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Seasonal and floristic biodiversity of weeds growing in Dindori District (M.P.) India

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Abstract

The present paper deal Seasonal and Floristic Biodiversity of weeds growing in Dindori district (M.P.) India. Along with rice, weeds also grow in the vegetable garden, thus being considered an undesirable plant that grows on a large plant. The current study is based on the study of weed species diversity during dry soil. It found that weeds are part of 21 families, 42 genus and 46 species. The rainy season showed great diversity when in the summer a small amount of biodiversity was evident. Poaceae was considered to be the top 6-member family with similar families e.g. Cappariaceae, Papaveraceae etc.

Keywords: Weeds, seasonal and floristic biodiversity, Dindori district

Introduction

Most of the weeds have characteristics of enormous seed production, variety of dormancies, ability to grow and multiply under stress conditions and competitive ability and power of vegetative multiplication. Present communication provides an enumeration of 46 weeds with phonological pattern and their ethnobotanical uses recorded from tribal inhabited localities of Dindori district (Madhya Pradesh). The vegetation of the area is discussed along with seasonal vegetation, hydrophytic vegetation, vegetation of special habitats and weeds of Kharif and Rabi crops. Economic aspects of the flora, viz. Cultivated crops, vegetable plants, fruit yielding plants, tannin and gum yielding plants and medicinal plants have been dealt briefly. Conservational aspects of the flora has also been discussed in brief for the benefit of policy makers, forests and other plant managers. Weeds are plants, which grow where they are not needed. It is difficult to describe such a plant, since what is attached to one part of the world may be desirable to another. In addition, they vary in their damage rates. Weeds can therefore be described in many ways but only in pregnancy, which must be clear in order to be understood. Weeds therefore suggest that they are not wanted, bad unwanted plants often grow and persist, are dangerous and dangerous to the potential. Such crops are harmful to crop plants, disrupt Agril's operations, increase labor, increase the cost of farming, harm the quality of the farm produced and ultimately reduce crop yields. Such plants are known as weeds. In short, a plant's strength on a farm is greater than its strength.

Literature Review

Ethnomedicinal uses of these weed plants and used different reference books literature (Jain, 1991; Paradkar, 1995; Prajapati *et al.*, 2003; Khare, 2004; Dyamock *et al.*, 2005; Retnam *et al.*, 2006; Dhiman, 2006; Kumar and Suman 2009; Dhole *et al.* 2009; Jadhav, 2017) [12, 20, 19, 15, 26, 22, 5, 16, 6, 11].

Material and Methods

Dindori district is situated at the south-east part of Madhaya Pradesh touching Chhattisgarh state. It touches Anuppur in east, Mandla in west, Umaria in north, and Bilaspur district of Chattisgarh State in south. It is 144 Km from Jabalpur on S.H 21, 104 Km from Mandla and 88 Km from holy place Amarkantak. It is located at 80.35°-80.58° longitude and 22.17°-23.22° latitude. The holy river Narmada passes through the district. It is situated at a height of 1100 m above sea level amongst herbal-rich, Maikal mountain ranges.

Herbarium preparation and identification. Weed was collected in different crop fields of Dindori district. The collected plants are identified by using "The Flora of Marathwada (Naik, 1998) [18], Flora of Bombay presidency (Cooke, 1958); Flora of Madhya Pradesh

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(Hewetson, 1951) [8]. Tabulation and family wise categorization: The herbarium was prepared, labeled and stored in the herbarium of the department.

Results and Discussion

In study of the weed flora of dry land crops in the Dindori district areas, from ten sampling site a total of 42 genus and 46 species from 21 families was identified in the 2 fields

surveyed and mean value recorded as data. The family with the highest number of species was Poaceae (6 sps), followed by Asteraceae (5), Amaranthaceae (4), Convolvulaceae (3), Papilionaceae (3), Euphorbiaceae (2), Lamiaceae (2), Acanthaceae (2), Solanaceae (2), Apiaceae (2), Chenopodiaceae (2), and monogeneric families Papaveraceae, Capparidaceae, Asclepiadaceae, Cyperaceae, Verbenaceae, Malvaceae, Rhamnaceae, Zygophyllaceae, Mimoseae etc.

