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ETHNOBOTANICAL STUDIES OF HINGANGHAT TEHSIL OF WARDHA DISTRICT (MS)

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ABSTRACT

In the present paper 108 plant species belonging to 49 families used in medicine have been recorded from 71 villages of Hinganghat tehsil. The total area of Hinganghat tehsil is 1888 sq. kms with 112 villages. Hinganghat tehsil sustains a very rich traditional medicinal plant wealth.

Key words: Medicinal plants, ethanobotanical, floras, families.

INTRODUCTION

Hinganghat is one of the tehsils of Wardha district situated in 20°18' to 20° and 49'N and 78°32' to 79°14' E latitude. The town is located on the bank of Vena river, a tributary of the Wardha river which joins the Pranhita river, which ultimately flows into the Godavari river. In British India Hinganghat was the centre of India, but after the partition of India and Pakistan, the Nagpur is considered the center of India. At vena river pump house there is an old stone, on which it is written that Hinganghat is the centre of India. The major portion of the total annual rainfall is received during June to September each year. The average rainfall of Hinganghat Tehsil is 1071.70 mm. The climate is hot and dry. There are three season namely cold, hot and monsoon.

Martin (2001) defines ethnobotany as "the study of the interactions between plants and people in their local environment", following the concept of ethnobotany promulgated earlier by Jones in 1941, who defined ethnobotany as the study of tribal people and their utilization of tropical plants.

Ethnobotany has emerged as an important branch of study which focuses on the utility of different plant species and their properties as food, medicine and for other uses (Allen *et al.*, 1990, Cotton, 1997). The rural population is dependent on natural care for meeting their healthcare needs.

India has a rich knowledge of medicinal plants. The art of herbal treatment has very deep roots in Indian culture. Even today in most of the rural areas people are depending on herbal drug systems for primary health care. Use of medicinal plants is found in almost all the villages of Hinganghat tehsil. The survey was conducted during the month of February to July 2012.

Plants are a great source of medicines, especially in traditional medicine, which are useful in the treatment of various diseases (Bako *et al.*, 2005), the use of plant species of the Himalaya, as medicine has been known for a long time and about 1748 medicinal plants is reported from Indian Himalaya (Samant *et al.*, 1998).

METHODOLOGY

The questionnaires for ethnobotanical studies were prepared and information was obtained by interviewing local people. The ethnobotanical surveys were conducted in 77 villages of Hinganghat tehsil. During surveys the enquiry was done for local names, their part used and medicinal use. Visited the different villages and collected the information from vaidu or sarpanch or local people. There were 31 informants (30 males and 1 female) between the ages of 40 to 75 in the study area. The field trips were conducted as per methodology suggested by Schultes (1962), Lipp (1989).

OBSERVATIONS AND RESULT

Out of total 108 medicinal floras, 30 trees, 23 Shrubs, 39 herbs and 16vines. The vegetation of medicinal plants exhibit rich diversity (Table: 1).

Table: 1

SN.	Botanical Name	Family	Vernacular name	Part used	Disease cured
1	<i>Madhuca indica</i>	Sapotaceae	Moh	Seeds, flower	Dermatopathy, astringent, appetizing, cough
2	<i>Momordica charantia</i>	Cucurbitaceae	Karli, bittergourd	Leaves, fruit	Anthelmintic, diabetic, blood purifier
3	<i>Oscimum sanctum</i>	Lamiaceae	Tulsi	Leaves	Cough, stomachache, anthelmintic
4	<i>Opuntia dillenii</i>	Cactaceae	Nagphani	Bark, pulp of leaves	Elephantiasis, inflammation of thigh, wound
5	<i>Piper nigrum</i>	Piperaceae	Kalimirch, pepper	Fruit	Infection of eyes of animal

