ISSN : 0974 - 7532 Volume 6 Issue 10

Trade Science Inc.

Research & Reviews in

BioSciences

Regular Paper

RRBS, 6(10), 2012 [311-316]

Medico-botanical survey of angiospermic diversity in certain grass species of Jambudia Vidi at Saurashtra region-Gujarat, (India)

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Received: 18th August, 2012 ; Accepted: 18th September, 2012

ABSTRACT

Despite the fact that the traditional wisdom about herbal healers was always available to man, the modern science has started taking it seriously only recently even, though a phenomenal growth has taken place in the field of medicinal science since the days of Renaissancde curiously enough, for at least 200 years, serious scientific or pharmacological examination of plant derivatives based on medico botanicals leads was not taken up at the scale at which it should have been taken up by the scientists across the globe. It was only during the later part of the 20th century that the potential of herbal medicine and the real value of the traditional wisdom were appreciated by the world. This delayed response of human civilization to a very obvious area of scientific research were traditional wisdom and mordern technique could join hands to explore the nature for its treasure of medicines is rather inexplicable. The wealth of traditional knowledge about Medico-botany or plant - based medicine was always sufficient to bring in focus the concept of conseruing biodiversity. The phenomenal acceptance of herbal treatments and herbal product promises to the bridge the gap between the traditional plant based medicines and mordern medicine systems. Medico botanicla survey of certain Grass species was under taken to collect Information from rural and local people of Jambudiavidi and their surrounding. These grass species are listed here with their distribution Botanicals and medicinal uses. In Angiospermic diversity grasses are the largest and most important family of the flowering plants. They rank among the top five families of flowering plants in term of the number of Species, but they are clearly the most abundant and important family of the Earth's Flora. Order Graminales and subclass monocotyledons of Angiosperms plant communities dominated by grasses account for about 24 percent of the Earth's vegetation. The paper highlight the importance of grass species of Jambudia vidi. At Saurahstra region - Gujarat. (India).

KEYWORDS

Medico-botanical;
Grasses;
Angiospermic diversity.

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INTRODUCTION

Even today, India with its remarkable floral diversity it one of the twelve mega diversity countries of the world. Besides, it is the meeting point of three Global Realms. The country represents ten bio-geographical zones and 26 biotic provinces. The country has sixteen major forest types. At present, the country's biodiversity is represented by about 81,250 recorded animal species and about 45,000 recorded plant species which includes more than 8,000 species with well-known medicinal values. A respectable part of this biodiversity comprises species which are found only in India. This includes about 1,837 animal species and 5,150 plant species. The plant species which are endemic to India include 4,950 Angiosperms (flowering plants)[1-3].

There is need to fully appreciate the real value of this amazing biodiversity. Inadequate documentation, understanding the general awareness has enhanced the levels of threat which our natural heritage is facing. In addition to a large number of species which might have been permanently lost, about 633 plant species in India are threatened at present which include 33 species which are suspected to have become extinct. About 157 plant species are considered to be endangered or on the verge of extinction. In addition, 114 wild plant species are vulnerable and 246 are rare. One major segment of the floral diversity comprises medicinal flora which has tremendous socio-economic value and cultural relevance in addition to its inherent significance for biodiversity conservation[4-6]. The medicinal flora also symbolizes one of the oldest quests of mankind to meaningfully relate its existence, beyond the basic needs of food and shelter, to the natural resource all around and find curse for various ailments and survive the injuries and diseases[7].

The state is very rich in grasses and has a large number of vast grasslands. In fact, Banni grass land in Kachchh is reported to be the largest natural grass land in Asia. Locally known as *'vidis'*, there large grass lands are present in Kachchh district, Saurashtra region, Panchmahal district and Dahod district[8,9]. Cattle rearing being one of the major occupations in Gujarat, the grasses play a very important socio-economic role in the state. The secondary sources indicate the presence of 238 species of grasses[10].

MAJOR OBJECTIVES OF THE STUDY

(1) To inventorise the medico-botanical Grass species of Jambudia vidi at Saurashtra region - Gujarat.
(2) To document traditional and medico botanical knowledge associated with the Grass plants.
(3) To study pattern of Grass species distribution.
(4) To identify areas rich in Angiospermic diversity of Grass species.
(5) To evaluate conservation status of Medico botanical grass species in study area.