Table 1: Seasonal and Floristic Biodiversity of Weeds Growing In Dindori district of Madhya Pradesh.

S. No.	Family		Botanical Name	Local Name	Habitat	Phenology (Flowering & Fruiting period)
1.	Acanthaceae	1.	<i>Astracantha longifolia</i>	Tal-makhana	Waste land, Bund, Crop field	R, W, S
		2.	<i>Barlaria alba</i>	Kesria	Waste land	R, W, S
2.	Amaranthaceae	3.	<i>Achyranthus aspera</i>	Chichita	Waste land Bund,	R, W
		4.	<i>Alternanthera sessilis</i>	Garundi	Waste land,	R, W
		5.	<i>Allmania nodiflora</i>	Garundi	Waste land,	R
		6.	<i>Cleosia argentea</i>	Silyari	Waste land, Bund	R, W
3.	Apiaceae	7.	<i>Centella asiatica</i>	Bramhi	Waste land, Bund, crop field	R, W
4.	Asclepiadaceae	8.	<i>Calotropis procera</i>	Madar	Waste land	W,S
		9.	<i>Calotropis gigantia</i>	Madar	Waste land	W, S
5.	Asteraceae	10.	<i>Ageratum conyzoides</i>	Gandhila	Waste land, Bund	R, W
		11.	<i>Parthenium hysterophorus</i>	Gajarghass	Waste land, Bund	R, W, S
		12.	<i>Vernonia cinerea</i>	Sahdevi	Waste land, Bund, crop field	R, W
		13.	<i>Centratherum anthelminticum</i>	Banjira	Waste land, Bund, crop field	R, W
6.	Capparidaceae	14.	<i>Blumea lacera</i>	Kukurmutta	Waste land, Bund, crop field	R, W
		15.	<i>Cleome viscosa</i>	Hur-hur	Waste land	R, W
7.	Chenopodiaceae	16.	<i>Chenopodium album</i>	Bathua	Waste land, Bund, crop field	R, W, S
		17.	<i>Amaranthus spinosus</i>	Chaulai	Waste land, Bund, crop field	R, W, S
8.	Convolvulaceae	18.	<i>Ipomea palmata</i>	Morning glories	Waste land	S
		19.	<i>Cuscuta reflexa</i>	Amar bel	Waste land, Bund, Crop field	R, W, S
		20.	<i>Convolvulus arvensis</i>	Hirankhuri	Waste land, Crop field	R, W
		21.	<i>Ipomoea aquatica</i>	Kalmi	Waste land	R
9.	Cyperaceae	22.	<i>Cyperus rotundus</i>	Motha	Waste land, Bund, Crop field	R, W, S
		23.	<i>Euphorbia hirta</i>	Dudhi	Waste land, Bund	R, W, S
10.	Euphorbiaceae	24.	<i>Phyllanthus niruri</i>	Bhuinanwla	Waste land, Crop field, Bund	R,W
		25.	<i>Jatropha curcas</i>	Ratan jot	Waste land	R, W, S
		26.	<i>Indigofera linifolia</i>	Neel	Waste land, Bund	R, W
12.	Lamiaceae	27.	<i>Leucas aspera</i>	Gumma	Waste land, Bund, Crop field	R, W
		28.	<i>Ocimum basilicum</i>	Ban Talsa	Waste land, Bund	R, W, S
13.	Malvaceae	29.	<i>Sida acuta</i>	Bariyari	Waste land, Bund	R, W
		30.	<i>Sida cordifolia</i>	Khareti	Waste land, Bund, crop field	R, W
14.	Mimoseae	31.	<i>Mimosa pudica</i>	Chhui-mui	Waste land, Bund	R, W
15.	Papaveraceae	32.	<i>Argemone maxicana</i>	Pili Kateri	Waste land	R, W, S
		33.	<i>Cassia tora</i>	Chakaunda	Waste land, Bund, Crop field	R, W
		34.	<i>Medicago denticulata</i>	Chanouri	Waste land, Crop field	W
16.	Papilionaceae	35.	<i>Trifolium alexandrinum</i>	Barsin	Waste land, Crop field	R, W, S
		36.	<i>Cynodon dactylon</i>	Dub ghass	Waste land, Crop field, Bund	R, W
		37.	<i>Andropogon odoratus</i>	Ginger ghass	Waste land, Crop field	R, W
17.	Poaceae	38.	<i>Heteropogon contortus</i>	Steekgras	Waste land, Crop field	R, W
		39.	<i>Aristida adscensionis</i>	Lappa	Waste land	R, W
		40.	<i>Agropyron repens</i>	Grass	Waste land, Bund, crop field	R, W, S
		41.	<i>Cymbopogon martinii</i>	Roshaghass	Waste land, Bund, crop field	R, W, S
18.	Rhamnaceae	42.	<i>Ziziphus numularia</i>	JangaliBer	Waste land,	R, W, S
19.	Solanaceae	43.	<i>Solanum xanthocarpum</i>	Bhatakatariya	Waste land, Bund	R, W, S
		44.	<i>Datura alba</i>	Dhatura	Waste land	R, W, S
20.	Verbenaceae	45.	<i>Lantana camara</i>	Phulchuhya	Waste land, Bund	R, W, S
21.	Zygophyllaceae	46.	<i>Tribulus terrestris</i>	Gokharu	Waste land, Bund, crop field	R, W, S

