

Ethno-medicinal survey of some plants from villages of Khatav Tahashil (M.S.) India.

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ABSTRACT

India is rich in biodiversity and considered to be a storehouse of medicinal plants. Local herbal healers (Vaidu) does not share their experiences with others, hence this valuable knowledge is eroding gradually under trends of modernization and due to rapid socioeconomic changes. A periodic survey was carried out with villagers of Dharpudi, and adjoining villages to record medicinal utilities of plants. These places belong to Khatav tahsil (District Satara). The rural people from this region use various plants to treat different ailments and diseases. Total 52 plants were identified and enlisted for their medicinal values to cure diseases like gynecological problems, asthma, cold, cough, dysentery, jaundice, piles, and skin diseases. Plants mostly used by local knowledgeable persons for medicinal purposes are *Acacia nilotica* (L.) Willd., *Aegle marmelos* (L.) Corr., *Argemone Mexicana* Linn., *Boerhavia diffusa* Linn., *Caralluma adscendens* var. *fimbriata* (Wall.) Grav. & Mayur, *Chrozophora rotleri* (Geis.) Juss, *Citrus colocynthis* (L.) Schrad., *Datura metel* Linn., *Ficus religiosa* Linn., *Glossocardia bosvallea* (L. f.) DC., *Macrotyloma uniflora* (Lam.) Verdc., *Nyctanthes arbor-tristis* Linn., *Sesamum laciniatum* Klein ex Willd., *Vernonia anthelmintica* (L.) Willd., *Withania somnifera* (L.) Dunal. This is participatory effort towards creating awareness about medicinal utilities of plants and need of conservation.

KEYWORDS

Khatav tahsil, herbal healers, vaidu, medicinal plants

INTRODUCTION

The use of plants with pharmaceutical properties has received increased interest nowadays from both homeopathic and allopathic branches. Medicinal plants play an important role in public health, especially in developing countries, where it is believed that the intense utilization of plants with therapeutic action does not lead to intoxication (Mossi *et al.*, 2009). In ethnobotany, information collection regarding medicinal and economic importance of plants from local people is of great importance. These days, ethno-botany has become a crucial area of research for development in resource management and biodiversity conservation. Ethnobotany provides us profound understanding and appreciation of the richness and intimacy of relationship between nature and human.

Indigenous people, who live in harmony with nature, maintain a close link between man and environment. There has been rapid extension of allopathic system of medicinal treatment in our country during the past country (Dwivedi *et al.* 2007). However allopathic drugs have side effects and people are going back to the nature with hope of safety and security. Herbal traditional methods have been developed through many

experiences of many generations (Zingare, 2012). Herbal medicines are easily available, safe, cheaper, and with no fear of any side effect. Many valuable herbal drugs have been discovered by knowing that particular plant was used by ancient folk healers for the treatment of some kind of ailment (Ekka & Dixit, 2007). More than 21,000 plants, are used for many medicinal purposes around the world has been listed by the World Health Organization (Kathe, 2005). The information of indigenous plants used by the tribal for various diseases in Maharashtra has particularly studied (Sebastian and Bhandari, 1984; and Trivedi, 2002). The use of participatory methods in ethnobiological studies has grown overtime and become an important tool in these studies (Sieber *et al.* 2010; Sieber and Albuquerque 2010).

In the present investigation attempts were made to collect valuable information of medicinal plants used by people of some villages of Khatav Tahsil. Human actions that directly affect the environment cannot be seen only as negative actions because people are part of the system and establish relationships with the environment (Araujo *et al.* 2007), so efforts have also made for awareness among the people regarding need of conservation of local useful flora.

MATERIALS AND METHODS

Study Area

Satara is a district of Maharashtra state in Western India and falls within the Deccan traps area. It lies between 17°33'16" N and 74°22'33" E. Khatav is one of the dry tahsil of Satara district lies between 17° 33'20" N and 74° 33'20" E., acquires an area 1,36,457 hectares. Tahsil experiences extreme dry conditions with 400 to 648 mm average annual rain fall and 29 to 35° average temperatures. Due to unpredictable monsoon, underdeveloped irrigation facilities and seasonal rivers, average economic status is low and many people cannot afford expensive medicinal facilities. In this situation herbal healers, contribute a crucial role in the health of this rural area.