(6) To study the commercially utilized medicinal grass species.

Study area

Location

Physical Location Jambudia Vidi is located Between 22.2969 N and 70.7984 W Longitudes, In Wankaner Taluka of Rajkot district in Saurashtar peninsula.

Bio geographical location

The northern part of Rajkot district adjoining to Surendranagar district is relatively plain with undulating terrain in some of the area. Area of Wankaner Taluka is good grassland and scrub forest. North-East of Wankaner adjoining to them and Halvad is a relatively compact patch of forest in table land with sparse vegetation of Acacia. In Jambudia Vidi is spread over 1952.78 Hectors. Adjoining area 700.34 hectors like Lunsar / Jivapar / Chitrakhada, Rajgadhha are seen.

Revenue status of area

Legal statusA

Revenue status of the area Reserve Forest Protected Forest,Sectional Area (Intension to decdlare) Unclassed Area

No.	Village	Total Area
1.	Jambudia	1951.78
2.	Lunsar / Jivapar	404.09
3.	Chitrakhada	59.09
4.	Rajagadh	60.70
	Total	2476.26

Boundaries

A compact patch of 3176.60 hectare in Wankaner taluka adjoining to Halvad and Than taluka at Surendranagar district in the following villages.

ENUMERATION

Medico botanical survey during 2010-2012 was made in Jambudia vidi. It mainly covering five area to collect. During present study 12 medico-botanical Grass species claims were documented. These claims are enumerated according to their botanical name - local name, family Description and utilization.

***Apluda mutica* L. (Ponai)**

Botanicals

0.45 - 1.5 cm tall, erect or geniculatley ascending at base, perennial herbs, densely tufted. Spikelets 3 per raceme, 1 sessile and 2-pedicelled, greenish-yellow. Flowers and fruits occur during August to December.

Medicinal uses

It is considered to be a good fodder for buffaloes when it is young, but it is discarded if other more etable grasses are available. whole plant used in the treatment of mouth ulcers.

***Cenchrus ciliaris* L. (Dharma / Anjan ghas)**

Botanicals

40-50 cm tall, slender, parennial, tufted herbas, the sheaths of which are often woolly. Spikes 6-10 cm long, terminal, solitary, at first green, then pale-brown and at times pale to deep violet to greyish-brown. Flowers and fruits occur during July to January.

Medicinal uses

It is considered to be a most nutritious among fodder grasses. It is a excellent fodder, especially for horses and farm animals. It is said to increase the flow of milk in milking animals. The grass is good soil binder.

***Chloris barbata Sw.*(Shiyal punch/Mindadiu)**

Botanicals

30-50 cm tall, tufted, perennial herbs,with a creepeing base, Spikes 5-12 in numbers, 1.2-10 cm long, sub erect, violet purple, on drying pate-straw. Spkelets green or red-purple, arranged in rows, unilateral on axis. Flowers and fruits occur during July to April.

Medicinal uses

It is good fodder in pre-flowering stage. Cattle do not like it in later stages. This grass is not considered useful for silage or for hay. It is used to treat indigestion.

***Cynodon dactylon* (L.) Pers. (Durva/Dharo)**

Botanicals

10-3 cm tall, perennial, creeping with slender erect culms. Spikes 2-5 in numbers (sometimes 6-8), 1-5-6.2 cm long, digitate, spreading or recurved, often purplish. Flowers and fruits occur throughout the year.

Medicinal uses

It is esteemed as a lawn grass in the country. Horses are particularly fond of this grass. It is considered to be a good soil binder. Leaves used to treat eczema. Roots used in urinary disorders. The expressed juice is applied to bleeding cuts and wounds.

***Dactyloctenium aegyptium* Beauv. (Makra)**

Botanicals

10-15 cm tall, annual, erect, suberect or basally geniculately ascending herbs. Spikes 3-7 in numbes, 2-3.5 cm long, digitately arranged, equal or uniqual, terminal; spikelets light to dark-olivaceous-green, at times tinged purple or completely purple. Flowers and fruits seen all the year round.

Medicinal uses

The plants are dangerous to stock at certain stages of plant growth it is used externally in the treatment of ulcers, wounds and as vermifuge. A decoction of the grain is pains in the region of the kidney.