Note: - R = Rainy Season, W = Winter Season, S = Summer Season

Table 2: Seasonal and Floristic Biodiversity of Weeds Genus and Species

S. No.	Name of the Family	No. of Genus	No. of Sps.
1.	Acanthaceae	2	2
2.	Amaranthaceae	4	4
3.	Apiaceae	1	1
4.	Asclepiadaceae	1	2
5.	Asteraceae	5	5
6.	Capparidaceae	1	1
7.	Chenopodiaceae	2	2
8.	Convolvulaceae	3	4
9.	Cyperaceae	1	1
10.	Euphorbiaceae	2	3
11.	Fabaceae	1	1
12.	Lamiaceae	2	2
13.	Malvaceae	1	2
14.	Mimoseae	1	1
15.	Papaveraceae	1	1
16.	Papilionaceae	3	3
17.	Poaceae	6	6
18.	Rhamnaceae	1	1
19.	Solanaceae	2	2
20.	Verbenaceae	1	1
21.	Zygophyllaceae	1	1
	Total	42	46

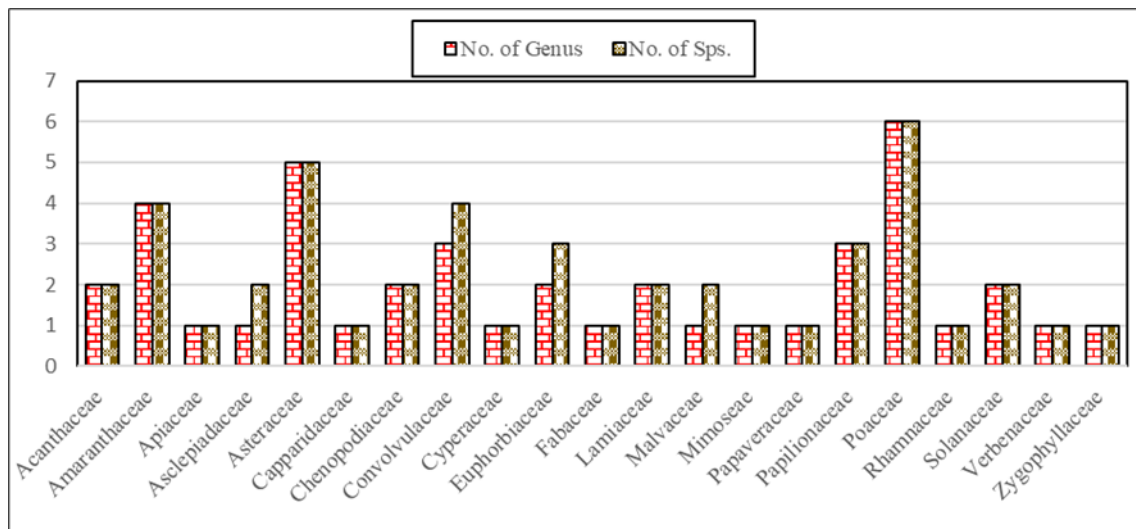
Table 3: Common Seasonal Weed Flora in region of Dindori district.

