Bili boti	Silyaza	H
18	Poaceae	*Bromus japonica*	Silai ghass	Kakar town	H
		Echinochloa crus-gali	Dhidan	Silyaza	H
		Paspalum dilatum	Dahli ghass	Kakar town	H
19	Rosaceae	*Prunus brahuica*	Jangli badam	Qili sheikhan	S
20	Ranunculaceae	*Ranunculus muricatus*	Gule lala	Sambzah	H
		Ranunculus scelertus	Kabikaj	Babu mohala	H
21	Solanaceae	*Withania coagulans*	Paneer	Qili sheikhan	S
22	Zygophyllaceae	*Pegnum harmala*	Harmal	Murghakibzai	H
23	Polygonaceae	*Peteropyrum olivieri*	Khejdo	Omzah viala	H
24	Brassicaceae	*Malcolmia africana*	Mustard	Nasirbad	H

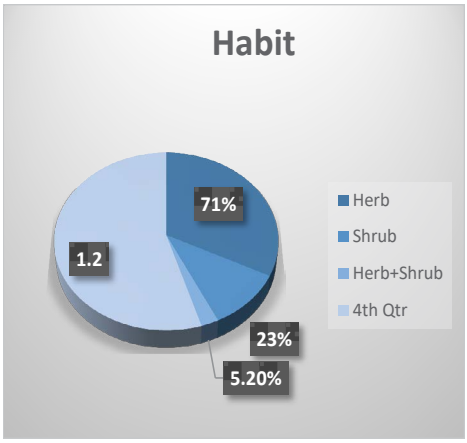

Figure 1: Habit distribution of plants.

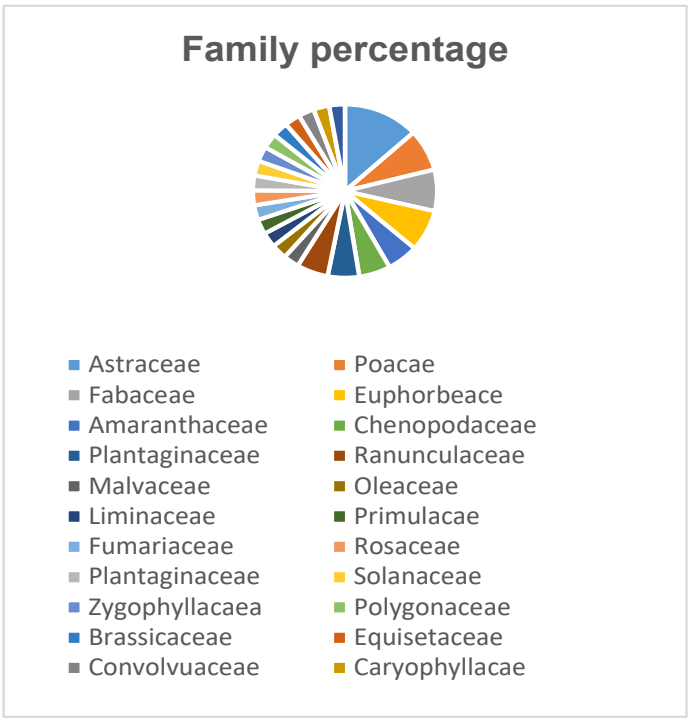

Figure 2: Family percentage of plants.

Discussion

For different Forest management projects like taxonomic, ecological, ethnobotanical, phytochemical investigations, the inventory of a region provides a reference line. The inventory includes native, agriculture, horticulture and weed flora of a region. Plants are the major components of an ecosystem, that's why they have great importance globally [4-7]. On the basis of region, climate or time period plants are grouped into floras, but due to changing in ecosystem because of air water and land pollution, explosion of human population, increasing earth temperature, all these leads to increase in rate of deforestation, increase growth rate of invasive species, fragmentation and loss of habitat [8-10]. For making an inventory of a region, first of all it is necessary to know about the interaction between biotic components, as well as biotic to abiotic components on an area.

Floristic studies of weeds are useful in context with many ecological issues facing a country, e.g. sustainable management of natural resources, protection of flora and fauna, determination of capacities of the growth, and abilities of the country, identification of different plant species of different areas of a country. A lot of fragmented work has done on floristic account. Which are emergent aquatic and angiosperms.

Biodiversity of ethnobotanical important grassy weeds. Diversity of life form and leaf size. Diversity of aquatic plants [11]. Detailed floristic survey of the whole district and even any tehsil of the district is not reported, except a Preliminary study of aquatic and marshland angiosperms of Zhob District, Balochistan, Pakistan and small Frontier region Drazinda of Dera Ismail khan and hence keeping in view this contemplation, this study is planned for Tehsil Zhob of district Zhob.

Conclusion

From the various positions of Tehsil Zhob, total 38 species were collected. These plants were distributed as 38 genera and 21 families. 37 plants represented as Angiosperms and 1 was Pteridophytes. Out of 21 families, 35 were Dicots, 3 were monocot and 1 was Pteridophytes families. Out of these 21 families, the predominance shown by family Astraceae (5) species, Euphorbiaceae, poaceae and Fabaceae (3) species Amaranthaceae, Chenopodaceae, plantoginaceae, Rananculaceae each having 2 species each. Brassicaceae, compositae, convolvulaceae, caryophyllaceae, combretaceae, Ephedraceae, Equisetaceae, Fumaraceae, Laminaaceae, Malvaceae, primulaceae, oleraceae and solanaceae, polygonaceae, each having 1 specie respectively. Among 21 families Astraceae were dominant by 5 species, this dominant family were followed by Fabaceae with 4 species. The family of Pteridophytes contains 1 family (Equisetaceae) and represented by 1 species. Detailed floristic account of weeds of the whole district and even any tehsil of the district is not reported, except a Preliminary study of aquatic and marshland angiosperms of Zhob District, Balochistan, Pakistan , so this research provide a basic information about the weed flora of Tehsil Zhob. It's May also helpful for other research.

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