

Weeds of Rajasthan and Their Ethno-Botanical Importance

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ABSTRACT The present paper deals with some useful weeds of Rajasthan. Weeds are known as unwanted plants but tribal and traditional communities of the state used them for treatment of different diseases, for edible purpose etc. Some weeds are also used as mosquito repellent, to clean their teeth, to make string and for making domestic articles. Here 33 plants are described with their uses. The data presented here are given with their local name, botanical name, plant part used with purpose and mode of use.

INTRODUCTION

Plants are to be found everywhere. Man tries to grow only the sort of plants that he wants and the original inhabitants of the soil become useless to him are called as weeds. The recognition of plants as weeds is perhaps as old as agriculture itself. When land is cultivated to raise crops, weeds spring up naturally along with the crop plants. Weeds are defined as “a plant out of place or an unwanted plant or a plant with a negative or plant that compete with man for the soil” (Kasera et al. 1998). Quite a number of plants considered as weeds in modern sciences, have significant value in ethno-botany. Many of these naturally growing plants are not really “unwanted” in the light of traditional herbal medicines (Patnaik 1956; Govindiah 1981).

Swami and Gupta (1996) gave a note on 20 commonly occurring medicinal weeds of Udhampur district of Jammu and Kashmir. Thomas and Britto (2000) reported 53 common weeds of medicinal importance which are used to cure diseases like diarrhoea, dysentery, gonorrhoea, rheumatism, headache, fever, worm, ulcer, urinary stone, asthma, cough etc. in Tirunelveli district of Tamilnadu. According to Saikia and Hussain (2005) weeds are highly efficacious as medicine against some common diseases and other health problems of man. The present study reports thirty-three weed plants, which are used for different purposes by the tribal and traditional communities of Rajasthan.

On the traditional uses of weeds a little work has been carried out in the India. In 1956 Patnaik gave information on some useful weeds in and around Cuttack et al. (1958) provided information on some useful weeds of Baroda, its neighborhood and Pavagarh of Gujarat. Weeds are also

played an important role in Ayurvedic medicine. Role of weeds in ayurvedic medicine was described was described by Govindiah (1981). In 1996 Bhattacharyya gave some medicinal uses of weeds of Saurashtra. Saikia and Hussain (2005) collected information on medicinal aspects of some weeds used by the Ahom and Khamti communities of Sivasagar. Nath et al. (2007) described ethnomedicinal aspects of 38 species of weeds of Darrang district of Assam.

AREA AND INHABITANTS

Rajasthan, which was earlier known by the name of Rajputana, was a conglomeration of eighteen princely states. It has an area of 342274 sq. km. It is the second largest state of India and covers about 11% of the area of the country lying between 23°3' and 30°12' North latitude and 69°30' and 78°17' East longitudes. It is surrounded by Pakistan in the West and the states of Punjab, Haryana, Uttar Pradesh and Gujarat in the North, East and South.

The presence of the Great Indian Thar Desert in its western portion makes Rajasthan a unique state of India. The Thar forms the eastern extremity of the desert belt of the earth. The Aravallis, forming barriers to the desert in the east, are the oldest folds mountain chain of the world. This range not only divides the state geographically into two portions but cultures of the people. The northern extremity of the Deccan plateau of peninsular India wedges itself into the southern and south-eastern portions of the state, and so also the western limits of the central Indian highlands.

Of the nine recognized botanical regions of India, three falls in the territory of Rajasthan- the western dry region, the Gangetic plains and the

Deccan plateau. The plant wealth of this state may comprise of nearly two thousand species. Shetty and Singh (1993) in their "Flora of Rajasthan" have enumerated 1911 species belonging to 780 genera of 154 plant families.

Like the Western Ghats, the Chhota Nagpur Plateau and the Assam hills, the Aravallis and the Vindhyan complex are regions of high concentration of tribal population. All these areas have a common factor i.e. their isolated nature, which has barred development and progress in the man inhibiting them.

The southern and south-eastern Rajasthan forms the core territories of the Bhil and Meena tribes. The Aravallis hill of the Rajasthan harbour most of the forests of the state and within and around them especially in the south-western region – the major tribes of the state viz. Bhils, Garasias, Damors and Kathodias. The Sahariyas are the inhabitants of Vindhyan and Deccan plateau.