6	<i>Psidium guajava</i>	Myrtaceae	Peru, amrood	Leaves	Dysentery, wound, dysentery of domestic animal
7	<i>Bambusa arundinacea</i>	Bambusaceae	Bamboo	Leaves	removal of placenta of cow, buffaloes
8	<i>Ricinus communis</i>	Euphorbiaceae	Yerandi, caster	Leaves, root, seed	Abdominal pain, wound, jaundice, abortifacient, rheumatism
9	<i>Albizia lebbek</i>	Fabaceae	Siris	Bark	Abdominal worms, pain
10	<i>Allium cepa</i>	Liliaceae	Kanda	bulb	Epilepsy, toothache, hysteria, anthelmintic
11	<i>Sapindus emarginatus</i>	Sapindaceae	Ritha	Root	In hair Cleaning
12	<i>Semecarpus anacardium</i>	Anacardiaceae	Biba	Oil of seed	Rheumatism, wound
13	<i>Sesamum indica</i>	Pedaliaceae	Til, sesame	Seeds	Dysentery, skin infection
14	<i>Allium sativam</i>	Liliaceae	Lasun	Bulb	Headache, cough, removal of placenta of cow

15	<i>Andrographis paniculata</i>	Acanthaceae	Bhuineem	Leaves	Febrifuge, malaria
16	<i>Annona squamosa</i>	Annonaceae	Sitaphal	Leaves	Wound, abortifacient
17	<i>Azadirachta indica</i>	Meliaceae	Kadu neem	Leaves, bark	Fever, weakness
18	<i>Butea monosperma</i>	Fabaceae	Palas, dhak	Bark, seed	Cough, leucoderma
19	<i>Caesalpinia bonduc</i>	Fabaceae	Sagargoti	Seeds	Anthelmintic, vomiting, abdomen ache
20	<i>Calotropis procera</i>	Asclepiadaceae	Rui	Latex, root, flower	Half headache, removal of spine, sever jaundice, fever, dysentery, cough, piles, indigestion
21	<i>Pergudaria daemia</i>	Convolvulaceae	Utranvel	Leaves	Skin, antidote
22	<i>Dolichus lablab</i>	Fabaceae	Wal	Leaves	Earache, leucoderma, alcoholism
23	<i>Ficus benghalensis</i>	Moraceae	Wad, banyan, bargad	Prop root, latex, bark	Growth of hair, diabetes, diarrhoea, rheumatism

24	<i>Tridax procumbens</i>	Asteraceae	Kamarmodi	Flower, leaves	Wound, pain, (alexipharmic) scorpion bite, Ulcer
25	<i>Cassia tora</i>	Fabaceae	Tarota	Leaves, seed	Paralysis, intestinal disorder
26	<i>Hibiscus rosa-sinensis</i>	Malvaceae	Jaswand	Leaves, flower	Mouth ulcer, prevention of gray hair
27	<i>Tamarindus indica</i>	Fabaceae	Chinch	Fruit, seeds	Antimalarial
28	<i>Clerodendron infortunatum</i>	Varbenaceae	Khanduchuka	Leaves	Wound
29	<i>Curcuma longa</i>	Zingiberaceae	Haldi	Rhizome	Skin, cough, pain, mouth ulcer of cow
30	<i>Acacia loucophoea</i>	Fabaceae	Hivar	Bark	Ulcer
31	<i>Citrus lemon</i>	Rutaceae	Lemon	Fruit	Treatment to wound of toes
32	<i>Ptychotis ajowan</i>	Apiaceae	Owa	Fruit	Rheumatism, maintain body temperature at the time of delivery
33	<i>Punica granatum</i>	Punicaceae	Anar,	Leaves	Emetic

			pomegranate		
34	<i>Adathoda vasica</i>	Acanthaceae	Adulsa	Leaves	Burning sensation of feet, cough, whooping cough, cold, kill intestinal worms
35	<i>Delbergia sisoo</i>	Fabaceae	Sisoo	Leaves	refrigerant, white discharge
36	<i>Syzygium cumini</i> (= <i>Eugenia jambolona</i>)	Myrtaceae	Jambhul	Bark, fruit	Diabetes, leucorrhoea, astrigent, diuretic, stomachic
37	<i>Blumea eriantha</i>	Asteraceae	Gangawan	Leaves	Dysentery
38	<i>Aegle marmelos</i>	Rutaceae	Bael	Fruit, leaf juice	(alexipharmic) Snake bite, diarrhea, dysentery, pile
39	<i>Gymnema silvestris</i>	Asclepiadaceae	Godmar	Leaves	Diabetes
40	<i>Cuscuta reflexa</i>	Convolvulaceae	Amarvel	Whole plant	Impotence, animal disease, cough, dysentery of animal, leucorrhoea
41	<i>Luffa cylindrica</i>	Cucurbitaceae	Kadu dhudi	Leaves	Animal fever