***Desmostachya bipinnata* (L.) Stapf. (Darbh)**

Botanicals

Desmostachya bipinnata (Darbh) 40-6 0 cm tall, rigid, tufted, perennial herbs. Panicles 10-30 cm long, narrowly pyramidal or columnar, often interrupted.

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TABLE 2 : Result table list of medico botanical gross specises of Jambudia Vidi

Sr. No	Scientific Name	Family	Local name	Habit	Habitat	Zonal distribution			
						Jambudia I	Jivapar	Chitraghada	Rajgadha
1.	*Apluda mutica* L.	Poaceae	Ponai	Herb	W	⓾	⓾	⓾	⓾
2.	*Cehchrus cillaris* L.	Poaceae	Anjanghas	Herb	W	⓾	⓾	⓾	⓾
3.	*Chloris barbata* Sw.	Poaceae	Mindala	Herb	W	⓾	O	⓾	⓾
4.	*Cynodon dactylon (L.) pers.*	Poaceae	Durga	Herb	Or	⓾	⓾	⓾	⓾
5.	*Dactyloctenium aegyptium* Beauv.	Poaceae	Makra	Herb	W.	O	⓾	⓾	⓾
6.	*Desmostachya bipimnatta* (L.) Stapf.	Poaceae	Darbh	Herb	W + Cu	⓾	⓾	⓾	⓾
7.	*Eleusine compressa* (Forsk.) Ascher Fsch	Poaceae	Fatelu	Herb	W	⓾	⓾	⓾	⓾
8.	*Eragostic cillaris (L.)* R. Br.	Poaceae	Murmur	Herb	W	⓾	⓾	⓾	O
9.	*Eragostic tenella* (L.) P. Beauv.	Poaceae	Kaliya	Herb	W	⓾	⓾	⓾	⓾
10.	*Heteropogon Contortus* (L.) P. Beauv.,	Poaceae	Dabhsalyan	Herb	W	⓾	⓾	⓾	⓾
11.	*Dichanthium annulatum* (Forsk) Stapf.,	Poaceae	Zinzvo	Herb	W	⓾	⓾	⓾	⓾
12.	*Themeda cymbaria* Hack.	Poaceae	Ghas ni Jat	Herb	W	⓾	⓾	⓾	0

Spikes 1-1.5 cm long ; spikelets 0.3 cm long, sessile, biseriate, green, often tinged violet-purple or whole panicle violet-purple. Flowers and fruits seen throughout the year.

Medicinal uses

The plant is an excellent sand binder, It is used as raw material for paper manufacturing, for thatching and rope making. It is also considered for remedy of cough, asthma, vomiting, obstructed urination, hepatitis and leucorrhoea. Culms used to treat dysentery.

Eleusine compressa (Forsk.) Ascher & Sch. (Fatelu)

Botanicals

Propstrate, long spreading, proliferously branched perennial herbs, with thickened, leafy nodes. Spikes 3-6 in numbers, 1-5-2.5 cm long, Spikelets 0.2-0.3 cm long. 4-6 flowered Flowers and fruits seen during July to November.

Medicinal uses

It is graze by cattle and used for making hay. Good fodder for cattle and horses.

Eragrostic ciliaris (L.) R. Br. (Murmur)

Botanicals

10-4 cm tall, annual, tufted, erect or basally geniculate, glabrous herbs. Penicles 3=-7 cm long, more or less lobed or interrupted. Spikelets 0.2 cm long, densely aggregated 6-12 flowered, very pale, as broad as long, strongly compressed, ovate, pale-greenish-white or straw-coloured. Flowers and fruits seen during October to January.

Medicinal use

It is used as a fodder grass. The straw is also used for matting and thatching.

Eragrostic tenella (L.) P. Beauv. (Kaliyu)

Botanicals

It is usually a small, very elegant, 10-30 cm tall, erect or suberect, slender, geniculate annual herb. Panicles excessively branched, 10-15 cm long, pale-green or purplish. Spikelets oblong, pale-green, often tinged. Flowers and fruits seen throughout the year.

Medicinal uses

The grass is eaten by cattle, both green and hay. It is said to be nutritious :

Heteropogon contortus (L.) P. Beauv. (Dabhsuliyan)

Botanicals

60-75 cm tall, perennial tufted erect or basally geniculate, slender herbs. Spikes with the lower 2-6 pairs of spikelets. Spikelets 0.3-0.5 cm long, close imbricate, sessile, pubescent, dark-brown. Flowers and fruits see during July to January.

