Research Article

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DOCUMENTATION OF ETHNOVETERINARY MEDICINAL FLORA OF BALAGHAT DISTRICT, MADHYA PRADESH, INDIA

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ABSTRACT

This paper documented the ethno-veterinary studies carried out during 2013-2015 in the two forest divisions of Balaghat district of Madhya Pradesh. It is rich in ethnic and biological diversity. A large number of ethnic groups such as Baiga, Gond and Korku inhabit in this district and utilize wide variety of plant resources for food, fodder, fiber, and medicine. Therapeutic application of 46 plant species has been belonging 37 genera and 33 families. The result of this study show that tree species contributed the maximum having 43% followed by herbs 26%, shrub 24% and climber 7% of the total medicinal plants. These plants are used for a wide range of ailments such as fever, diarrhea, and bone fracture, treat infections with parasitic worms, and enhance the milk, snake bite. Most of the plant parts are harvested from the wild and majority of the preparation are paste. Leaves represent the most usable part. It has been observed that the species that are scarce locally in the forest due to various developmental activities, deforestation, over-exploitation are abundant in the ethnoveterinary information on medical claims was collected from the elderly people residing in the villages of forest area and also from the traditional healers called Vaidhya, Baigas etc. The study describes details of botanical identity, family, local name, parts of the plant used, therapeutic uses, and mode of application of the drug.

Keywords: Balaghat district, Ethno-veterinary, Medicinal flora, Therapeutic uses.

INTRODUCTION

Traditional medicine plays an important role in health care of India. The recipes used in the traditional medicine of India have been handed down from the forefathers by oral tradition and this as disappeared from our modern society. The tribal people live in remote areas, which remain cut off from main centers of civilization for many months at a stretch. They have to depend on the forest for their needs especially for food and medicine. These people are very knowledgeable about the use of plants against various diseases. The tribal use the plants in a different effective and novel manner [1].

Balaghat district is situated in the south-easternmost part of Madhya Pradesh and lies in between north latitude 21°30' and south latitude 21°20’ and 79°30' west longitude and 81°5' east longitude. The total geographical area of the district is 9229 sq. kms. Out of which the urban and rural areas are 15% and 85% respectively. The Balaghat have a great wealth of medicinal plants and traditional medicinal knowledge. It possesses unique flora, with preserved naturalness to a very high extent, rich of wild medicinal plants, representing 70% of the species of these natural resources in Madhya Pradesh.

The forest of the Balaghat predominant by consists of tropical dry mixed deciduous type. Since times immemorial, it is famous for Copper and Manganese mines and dense forest of Madhya Pradesh. Large number of ethnic groups like Gond, Baiga, *Korku* reside in Balaghat forest area and utilize a wide variety of plants for food, fodder, fuel, medicine, dye, gum, tannin, thatching, household and farming implements. It has been observed that the species that are scarce locally in the forest due to various developmental activities, deforestation, over-exploitation are abundant in the ethnoveterinary information on medical claims was collected from the elderly people residing in the villages of forest area and also from the traditional healers called Vaidhya, Baigas etc. However, the young generation is not interested to hold this invaluable traditional knowledge transmitted orally from generation to generation.