METHODOLOGY

For the data collection detailed ethno-botanical surveys were undertaken between years 2005-2007. Before embarking on trips the localities were carefully selected on the basis of available information on the area to be visited. To collect the data, tribal dominating area like districts Banswara, Sirohi, Udaipur, Chittor Garh, Dungarpur, Sawai Madhopur etc. were surveyed. On the reaching camp rapport was established with the villagers. Ethno-botanical data were collected first-hand through enquiry, observation and interviews with tribal people and their local traditional doctor known as *Gothiya* or *Bhopa*.

Generally two types of interviews were taken,

firstly of individuals and secondly of groups. In case of individuals, persons were selected at random on the way or those entering a hut to find out knowledgeable individuals from the village alongwith the *Gothiya* or the headman. A group of tribals was taken to the forest and specimens of ethno-botanically important species were collected along with notes. During field-work, plant specimens and materials (e. g. roots, bark, fruits, seeds, grains, gum etc.) were collected for herbarium specimens.

RESULTS AND DISCUSSION

Thirty-three plant species belonging to twenty nine genera have been recorded in the present work. Two species from genus *Amaranthus*, *Cleome*, *Cuscuta*, *Leucas* are reported and twenty-five genera are with single species. In all fifty-nine formulations are reported. Uses in medicine found to be dominating with thirty-two formulation followed by vegetable with sixteen. In category like famine food, edible have two formulations each. The remaining categories like green manure, domestic article, fibre, sacred pyre, personal hygiene, anointment and antidote have single formulation each.

Various plant parts or products viz. stem, leaf, inflorescence, seed, root, fruit, rhizome, culm, stamen, juvenile twig, latex, seed oil were found to be employed to make different formulations. Leaves are used extensively followed by whole plant, seeds, juvenile twigs and fruits (Table 1).

In table 2 comparative study of ethno-botanically important weeds with other areas of the country (Jain 1991) showed that twenty-six plants are used similarly or have allied uses. Plants like *Amaranthus caudatus*, *Argemone mexicana*,

Table 1: List of weed plants used in various purposes

Local name	Botanical name	Part used	Purpose/disease	Mode of use
Kanghi	<i>Abutilon indicum</i>	Stem Leaves	Fibre Bleeding piles	For cot. Cooked as vegetable and given.
Andhijhada, onga	<i>Achyranthes aspera</i>	Inflorescence Seeds	Sacred pyre Tonic	Burnt. Powder given with milk.
Safed phool ki	<i>Ageratum conyzoides</i>	Whole plant	Pneumonia	Decoction given.
Chaulai	<i>Amaranthus caudatus</i>	Leaves	Styptic	Paste applied locally.
Jangli chaulai	<i>Amaranthus viridis</i>	Leaves	Vegetable	Cooked.
Pili kateri,	<i>Argemone mexicana</i>	Juvenile twigs	Vegetable	Cooked.
satyanashi		Latex	Conjunctivitis	Applied as soot.
			Dropsy	Rubbed over affected area.
		Seed oil	Skin disease	Applied locally.
		Root	Scorpion sting	Bruised and applied locally.

Table 1: Contd...