S. No.	Family	Name of Plant	Rainy Season	Winter Season	Summer Season
1.	Acanthaceae	<i>Astracantha longifolia</i>	+	+	+
		<i>Barlaria alba</i>	+	+	-
2.	Amaranthaceae	<i>Achyranthus aspera</i>	+	+	-
		<i>Alternanthera paranychioides</i>	+	+	+
		<i>Allmania nodiflora</i>	+	+	-
3.	Asclepiadaceae	<i>Calotropis gigantia</i>	+	+	+
		<i>Calotropis procera</i>	+	+	+
4.	Asteraceae	<i>Ageratum conyzoides</i>	+	+	-
		<i>Parthenium hysterophorus</i>	+	+	-
5.	Capparidaceae	<i>Cleome viscosa</i>	+	+	-
6.	Convolvulaceae	<i>Ipomea palmata</i>	+	+	+
		<i>Cuscuta reflexa</i>	+	+	+
		<i>Convolvulus arvensis</i>	+	+	+
7.	Cyperaceae	<i>Cyperus rotundus</i>	+	+	-
8.	Euphorbiaceae	<i>Euphorbia hirta</i>	+	+	+
		<i>Phyllanthus niruri</i>	+	+	-
		<i>Jatropha curcas</i>	+	+	+
9.	Lamiaceae	<i>11. Leucas aspera</i>	+	+	-
		<i>19. Ocimum basilicum</i>	+	+	-
10.	Malvaceae	<i>Sida acuta</i>	+	+	-
		<i>Sida cordifolia</i>	+	+	+
11.	Mimoseae	<i>Mimosa pudica</i>	+	+	-
12.	Papaveraceae	<i>Argemone maxicana</i>	+	+	+
		<i>Cassia tora</i>	+	-	-
13.	Poaceae	<i>Cynodon dactylon</i>	+	+	+
		<i>Cymbopogon martinii</i>	+	+	-
		<i>Heteropogon contortus</i>	+	+	-
14.	Verbenaceae	<i>Lantana camara</i>	+	+	+

These areas may be said to the landscape units dominated by Poaceous species.

These two areas had a marked influence on the weed flora,

mainly due to the relationship of its phenological cycle with well-defined climatic periods and to soil management practices.



Graph 1: Seasonal and Floristic Biodiversity of Weeds Genus and Species

During the survey of these fields, the number of Dicot species were related to family Asteraceae, Amaranthaceae, Convolvulaceae, Papilionaceae etc., however the number of Monocot species were related to family Poaceae, the minimum number of Dicot species are belonged to family Papaveraceae, Cappariadaceae, Asclepiadaceae, Verbenaceae, Malvaceae, Rhamnaceae, Zygophyllaceae, Mimoseae etc., however the minimum number of Monocot species were related to family Cyperaceae.

Generally the term Weed has played a negative role for human, but many plants known as weeds have useful properties. Such as the leaves of weeds are edible and roots or leaves may be used for herbal medicine, foods etc. Some weeds are grown on human disturbed areas such as construction sites, roadsides, agricultural fields, lawn etc. Weeds may also improve the soil fertility. Weeds also act as a ground cover that prevent erosion and reduce moisture loss. Numbers of weeds are soil indicator; drought and flood resistant, they have enormous medicinal value. They are important for maintaining bio-geochemical cycle in grassland and sustain the groups such as consumers and decomposers.

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