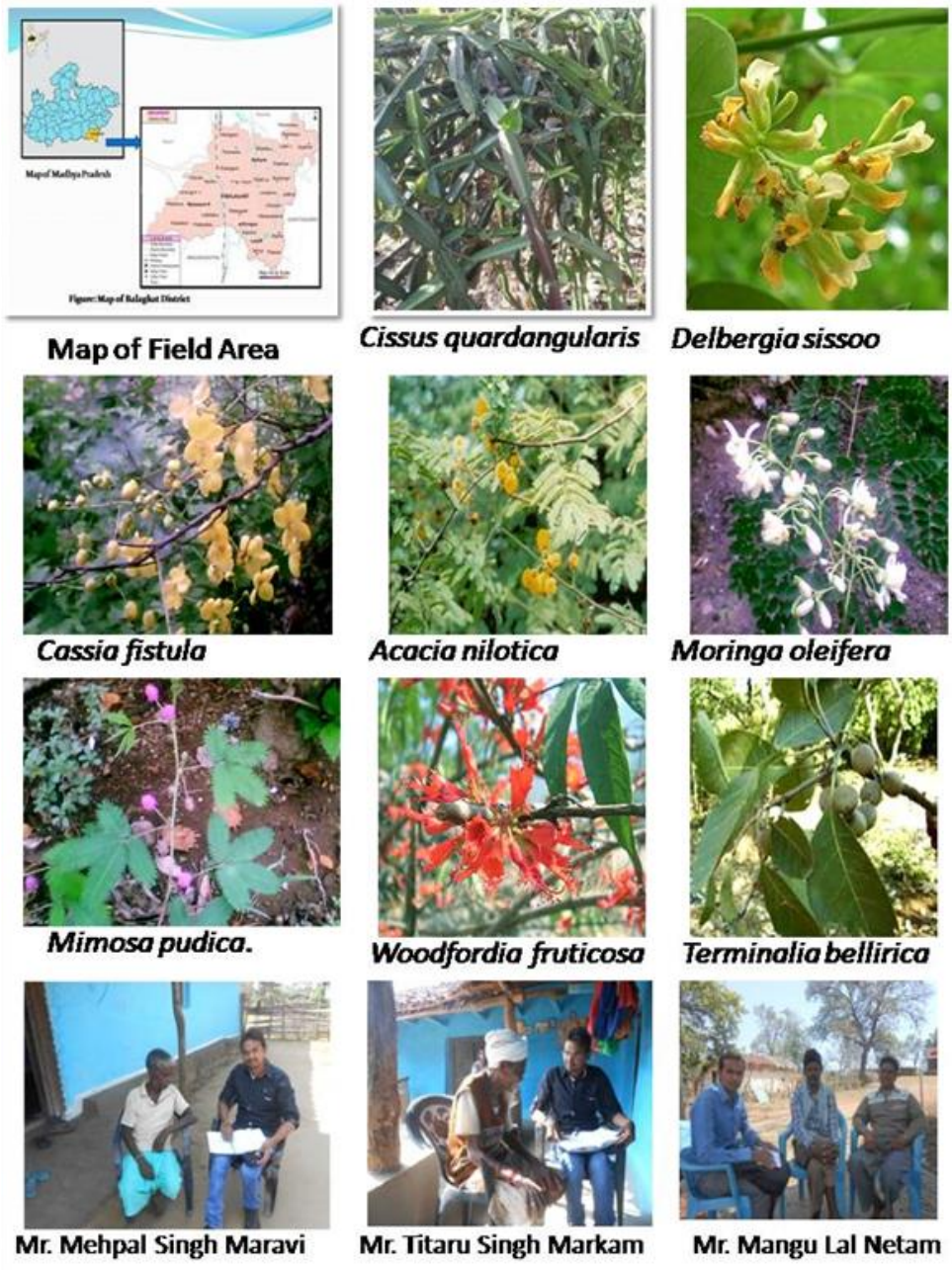
Some Ethnoveterinary work in India was done by various authors and scope, importance and methodology of this field have been out lined and studied were carried out in different parts of India by various workers as Jain, 1965; Karthickeyan, & Gajendran, 2005; Sikarwar & Kumar, 2005; Pandit, 2010; Singh, *et al*., 2011; Devendra & Anbazhagan, 2012; Kumar & Bharti, 2012; Pragada & Rao, 2012; Boonmasawai, 2012.

The main aims of current research work were: to investigate the ethno- veterinary medicinal knowledge of tribal people of survey area of Balaghat district; to enlist the native medicinal plants used by ethnic people for common day ailments; to make awareness among the local community about the protection of native medicinal flora; and to collect native medicinal plants of the area for proper identification and future references. Therefore, before this traditional knowledge is lost forever it must be documented properly.