Medicinal uses

It is highly esteemed as a fodder and it can also be made into hay, but when the awns are formed it is

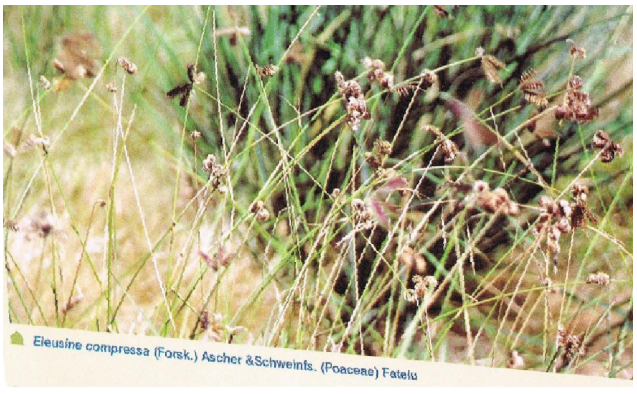
avoided by the stock. Culms of the grass are used for thatching; they are also sometimes woven into mates. Roots are used to treat rheumatism and used as diuretic and stimulant.

The grass is eaten by cattle, both green and hay. It is said to be nutritious.

Dichanthium annulatum (Farsk.) Stapf (Zinzvo)

Botanicals

Perennial, 30-45 cm tall, slender, tufted, erect, suberect or basally geniculate herba. Leaf margin scrabid, sheath bearded at the tip. Spike 2.5-6.2 cm, pinkish or nearly white. Flowers and fruits seen during



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all the year round.

Medicinal uses

It is highly esteemed among the wild fodder grasses. Cattle eat the grass largely both when it is young and in flower.

Themeda cymbaria Hack. (Ghas ni Jat)

Botanicals

Perennial, 09-2 m tall, erect, branched, smooth herbs. Panicles 30-60 cm long, involucral spikelets 0.4 - 0.6 cm long. Flowers and fruits seen during August to October.

Medicinal uses

It is a coarse grass eaten by cattle, also fit for hay.

Note : W=wild, Cu=cultivated, Or Ornamental

Zone = I = Jambudia (II) Jivapara (III) Chitrakhada (IV) Rajgadha

ACKNOWLEDGEMENT

Author express their sincere thank to the local people of the area of providing valuable information about grasses. Author are also thankful to the I.F.O. Shri L.J.Parmar sir for providing necessary facilities and valuable suggestions.

Lastly Author are very much Thankful to Biology Dept, Management and Principle of Shri M. N. Virani Science College - Rajkot. For providing support during my visits to "Jambudia vidi".

REFERENCES

[1] K.S.Ahluwalia; Medicinal plants of Jamnagar 1 and 2, Nagarjun, **73-74**, 461-477 **(1964-65)**.

[2] D.C.Bhatt, S.K.Mehta, K.D.Mitaliya; Ethonomedicinal plants of Shetrunjaya Hill of Paltana, Gujarat **(1999)**.

[3] Bole,Pathak; Flora of *Saurashtra*, Botanical Survey of India, Calcutta, **1-2**, 545 **(1988)**.

[4] R.N.Chopra; Indigenous drug of India**,** Drug Research Laboratory, Jammu-Kashmir, 816 **(1932)**.

[5] M.J.Desai; A Contribution to the flora of Bansda Forests, Ph.D.Thesis, **(1976)**.

[6] M.C.Joshi; Pharmaceutically important medicinal plants of Gujarat forests, Bull.Medico-Ethno Bot.Res., **10(4)**, 372-373 **(1988)**.

[7] J.K.Maheshwari, (Ed); ethnobotany and medicinal plants of indian subcontinent, Scientific Publishers (India) Jodhpur, **(2000)**.

[8] R.I.Patel; Grasses of Gujarat, State.Ind.Forst., 309-340 **(1965)**.

[9] A.S.Reddy; Flora of Dharampur forest-S.P. University Vallabh Vidyanagar **(1987)**.

[10] G.L.Shah; Flora of Gujarat state, S.P. University Publication, V.V. Nagar, **1-2**, **(1978)**.