42	<i>Tinospora cordifolia</i>	Menispermaceae	Gulvel	Vine	Acidity, galactagogue, fever
43	<i>Ailanthus excelsa</i>	Simaroubaceae	Maharuk	Bark, leaves	Dysentery, anthelmintic, T.B., cancer, leucorrhoea, refrigerant
44	<i>Butea sps.</i>	Fabaceae	White palas	Leaves	Leucorrhoea
45	<i>Euphorbia nerifolia</i>	Euphorbiaceae	Niwadung	Latex, whole plant	Goiter, dermatophytosis
46	<i>Aristolokia elegans</i>	Cannaceae	Bramhrakshak	Leaves	Inflammation
47	<i>Aloe vera</i>	Liliaceae	Korfad	leaves	Skin disorders
48	<i>Pongamia pinnata</i>	Fabaceae	Karanji	Root	Eczema, leucoderma
49	<i>Citrullus colocynthis</i>	Curcubitaceae	Indravan	Root, seeds, fruit	Abdomen ache, anthelmintic, snake bite
50	<i>Mimosa pudica</i>	Fabaceae	Lajwanti	Whole plant	Insecticide for animal wound
51	<i>Lantana camera</i>	Verbenaceae	Madhumalati	Leaves	Piles, dermatopathy, rheumatism, malaria
52	<i>Zizyphus</i>	Rhamnaceae	Bor	Leaves	Alexipharmic

	<i>mauritiana</i>				(Scorpion bite)
53	<i>Thea sinensis</i> (= <i>Camellia sinensis</i>)	Ternstroemiaceae	Tea	Leaves	Alexipharmic (Scorpion bite)
54	<i>Oscimum canum</i>	Lamiaceae	Asta	Leaves	Wound of animal, ulcer
55	<i>Zingiber officinale</i>	Zingiberaceae	Ginger	Rhizome	Anthelmintic
56	<i>Solanum xanthocarpum</i>	Solanaceae	Wild brijal	Fruit	Sterility of animal
57	<i>Achyranthus aspera</i>	Acanthaceae	Kutri, chirchita	Root	Repeat fever, prevent pregnancy
58	<i>Glycine max</i>	Fabaceae	Soyabean	Seed	Paralysis, astringent
59	<i>Acacia nilotica</i> (= <i>A. arabica</i>)	Fabaceae	Babhul	Leaves, gum	Toothache, fungal infection of horn, dysentery
60	<i>Curcuma aroma</i>	Zingiberaceae	Haldi	Rhizome	
61	<i>Mangifera indica</i>	Anacardaceae	Mango	Bark	Leucorrhoea
62	<i>Acacia horrid</i>	Fabaceae	Dev bhabul	Leaves	Jaundice
63	<i>Serjania abolineata</i>	Sapindaceae	Pillu	Leaves, bark , roots	Diabetes, wound, cancer, delivery

64	<i>Bombax ceiba</i>	Bombaceae	Sawari	Bark, leaves	Menorrhagia, wound
65	<i>Celosia argentic</i>	Amaranthaceae	Kombada	Root	Constipation, wound
66	<i>Euphorbia hirta</i>	Euphorbiaceae	Dudhi	Latex, whole plant	Cough, pile, asthma
67	<i>Abrus precatorius</i>	Fabaceae	Gunja	Seeds	Abortifacient, diarrhea
68	<i>Cyndon dactylon</i>	Poaceae	Durva	Whole plant	Malaria
69	<i>Gloriosa supriba</i>	Liliaceae	Karkari	Roots	
70	<i>Lawsonia inermis</i>	Lythraceae	Mehandi	Leaves	Burning sensation of feet
71	<i>Cocculus hirsutus</i>	Menispermaceae	Wasanvel	Leaves	Leucorrhoea
72	<i>Bauhinia racemosa</i>	Fabaceae	Apata	Leaves	Alexipharmic (Scorpion bite)
73	<i>Vitex negundo</i>	Verbenaceae	Nirgudi	Leaves	Antifertility, headache, rheumatism
74	<i>Cassia fistula</i>	Fabaceae	Bahawa	Flower, fruit	Constipation
75	<i>Amorphophallus</i>	Aracaceae	Suran	Tuber	Piles, tonsillitis