MATERIALS AND METHODS

An ethno-veterinary medicinal plant study was carried out in North as well as South division of Balaghat which consist ranges namely east and west Baihar, East and West Ukwa, North and South Lamta, Birsa-Damoh, Katangi, Waraseoni, Balaghat, Lalbarra during 2013-2015. The first-hand information on ethno-veterinary uses of plants, viz. mode of preparation, administration/application, dose, and folklore medicinal information was gathered through personal interviews with Vaidyas, sadhus, baigas, hakims, gonds, tribal and experienced old men[6,13] name of healers Mr. Mehpal Singh

Maravi (Village Jalda, Birsa), Mr. Manglu Lal Netam (Village Salhewara), Mr. Titaru Singh Markam (Village Jalda). The identity of collected specimens was confirmed with the help of local tribal and vaidhya in term of locality and also plant specimens were identified from available herbarium (Dr. Hari Singh Gour University, Sagar (MP) by herbarium assistant Dr. Pradeep Kumar Tiwari, department of Botany, Dr. H.S. Gour University, Sagar; regional and local floras and other literatures [5-10, 12, 15, 18-20, 22, 24-26]. Ethno-medicinal inventory was developed consisting of botanical name followed by their local name, family, habit, part used and ethno-medicinal uses.



RESULT AND DISCUSSION

In the study, 46 plant species belong to 37 genera of 37 families have been recorded (Table 1). The ethnic healers use locally available plant species for the treatment of livestock aliments and diseases. Out of total reported species, family Leguminosae (Fabaceae, Caesalpiniaceae and Mimosaceae) is dominant which have 9 species followed by Acanthaceae, Euphorbiaceae, Liliaceae, Moraceae, Solanaceae, and Combretaceae which have 2 species while rest families have single species. Out of the 46 medicinal plants, 20 species belong to trees, followed by 12 herbs, 11 shrubs and 3 climber species (figure 1). Recorded species used for various ailments such as Wounds, abdominal disorder, bloat, bone fracture, cough, diarrhea, snake-bite, dog-bite, headache, toothache, laxative, diuretic, diabetes, skin diseases, piles, wounds, fever and inflammation. According to the study, the majority of the remedy preparations, leaves is the most plant part used with 18 species (33%) fallowed by root 9 (16%), Seeds and fruits each 6 species (11-11%), bark 5 (9%), whole plant 4 species (7%), flower 3 species (6%), latex 3 species (6%), and stem single species (2%) respectively (Figure 2).

Table 1: Medicinal plants used to cure cattle diseases

S. No.	Botanical Name	Common Name	Family	Habit	Part used	Disease	Preparation
1	*Abrus precatorious* L.	Rati, Gunja	Fabaceae	Climber	Seed	constipation	Paste of seeds is given to the animal once in a day for relief in constipation and easy expulsion of placenta after delivery.
2	*Abutilon indicum* (L.) Sweet	Kanghii	Malvaceae	Shrub	Seed & Leaves	Haematuria	Paste is given to the animal along with fodder to cure haematuria.
3	*Acacia nilotica* (L.) Del.	Bamoor	Mimosaceae	Tree	Flower	jaundice	Flower powder of this plants mixed with water is given orally to animal twice a day to cure jaundice.
4	*Achyranthes aspera* L.	Chirchita	Amaranthaceae	Herb	Leaves, flower	Wounds, Anthelmintic	Paste of leaves is mixed in butter and is applied to wounds to prevent myiasis. The flowers are used as an anthelmintic in cattle. .
5	*Acorus calamus* L.	Bach	Araceae	Herb	Root, rhizome	Wounds, Indigestion	Paste of root and rhizome is used two times in a day to treat indigestion in livestock. Rhizome paste is used as ointment on wounds.
6	*Adhatoda vasica* Nees.	Adusa	Acanthaceae	Shrub	Leaves	Cough	Grind Mixer decoction of *Adhatoda vasica* leaves with *Tylophora indica*, *Aloe barbadensis* and *Pepper nigrum* leaves given to cure cough.
7	Aegle marmelos (L.) Correa.	Bel	Rutaceae	Tree	Fruit	Prevent premature delivery	Fruit pulp of *Aegle marmelos* is given with *Putrangiva roxburghii* & *Celastrus paniculatus* leaves mixed with cotton seed cake for Prevent premature delivery.
8	*Ailanthus excels* Roxb.	Mahaneem	Simaroubaceae	Tree	Leaves	Fever	Decoction of leaves is used in ague (malarial fever) in cattle.
9	*Albizia lebbeck* (L.) Benth.	Kala siris	Mimosaceae	Tree	Latex	Eye problem	Milk of goat mixed with latex of plant, is used as eye drops to cure conjunctivitis.
10	*Aloe vera* L.	Gwarpatha	Liliaceae	Herb	Leaves	Wounds, Swelling of feet	Leaf pulp mix with turmeric powder and apply over wound for healing.
11	*Andrographis paniculata* L.	Bhui neem	Acanthaceae	Herb	Leaves	Fever	Leaves of *Andrographis paniculata* with seed of *Brassica compastris*, & *Curcuma langa* are ground to get a decoction and applied for fever.
12	*Annona squamosa* L.	Sitaphal	Annonaceae	Tree	Leaves	Wounds	Leaf paste applied for cure to maggot wound.
13	*Argemone mxicana* Linn.	Pili kateli	Papaveraceae	Herb	Seeds	AnthelminticWounds	Seeds oil used for anthelmintic. Latex applied for wounds.
14	*Asparagus racemosus* Wild.	Narbod bela	Liliaceae	Herb	Root	Increasing the milk	Root is fed to animal for increasing the milk production.
15	*Azadirachta indica* A. Juss.	Neem	Meliaceae	Tree	Leaves, Bark	Fever, Diarrhoea	Leaf juice is given for treat to fever. Bark decoction is used in cure diarrhea.
16	*Bauhinia racemosa* Lam.	Asto	Caesalpiniaceae	Tree	Root	Wounds	Pieces of root cutting hang around neck for prevent of maggot wound.
17	*Bombax ceiba* L.	Semal	Bombaceae	Tree	Bark	Bone fracture	Bark paste applied in fractured bone, plastered with *Bombusa arundinaceae* strips and tied with the help of fallen human hairs dipped in mustered oil.

