



Ethnobotanical Survey of Markanda Forest Range of Gadchiroli District, Maharashtra, India

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ABSTRACT

This paper aims to investigate medicinal and other useful plants used traditionally by the Gond and Madiya community. Reports from plant informants were obtained during field studies in January 2013 to January 2014. For each species are given the botanical name, local name(s), medicinal uses, as well as plant part (s) used, and other uses with method of preparation. A total of 50 species of plants were recorded and collected during this surveys. The popularity of plants with traditional uses among the tribale peoples is fading due to migration, restriction from religion and dependence on modern medicine for the therapy. Use of forests land for agricultural development and timber harvesting makes the resource scarce which is also contributing to the loss of knowledge. Awareness activities in Gadchiroli district among tribal peoples on the usefulness of medicinal plants have contributed significantly towards the preservation of old traditional knowledge of medicinal plants.

Keywords: Medicinal plants, Markhanda. Ethnobotany.

INTRODUCTION

Man has been using plants from ancient time and research workers are constantly brings to light additional information on the relationship between plants and man. The theme of ethnobotany or folkloric botany reveals interrelation of plants and man¹⁸. Plants have played a key role in day-to-day life support system of

human beings from times immemorial¹⁴. The present demand to gather knowledge and information of natural resources for their scientific and economic exploitation for various uses, the need of assessing ethnobotanical information has received special attention and thus urgent need of afresh study to be conducted to know ethno-

medicinal practices. Plants are an important source of traditional medicine for the treatment of various diseases³. It has been estimated that herbal medicines are used by more than 80% of the world's population in developing countries to meet their primary healthcare needs²². In Gadchiroli district especially in backward areas the available modern healthcare services are either insufficient or inaccessible and unaffordable to the majority of people. In addition, due to illiteracy and economic status most of the population is dependent on traditional phytomedicine to cure various ailments. As the country has diverse socioeconomic, ethnic and cultural areas, as well as unique biodiversity and knowledge of indigenous medicinal plants and their use in treating human ailments might reasonably be expected.

Gadchiroli district is situated on the North-Eastern side of the Maharashtra State in country India & is well known for dense forest; having State borders of Andhra Pradesh and Chhattisgarh. The district is covered with hills and forests and is considered as a tribal area. The District falls under assured and heavy rainfall zone. The rains are mainly received from South-West monsoon. The average rainfall is 1562 mm²⁵. The climatic conditions are extreme with temperature reaching 47.3oC in Summer & 9.4oC in Winter. The District is blessed with huge forest and mineral resources. The forests are Predominantly in Etapalli, Aheri, Dhanora, Korchi, Kurkheda, Sironcha and Bhamraged blocks. The forests are rich in Teak, Ain, Tendoo, Dhavada, Anjan, etc. Ain and Anjan are suitable for rearing Tussar silk worms. Similarly various plants having great medicinal values is available in large quantity and the climatic condition supports the development of these plants. The present work has been undertaken to identify the medicinal plants and their part

used as medicine and the method of preparation.

STUDY AREA

The present work was carried with the tribal community of Gond, Madiaya located in villages of Markanda, Rengewahi, Malera, Bamanpet, Adpalli, Chandankhedhi and Rampur in Markanda forest region. The Gadchiroli district which covers the total area of about 14412 Sq. Kms.

METHODOLOGY

Regular field surveys were carried out in the Markanda forest range from January 2013 through January 2014 in order to document the habitats and indigenous uses of ethnomedicinal plants of the forest valley. The surveys were carried out at different seasons so as to obtain identifiable plants and multiple information and also to cross-check the information provided by the local informants during earlier visits. We interviewed a small group of chiefly elder people of both Gond and Madiya tribes who were highly esteemed in their societies due to their sound knowledge of medicinal plants. Structured questionnaires, formal and informal interviews and participatory observations were used to inquire about vernacular names, used plant parts and the process of remedy preparation. This kind of information about medicinal plants indicates how a given medicine can be therapeutically efficient in terms of the right ingredients, the proper dose and right duration of medication. According to tribal peoples their knowledge of folk medicine was acquired mainly through parents and experience about medicinal value of plant to heal them. The scientific name and species were identified using relevant and standard literature¹⁹.