Local name	Botanical name	Part used	Purpose/disease	Mode of use
Pyazi	<i>Asphodelus tenuifolius</i>	Leaves	Vegetable	Cooked.
Pamad, punwad	<i>Cassia tora</i>	Leaves	Vegetable	Cooked.
			Throat infection	Eaten raw to avoid infection.
			To increase vision	Eaten raw.
		Mature stem	Basket	Woven directly.
		Seeds	Asthma	Paste mixed with water and given.
Garka,suredi	<i>Celosia argentea</i>	Tender twigs	Vegetable	Cooked
Bhurat	<i>Cenchrus biflorus</i>	Seeds	Famine food	Flour mixed with <i>Pennisetum</i> to make Chapati
Bathua	<i>Chenopodium album</i>	Tender twigs	Vegetable	Cooked
Hulhul	<i>Cleome gynandra</i>	Seeds	Cough	Vapours inhaled.
			Stomachache	Given to horses orally.
Hulhul	<i>Cleome viscosa</i>	Leaf juice	Headache	Applied on forehead with salt
Sankahuli	<i>Convolvulus microphyllus</i>	Whole plant	Laxative	Paste given with water.
			Brain tonic	Paste given with cow's milk.
Kaua ki chonch	<i>Corchorus aestuas</i>	Fruits	Edible	Eaten raw.
			Gonorrhea	Taken orally.
Jhojhru	<i>Crotalaria medicaginea</i>	Whole plant	Tonic	Good fodder for camel.
Amarbel	<i>Cuscuta hyalina</i>	Whole plant	Chest pain	Extract of plant taken.
Amaebel	<i>Cuscuta reflexa</i>	Whole plant	Sprain	Plant boiled in water and tied.
Gwar	<i>Cyamopsis tetragonoloba</i>	Pods	Vegetable	Cooked.
		Whole plant	Manure	Rettled directly in field.
		Grains	Tonic	Given for cattle.
			Sprain	Wetted seeds tied locally.
			Swellings	Wetted seeds tied locally.
Motha	<i>Cyperus rotundus</i>	Rhizome	Tonsillitis	Paste of one rhizome rubbed inwards on tongue.
				Applied paste with turmeric powder.
		Culm	Anoination	Chewed.
		Grains	Snake bite	Flour used for making chapatti.
Makra ghas	<i>Dactyloctenium aegyptium</i>		Famine food	Cooked.
Lesua, Garka	<i>Digera muricata</i>	Young shoot	Vegetable	Cooked.
Rukhdi	<i>Emex spinosus</i>	Leaves	Vegetable	Cooked.
Bekario	<i>Indigofera cordifolia</i>	Whole plant	Tonic	Given to cattle as fodder.
Naadi	<i>Ipomoea aquatica</i>	Leaves	Vegetable	Cooked.
		Young shoot	Vegetable	Cooked.
Chabeni	<i>Lantana camara</i>	Fruits	Edible	Eaten raw
		Twigs	Toothbrush	Chewed.
		Leaf juice	Bleeding piles	Applied locally.
Khumbi	<i>Leucas aspera</i>	Leaves	Vegetable	Cooked with whey.
Khumbi	<i>Leucas cephalotes</i>	Leaves	Vegetable	Cooked.
Kamal	<i>Nymphaea pubescens</i>	Stem	Vegetable	Cooked.
		Root	Vegetable	Cooked.
Nagad bavri	<i>Ocimum americanum</i>	Seeds	Tonic	Powder taken with milk.
		Whole plant	Antidote	Mosquito repellent.
Kulfo	<i>Portulaca oleracea</i>	Tender shoot	Vegetable	Cooked.
Bhata kateri	<i>Solanum virginianum</i>	Ripe fruits	Teeth cavities	Fumes inhaled in mouth.
		Stamen	Cough	Roasted on pan and taken.
Kanti, gokhru	<i>Tribullus terrestris</i>	Plant extract	Urinary stone	Given orally.
		Seeds	Tonic	Prepare laddooes with turmeric, cetechu, dried ginger, seeds of ammi, and <i>Butea</i> gum. Given to mother after delivery.