18	*Butea monosperma* (Lam.) Taub.	Parsa	Fabaceae	Tree	Bark	Fracture	Crushed bark paste used in fracture.
19	*Calotropis procera* (Aiton) Dryand.	Aak	Asclepiadaceae	Shrub	Root, Latex	Wounds, Inflammation, Snake bite, Dog bite, Paralysis	Latex is applied in areas to relieve inflammation and Snake bite to neutralize poison. The root powder is mixed with butter and this ointment is applied to rabid Dog bite and paralyzed limbs.
20	*Cassia fistula* L.	Dhanbaher	Caesalpiniaceae	Tree	Bark, Stem	Fever, Snake bite	Stem bark is ground with pepper and garlic and the mixture is given to cure fever. Juice of stem is given orally in case of snakebite.
21	*Cassia tora* L.	Charota	Caesalpiniaceae	Herb	Seed	Increasing the milk	Seeds crushed and are soaked in water for overnight and given to increasing the milk production.
22	*Centella asiatica* (L.) Urban.	Bramhi	Apiaceae	Herb	Whole plant	Increasing the milk	To increase milk production whole plant (Leaves) are used.
23	*Cissus quardangularis* L.	Harjor	Vitaceae	Climber	Whole plant	Bone fracture	Paste of plants applied in bone fracture.
24	*Cleome gynandra* L.	Hulhul	Capparidaceae	Shrub	Leaf	Wounds	Leaf paste is applied to treating wounds.
25	*Cuscuta reflexa* Roxb.	Amarbel	Cuscutaceae	Climber	Whole plant	Bone fracture	Paste of plants applied in bone fracture.
26	*Datura metal* L.	Datura	Solanaceae	Shrub	Fruit	Cough, Fever	Fruit is immersed inside the Ragi balls and given to treating cough and fever.
27	*Delbergia sissoo* Roxb.	Shisham	Fabaceae	Tree	Leaves	Indigestion	Decoction of leaves is given for cure to indigestion.
28	*Emblica officinalis* Gaertn.	Amla	Euphorbiaceae	Tree	Fruit	Abdominal disorders	Dry fruits pieces mixed with fodder for treating Abdominal disorder.
29	*Ficus benghalensis* L.	Bar	Moraceae	Tree	Latex	Wounds	Latex is applied on the affected parts.
30	*Ficus religiosa* L.	Peepal	Moraceae	Tree	Bark	Foot and mouth disease	Decoction of bark is giver to cure foot & mouth diseases.
31	*Helicteres isora* L.	Aithi	Sterculiaceae	Shrub	Root	Diarrhea	Infusion prepared from root is given orally to treat diarrhea.
32	*Hemidesmus indicus* R.Br.	Anantmool	Apocynaceae	Herb	Root	Increasing the milk	To increase milk production whole plant (Leaves) are used.
33	*Mimosa pudica* L.	Chuimui	Mimosaceae	Herb	Root, Leaves	Inflammation, Wounds	Making Leaves juice with *Curcuma longa* & lime together and smeared on the affected.
34	*Madhuca indica* J.F.Gmel.	Mahua	Sapotaceae	Tree	Flower	Retention of placenta	Flowers are mixed with rice and given to the animal in case of retention of placenta.
35	*Moringa oleifera* Lam.	Munga	Moringaceae	Tree	Leaves	Swelling	Leaf paste is applied on area of swelling.
36	*Nyctanthes arbor-tristis* L.	Parijaat, Harsingar	Oleaceae	Shrub	Leaves	Fever	Decoction of leaves giver orally to cure fever.
37	*Plumbego zeylanica* L.	Chitrak	Plumbaginaceae	Shrub	Whole plant	Skin disease	Prepare the paste of plant and applied on skin around affected area.
38	*Ricinus communis* Linn.	Arandi	Euphorbiaceae	Shrub	Seeds, Leaves	Impaction of rumen, Intestinal worms.	Oil is mixed with decoction of *Alhaji camelorum* leaves and thorns and is given to cattle suffering from severe impaction of rumen. Leaf decoction in water is given to expel intestinal worms.
39	*Semecarpus anacardium* L.f.	Bilva	Anacardiaceae	Tree	Fruit	Infertility	Fruits are fed to the animal in case of infertility.
40	*Sida acuta* Burm. f.	Balaa	Malvaceae	Herb	Leaves	Wounds	Leaf paste of *Sida acuta* and *Azadirachta indica* are applied on cut wounds.
41	*Solanum nigrum* L.	Makoy	Solanaceae	Herb	Leaves, Fruits	Fever	Decoction of Plant parts are given orally to cure fever.