	<i>companutatus</i>				
76	<i>Moringa oleifera</i>	Moringaceae	Mungana, sewanga	Whole plant, bark	Digestion, abortions
77	<i>Syzygium aromaticum</i>	Myrtaceae	Clove, lawang	Flower bud	Toothache
78	<i>Trigonella foenum-graecum</i>	Apiaceae	Fenugreek, sof	Seeds	Loss of appetite, carminative, aphrodisiae
79	<i>Psoralea corylifolia</i>	Fabaceae	Babchi, bauchi	Leaves, seed	Dermatopathy, leucoderma
80	<i>Datura metal</i>	Solanaceae	Dhotara	Leaves, flower	Ulcer
81	<i>Phyllanthus niruri</i>	Euphorbiaceae	Sawari	Leaves	Oedema
82	<i>Baliospermum montanum</i>	Euphorbiaceae	Jamalgota	Leaves	Dysentery
83	<i>Murraya koeniggi</i>	Rutaceae	Godneem, kadipatta	Leaves	Digestion
84	<i>Asystasia gangetica</i>	Acanthaceae	Lavanvalli	Whole plant	Rheumatism
85	<i>Sphaeranthus indicus</i>	Asteraceae	Goradhmundi	Whole plant	Rheumatism, medicine

86	<i>Ipomoea eriocarpa</i>	Convolvulaceae	Bhamwar	Whole plant	Rheumatism, headache, epilepsy, leprosy
87	<i>Euphorbia dracunculoides</i>	Euphorbiaceae	Chegulputputi	Seed	Rheumatism, digestive disorder
88	<i>Euphorbia tiruculi</i>	Euphorbiaceae	Kampal, senund	Latex	Rheumatism
89	<i>Cordia dichotoma</i>	Ehretiaceae	Lasora	Fruit, leaves, bark, whole plant	Anthelmintic, ulcers, snake bite, dyspepsia
90	<i>Ixora parvifolia</i>	Rubiaceae	Lokhandi	Fruit	Anthelmintic
91	<i>Catharanthus roseas</i>	Apocyanaceae	Sadafuli	Leaves	Diabetes
92	<i>Coccinia cordifolia</i>	Cucurbitaceae	Tondale	Fruit	Diabetes
93	<i>Woodfordia fruticosa</i>	Lythraceae	Dhayti	Leaves, root	Rheumatism
94	<i>Hiptage bengalensis</i>	Malpighiaceae	Madhumalti	Leaves	Rheumatism
95	<i>Adenanthera pavoniana</i>	Fabaceae	Badi, gomchi	Leaves	Rheumatism

96	<i>Solanum surattense</i>	Solanaceae	Bhulkhattai	Whole plant	Rheumatism, medicine
97	<i>Grewia asiatica</i>	Tiliaceae	Phalsa	Bark	Rheumatism
98	<i>Alangium salvifolium</i>	Alangiaceae	Ankollakh	Whole plant	Anthelmintic, rheumatic pain, fever
99	<i>Chenopodium album</i>	Chenopodiaceae	Wild chawali	Whole plant	Anthelmintic, laxative
100	<i>Cleome viscosa</i>	Cleomaceae	Pivlitolwan	Seed	Anthelmintic, carminative, stimulant
101	<i>Aristolochia bracteata</i>	Aristolochiaceae	Kidmar, batakhbel	Root	Abortifacient, anthelmintic
102	<i>Calotropis gignatea</i>	Asclepiadaceae	Madar	Latex	Abortifacient
103	<i>Nerium indicum</i>	Apocyanaceae	Kaner	Root	Leprosy, dermatopathy
104	<i>Grangea maderaspatana</i>	Asteraceae	Namuti mustaru	Root	Abortifacient
105	<i>Trianthema portulacastrum</i>	Aizoaceae	Kaparkhuti	Fruit	Carminative, stimulant
106	<i>Carica papaya</i>	Cariaceae	Papai	Fruit	Abortifacient, digestive, laxative

107	<i>Jatropha gossypifolia</i>	Euphorbiaceae	Vhandrajyoti	Latex	Anticancer, antiseptic
108	<i>Plumbago zeylanica</i>	Plumbaginaceae	Chitrak	Leaves, root	Cancer, appetizer, diarrhea, dyspepsia