RESULTS AND DISCUSSION

The following is the list of some important medicinal plants found in the Markhanda forest range along with their Local name(s), family, distribution, parts used and ethno-medicinal uses. The present study records 50 species of ethno- medicinal plants representing 35 families. (See Table 1 & Fig 1).

The present study was aimed to investigate the plants used by the local and tribal peoples of villages for their medicinal values. During the present investigation 50 different plants species representing 35 families used for a medicinal purposes by local and tribal peoples. Knowledge regarding the occurrence and availability of selected species was obtained from the local people through participation either by interview or workshop. Semi-structured interviews were carried out. A brief information including botanical name, family, local name, parts used and their medicinal value by the tribal peoples is given in Table No.1. The tribal villagers are using these plants to cure many diseases like Blood purifier, Anti-pregnancy, Urinogenital disorder, Menstrual disorder, Hypertension, Cough, Diarrhea, Dysentery, Wound healing, Diabetes, Jaundice, Sunstroke, Fever, Skin diseases etc. These people use to prepare the plant product as decoction, oral treatment, ointment etc. The extracts and the paste are the two main source of methods for treatments of diseases. However, the use of a particular plant part depends on the plant habit and user's needs. The most frequently used plant parts in the preparation of herbal remedies were leaves (24%), followed by fruit (28%), roots (9%) rhizomes (1%), and whole plants (7%). Seeds (10%), flowers (6%), bark (10%), gum (2%), latex, culms and bulbs (1% each) have also been used. Fig. (1). The use of specific plant parts for the treatment suggests that these parts have strongest medicinal properties but it needs confirmation of biochemical analysis and

pharmaceutical screening to cross-check the local information. Our findings of the frequent use of green leaves and fruit in the preparation of remedies corroborate the results of^{12,15,4}. Liquids part such as water, juices, jaggery, tea, honey, mustard oil, ghee (butter) and milk are mixed with plants or plant parts during the preparation of the remedies. The prepared remedies are mostly administered orally (77%), less frequently dermally (10%) or both orally and dermally (12%). Only 1% is administered through ears or eyes. The number of researcher work and studied on ethnomedicinal plants in Maharashtra and other states of India.^{1,2,5,7,8-11,13,16,20-22}

The ethnomedicinal plants are under threat due to deforestation, overgrazing and their neckless utilization. It indicates the urgent need of their conservation for sustainable development^{6,4}.

CONCLUSIONS

The Forest range in Gadchiroli district is very rich in commercially and pharmaceutically important ethnomedicinal plant species. The traditional healers have old knowledge regarding the uses of the plants, and the locals use these species in a traditional way for curing a wide spectrum of diseases. Few species were found to be under threat probably due to over collection. Especially perennial woodland herbs with rhizomes are of conservation concern. The local inhabitants depend on plants for the treatment of diseases but not all are familiar with the proper collection, parts to be used, preservation and storage. In contrast, local traditional healers are familiar with proper collection and use of medicinal plants, and they should be involved in efforts of conservation and sustainable use of ethnomedicinal plant resources.

ACKNOWLEDGMENT

Authors are thankful to the Forest officials of Markanda forest range and the local people of the village for the information.

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Table 1. Some important medicinal plants found in the Markhanda forest

S. No.	Family	Botanical name	Local name	Part used	Uses/Diseases
1	Tiliaceae	<i>Grewia hirsute</i>	Ghoturli	Root	Heart disease, cough, wounds and dyspnoea (root)
2	Hypoxitaceae	<i>Curculigo orchiodes</i>	Kali-musli	Root	Aphrodisiac and adaptogen, hepatoprotective
3	Fabaceae	<i>Cassia tora</i>	Tarota	Leaves	Diabetes
		<i>Pithecellobium dulce</i>	Chich bilai	Fruits	Antioxidant
		<i>Butea monosperma</i>	Palas	Barks, leaves, fruits, seeds and gums	Diabetes
		<i>Acacia nilotica</i>	Babul	Pods, leaves, bark	Dental use
		<i>Pongamia pinnata</i>	Karanj	Leaves, flowers, seeds and bark	Wound healing