Table 2: Comparative uses of weeds with other parts, India

Plant name	Part	Use(similar/allied)	Region/State
<i>Abutilon indicum</i>	Seed	Piles	Maharashtra
<i>Achyranthes aspera</i>	Seed	Tonic	Rajasthan
	Root	Pneumonia	West Sikkim
<i>Ageratum conyzoides</i>	Leaf	Antiseptic	Maharashtra
<i>Amaranthus caudatus</i>	Whole plant	Vegetable	Madhya Pradesh
<i>Amaranthus viridis</i>	Leaf, whole plant	Vegetable	Widespread
<i>Argemone mexicana</i>	Latex	Eye complaints	Widespread
	Leaf, whole plant	Dropsy	Madhya Pradesh (M.P.), Eastern Rajasthan
	Latex, leaf	Skin diseases	Maharashtra, Andhra Pradesh
<i>Asphodelus tenuifolius</i>	Seed	Edible	Garhwal Himalaya
<i>Cassia tora</i>	Leaf	Vegetable	Widespread
<i>Celosia argentea</i>	Leaf, tender shoot	Vegetable	Widespread
<i>Cenchrus biflorus</i>	Seed	Famine food	Indian desert
<i>Chenopodium album</i>	Leaf	Vegetable	Widespread
<i>Cleome gynandra</i>	Seed	Cough	Rajasthan, Assam
<i>Cuscuta hyalina</i>	Whole plant	Chest pain	Rajasthan
<i>Cuscuta reflexa</i>	Whole plant	Bodyache, swelling	Dhasan valley, Meghalaya, Uttar Pradesh (U.P.)
<i>Cyamopsis tetragonoloba</i>	Pod	Vegetable	Rajasthan, Gujarat
	Grain	Sprain, swelling	Rajasthan
<i>Cyperus rotundus</i>	Root	Snake bite	Rajasthan
<i>Dactyloctenium aegyptium</i>	Grain	Edible, famine food	West Bengal, Rajasthan
<i>Digera muricata</i>	Leaf	Vegetable	Eastern Rajasthan, Delhi, U.P.
<i>Ipomoea aquatica</i>	Leaf, shoot	Vegetable	North east India, Rajasthan, M.P., U.P.
<i>Lantana camara</i>	Fruit	Edible	Nilgiris, Rajasthan
<i>Leucas cephalotes</i>	Leaf, stem	Chutney, vegetable	West Bengal, Bihar
<i>Nymphaea pubescens</i>	Root stock, petiole, peduncle	Vegetable	Salsette Island, West Bengal
<i>Ocimum americanum</i>	Seed	Tonic	Rajasthan
	Whole plant	Insecticide	Bihar
<i>Portulaca oleracea</i>	Leaves	Vegetable	Widespread
<i>Solanum virginianum</i>	Fruit, seed	Tooth decay	Maharashtra, West Bengal
	Fruit, root	Cough	West Bengal, Rajasthan, Bihar, U.P.
<i>Tribullus terrestris</i>	Fruit	Edible	Kumaon, Rajasthan
	Fruit	Urinary complaint	Gujarat

Cassia tora, *Celosia argentea*, *Chenopodium album*, *Portulaca oleracea* used similarly by various communities within and out side the state. Seeds of *Ocimum americanum* taken as tonic as well as cooling agent by the natives of the state. Grains of *Cyamopsis tetragonoloba* also given to their cattle as tonic. Plants like *Achyranthes aspera* (seeds), *Amaranthus caudatus* (leaves), *Amaranthus viridis* (leaves), *Chenopodium album* (leaves), *Cyamopsis tetragonoloba* (fruits, grains), *Cyperus rotundus* (rhizome), *Ocimum americanum* (seeds), *Portulaca oleracea* (leaves) and *Tribullus terrestris* (seeds) are sold in the markets.

In all 33 plant species have reported ethnobotanical importance. Out them 18 species are used by them to cure 27 ailments 19 species are used for edible purposes as vegetable, eaten

raw or used as famine food. Rhizome of *Cyperus rotundus* used to anoint bride and groom. Comparative study showed that 12 plants are used partial or almost similar ways to cure different diseases as reported from the State of Rajasthan and other parts of India (Jain 1991). 16 plants are used as edible purposes.

CONCLUSION

The tribal of the studied area used weeds in their daily life for example plants like *Amaranthus caudatus*, *A. viridis*, *Cassia tora*, *Celosia argentea*, *Chenopodium album*, *Cyamopsis tetragonoloba* used for edible purposes by the natives and *Achyranthes aspera*, *Argemone mexicana*, *Cuscuta hyalina*, *Cuscuta reflexa*, *Cyamopsis tetragonoloba*, *Ocimum americana*

num, *Solanum virginianum* and *Tribullus terrestris* are used for ethnomedicinal purposes.

With man there are always weeds. They are defined as plants with a harmful value. Weeds take the lion's share of environmental gradients and grow as good competitor in the ecosystem. Most of the weeds did not exist before agriculture. Weeds compete with crops for nutrients, space, light, water etc. and causes yield losses.

However, from the foregoing observations it may be concluded that the tribal and other population groups of the State of Rajasthan used weeds for different uses namely medicinal as well as edible purposes and these are found very useful. However it is well known that weeds have negative value but if they can grow properly can be converted to useful for humankind.

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