Table:2

SN	Plant part used	Number of medicinal plants
1	Stems	00
2	Leaves	49
3	Roots	15
4	Barks	14
5	Flowers	07
6	Fruits	15
7	Seeds	15
8	Rhizome	03
9	Tubers	01
10	Latex	07
11	Gum	01
12	Bulbs	02
13	Vines	01
14	Whole plants	13

DISCUSSION

The study provides information on 108 plant species belonging to 49 families (Table 1). Fabaceae contributed maximum species. Of the plants species described, 7 species are monocotyledons, 101 are dicotyledons, 39 species are herbs, 23 are shrubs, 30 are trees and 16 are vines. The plant parts used for medical preparation were bark, flowers, rhizomes, roots, leaves, seeds, gum and whole plants. In some cases the whole plant including roots was utilized. The most frequently utilized plant parts were leaves (49) followed by the roots (15), seeds (15), fruits (15), bark (14), whole plant (13), flowers (7), latex (7), rhizome (3), bulb (2), tubers, gum and vine each (1) (Table-2). The paper presents a brief account of the uses of various ethno medicinal plant parts against the diseases like dermatopathy, skin diseases, rheumatism, jaundice, piles, cough, diabetes, neurological diseases, snakebite, alexipharmic, anthelmintic and abortifacient by the people of Hinganghat tehsil of Wardha district and highlights the need for further investigation on biochemical and pharmaceutical aspects. The largest number of 27 plant species were used to treat gastrointestinal ailments (constipation, diarrhoea, dysentery, gastric, stomach-ache), 18 skeletal diseases (pain on limbs, rheumatism), 17 plant species were used for skin diseases (scabies, itching), 12 plant species were treated for anthelmintic, 7 plant species were used for alexipharmic (snakebite and scorpion bite), 6 plant species each were used for abortifacient and diabetes each, 3 plants species were used for piles and jaundice, 2 plant species were used to treat gynaecological disorders and cancer each, 1 plant species was used for elephantiasis and ophthalmic diseases each. Shende, J. J. (2008) reported 68 species of medicinal plants collected from Hinganghat tehsil of Wardha District (MS). Several researchers were made the similar line like Mali, *et al.* (2006), Patil, *et al.* (2006), Mushtaq Ahmad, *et al.* (2007), Akar, *et al.* (2008), Ganesan, *et al.* (2008), Sonibare, *et al.* (2008), Arshad Mehmood Ashari, *et al.* (2009), Rout, *et al.* (2009), Jain, *et al.* (2010), Kamble, *et al.* (2010), Kazhila, *et al.* (2010), Sachin, *et al.* (2010), Saotoing, *et al.* (2011), Wadankar, *et al.* (2011), Raugnath Aher, *et al.* (2011), Archana Singh, *et al.* (2012). Leaves and roots generally form the most frequently used plant part in traditional medicine (Giday *et al.*, 2003)

CONCLUSION:

The following conclusions have been drawn

1. The total 108 medicinal plants have been recorded.
2. Among these 7 are monocotyledons and 101 are dicotyledons.
3. Of these 39 species are herbs, 23 are shrubs, 30 are trees and 16 are vines.
4. The plant parts used for medical preparation were bark, flowers, rhizomes, roots, leaves, seeds, gum and whole plants.
5. The most frequently utilized plant parts were leaves, roots, bark, seeds, fruits and whole plant.

6. The uses of various ethno medicinal plants parts against the diseases like gastro intestinal disorder, skin diseases, gynaecological disorder, skeletal diseases, jaundice, piles, bronchitis, diabetes, neurological diseases, snakebite, and ophthalmic infection.

Though the vegetation of ethnobotanical plants is very rich in plant diversity, their use and conservation are minimum. These medicinal plants and their uses have declined day by days. So their conservation must have the top priority in this modern life.

Due to lack of knowledge of medicinal plants, the people used ethnobotanical vegetation for fuel, domestic purpose and grazing. On the basis of survey, only one or two person has the knowledge of medicinal use of plants in every village. Hence the knowledge of medicinal plants, their uses must be provided to the common people, and they must know the importance of these floras in our life.

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