42	*Terminalia bellirica* (Gaertn) Roxb.	Bahera	Combretaceae	Tree	Root	Wounds	Pieces of root cutting hang around neck for prevent of maggot wound.
43	*Terminalia chebula* Retz.	Harra	Combretaceae	Tree	Seeds	Bloat	Seeds powder mixed with *Tamarindus indica* in water and making juice and juice is given orally for bloat.
44	*Vitex negundo* L.	Nirgudi	Verbenaceae	Shrub	Leaves, Root	Wounds, Diarrhea	Warmed leaves used as bandaged on old wound. Decoction of *Vitex negunda* with *Cassia ariculata* is ground and giver orally to treating diarrhea.
45	*Woodfordia fruticosa* (L.) Kurz.	Dhawai	Lythraceae	Shrub	Leaves	Wounds	Pieces of root cutting hang around neck for prevent of maggot wound.
46	*Ziziphus jujube* Mill.	Ber	Rhamnaceae	Tree	Fruit	Cough, fever	Fruits of *Zizyphus jajuba* with *Allium cepa* are ground and mixed with hot water and given orally for cough & fever.

The utilization of wild medicinal plants as medicines is wide spread in this region with higher percentage of the rural as well as non rural inhabitants relying on it. It may be because of lack of awareness; bashfulness and shortage of modern medical facilities in the region and the high cost of modern medical system for treatment are unaffordable by tribal[7]. The knowledge of traditional medicine was transmitted from one generation to another generation. Villagers make use of this traditional knowledge, against various ailments to treat their suffering animals. Today there is no unique treatment for a particular type of cattle, same healing is applied to different animals but the dose depends on body weight of the animals[4]. The observation of current study highlighted that traditional medicine plays a significant role among the ethnic people of Balaghat.

CONCLUSION

Present study reports of ethnoveterinary medicinal plants of Balaghat district based on questionnaire of ethnic people have listed. These remedies are helpful to cure several chronic diseases. The list of folk veterinary medicinal plants and their utilization for treating various ailments will provide basic data for further studies aimed at conservation of indigenous knowledge, cultivation of traditional medicines and preparation of novel drugs.

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