		<i>Abrus precatorius</i>	Gunja	Roots	Scorpion bite, swelling
4	Moraceae	<i>Ficus racemosa</i>	Umbar	Fruit	Anthelmintic
		<i>Feronia limonia</i>	Kawath	Leaves and fruit	Shwet prader
		<i>Ficus bengalensis</i>	Wad	Bark, leaves, fruits, seeds and latex	Anti-diabetic, wound
5	Euphorbiaceae	<i>Phyllanthus emblica</i>	Awala	Leaves, fruits and seeds	Vitamin deficiency
		<i>Euphorbia geniculata</i>	Bada dudhi	Aerial parts	Jaundice
		<i>Ricinus communis</i>	Yerandi	Leaves and seeds	Anti swelling
6	Anacardiaceae	<i>Semicarpus anacardium</i>	Biba	Fruit	Piles, worm
		<i>Mangifera indica</i>	Amba	Leaves, barks, fruits and seeds	Diarrhea, Dysentery
		<i>Buchnanian lanzan</i>	Char	Fruit	Cough, Skin diseases, Bronchitis
7	Malvaceae	<i>Hibiscus cannabinus</i>	Aambadi	Leaves and fruits	Sunstroke
8	Rutaceae	<i>Aegel marmelos</i>	Bel	Leaves, root and fruits	Anti-dysentery
		<i>Murraya koienigii</i>	Godnimb	Leaves	Stimulant, Digestive
9	Acanthaceae	<i>Adathoa vasica</i>	Adulsa	Leaves, roots, flowers	Cough and cold
10	Verbanaceae	<i>Vitex nigunda</i>	Nirgudi	Flowers and roots	Anti-inflammatory
11	Rhamnaceae	<i>Zizyphus sp.</i>	Bor	Fruit	For vit-B
12	Apocynaceae	<i>Vinca rosea</i>	Sadafuli	Leaves and flowers	Leukemia
		<i>Catharanthus roseus</i>	Jaganthi	Leaves and roots	Diabetics, menstrual disorder,
13	Combretaceae	<i>Terminalia bellirica</i>	Behada	Bark and fruits	Vomiting, skin diseases

		<i>Terminalia arjuna</i>	Arjun	Bark	Diuretic, Cardio tonic
14	Asteraceae	<i>Tridax procumbens</i>	Kambarmodi	Leaves	Kraking foot, Swelling
15	Ebenaceae	<i>Diospyros melanoxylon</i>	Tendu	Fruit	Antipreganancy
16	Myrataceae	<i>Syzigium cumini</i>	Jambul	Bark, leaves, seeds and fruits,	Diabetes, Acidity
17	Poaceae	<i>Cymbopogon citrates</i>	Gawti chaha	Whole plant	Cough
18	Mimosaceae	<i>Acacia catechu</i>	Khair	Pods, leaves, bark and gum	Urinogenital disorder,
		<i>Mimosa pudica</i>	Lajadu	Whole plant	Stimulant
19	Fabaceae	<i>Pithecellobium dulce</i>	Chich bilai	Fruit	Antioxidant
20	Punicaceae	<i>Punica granatum</i>	Darimb	Fruit	Digestive, jaundice and diarrhoea
21	Zinziberaceae	<i>Curcuma longa</i>	Haldi	Rhizome	Antibacterial, Wound healing
22	Caesalpiniaceae	<i>Tamarandus indica</i>	Chinch	Fruits, seeds and roots	Scorpion bites
23	Gamineae	<i>Dendrocalamus Strictus</i>	Bambu	Culms	T.B., Cough
24	Cucurbitaceae	<i>Momordica charantia</i>	Karella	Fruit and seeds	Diabetes, blood purifier and antihelminthic
25	Xanthorrhoeaceae	<i>Aloe barbadensis</i>	Korphad	Whole plant	sunburns, cold sores
26	Papaveraceae	<i>Argemone Mexicana</i>	Dhatura	Leaves	Body heat
27	Menispermaceae	<i>Tinospora cordifolia</i>	Gulvel	Arial plant	Flue
28	Sapotaceae	<i>Madhuca indica</i>	Moha	Bark, heart-wood, fruits	Wounds
29	Leguminosae	<i>Bahunia racemosa</i>	Apta	Leaves	Wound healer
30	Liliaceae	<i>Allium sativum</i>	Lasun	Bulbs	Cough
31	Arecaceae	<i>Phoenix sylvestris</i>	Sindhi	Fruit	Piles, Arthritis, Headache, Fever, Tonic, Cold flu
32	Lamiaceae	<i>Ocimum sanctum</i>	Tulasi Cough	Whole plant	Fever,

33	Magnoliaceae	<i>Michelia champaca</i>	Chamapa	Leaves and flowers	Expectorant, Purgative
34	Rubiaceae	<i>Manilkara hexandra</i>	Khirani	Fruits	Arthritis, Blood purifier, Heat burning, Wormicide, Jaundice.
35	Asclepiadaceae	<i>Calatrophis procera</i>	Rui	Whole plant	Cough

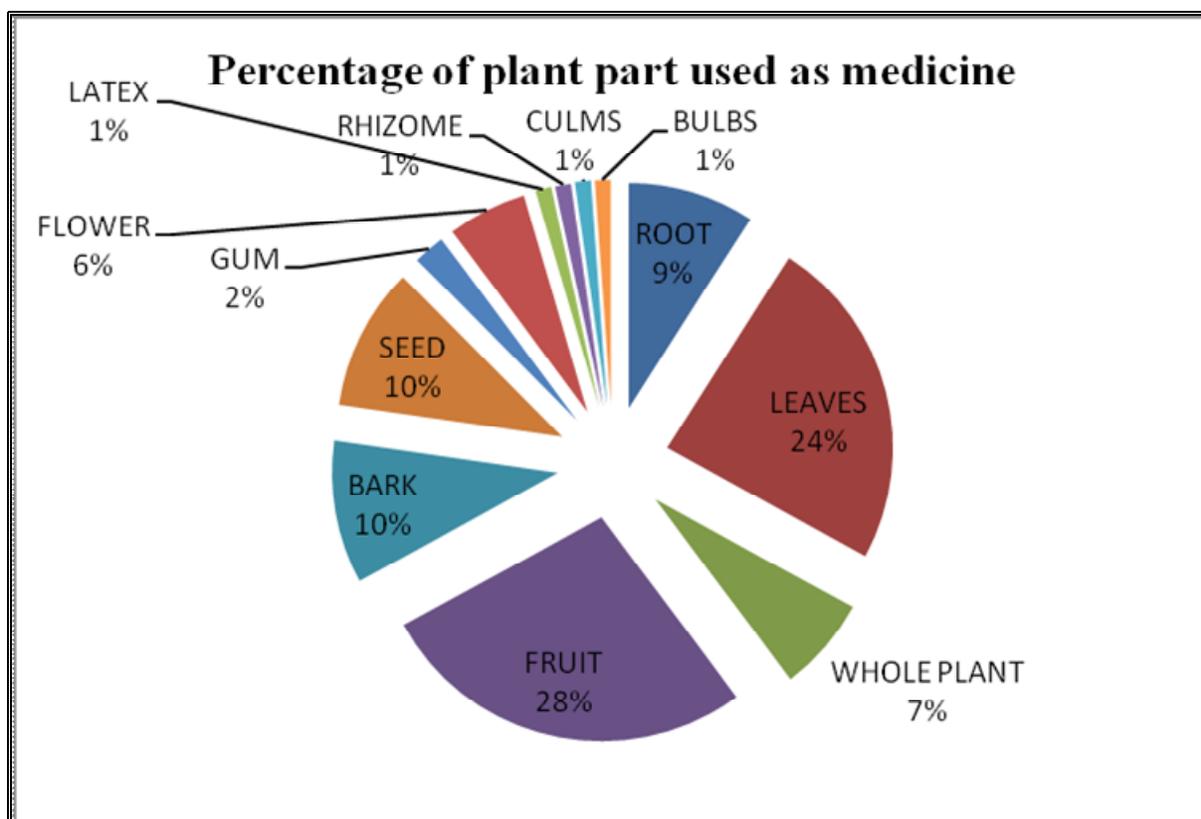


Figure 1. Pie graph showing the percentage of plant part used as medicine by tribal peoples