The survey was carried out during 2010 to 2012 to collect information of medicinal plants used by villagers of Dharpudi, Katgun, Daruj, Darjai, Dhangarwadi and Khatav, some villages of Khatav Tahsil. Extensive field visits were conducted during study period for recording information related to medicinally important plants from study area with local participation. Data presented here is based on personal observations and interviews with old villagers, herbal healers, and knowledgeable persons. The information was recorded on questionnaire and in the field note books.

During the field visits photographs of specimen were taken by Sony digital camera (Plate 1 and 2). A total of 21 knowledgeable traditional medicine practitioners (between ages 30-74) participated in study with other local people. Plants were identified by using relevant scientific literature (Hooker 1872-1877; Cooke 1967; Patil and Yadav 1991; Naik 1998; Singh and Karthikeyan 2000; Parrotta. 2001; Yadav and Sardesai 2002.) The information available from actual observations and discussion with people is collected and tabulated for further use.

RESULTS

In the present investigation 52 plants were recognized for their ethno-medicinal uses, belonging 34 families. (Table 1). Among the recognized plants, photographs of some plants are given in Plate I and II. Traditional healers are using these plants to cure various ailments like asthma, jaundice, piles, rheumatism, dysentery, gynecological problems, cold, cough, fever, toothache, earache, skin diseases, scorpion sting, joint pains and wound healing. Data available from actual field visits, discussion with people, questionnaire including, botanical name, family, local name, part used, medicinal uses is shown in the table. Similar uses about some of these plants were observed by Gupta *et al.* (2010); Heda (2012).

Table 1: Ethno-medicinal observations from villages of Satara District (M.S.) India

Sr. No.	Botanical Name	Family	Local Name	Part Used	Medicinal Uses
1.	<i>Acacia nilotica</i> (L.) Willd.	Mimosaceae	Babhul	Stem	Tender shoots chewed after scorpion sting.
2.	<i>Acalypha indica</i> L.	Euphorbiaceae	Chuda	Shoot	Leaf juice on earache and cough
3.	<i>Achyranthus aspera</i> L.	Amaranthaceae	Aghada	Root, leaves	Roots crushed in water given in scorpion sting and dog bite, leaves with milk of goat in asthma.
4.	<i>Aegle marmelos</i> (L.) Corr.	Rutaceae	Bel	Leaves, fruit	Chewing of leaves in piles, Ripened fruit in anemic dysentery.
5.	<i>Aloe vera</i> (L.) Burm.f.	Liliaceae	Korpad	Leaves	Fleshy part of leaf after baking with sugar given in fever and cough, fleshy part with jaggery in menstrual problems.
6.	<i>Argemone mexicana</i> L.	Papaveraceae	Bilinga	Stem latex	Latex employed on viral infection of eyes: Conjunctivitis
7.	<i>Azadiracta indica</i> Juss.	Meliaceae	Kadulimb	Bark, Leaves and seeds	Bark in gynecological problems, Leaf juice in acidity, seed oil applied on wounds
8.	<i>Bambusa arundinacea</i> (Retz.) Willd.	Poaceae	Kalak	Leaves	Leaves in animal dysentery, Leaf ash in coconut oil applied on scabies.
9.	<i>Boerhavia diffusa</i> L.	Nyctaginaceae	Vasu/Punarnava	Shoot	Leaf juice on jaundice, gas trouble and constipation.
10.	<i>Calotropis procera</i> (Ait.) R. Br.	Asclepiadaceae	Rui	Stem and flower	Latex on joint swelling and carbuncles and removal of spines from legs. Dried powder of petals with honey in whooping cough.
11.	<i>Caralluma adscendens</i> var. <i>fimbriata</i> (Wall.) Grav. & Mayur	Asclepiadaceae	Shenguli	Tender fleshy stem	Fresh stem in diabetes to reduce blood sugar.
12.	<i>Cardiospermum helicacabum</i> L.	Sapindaceae	Kapalphodi	Leaves	Leaf decoction in rheumatism and piles

Table 1 : Continued.....

Sr. No.	Botanical Name	Family	Local Name	Part Used	Medicinal Uses
13.	<i>Carica papaya</i> L.	Caricaceae	Papai	Unripe fruit latex	Fruit latex applied on piles.
14.	<i>Cassia auriculata</i> L.	Caesalpinaceae	Tarwad	Leaves	Decoction for 8-10 days early in the morning for rheumatism.
15.	<i>Celosia argentea</i> L.	Amaranthaceae	Kurdu	Root	Root powder in asthma.
16.	<i>Chrozophora rotteri</i> (Geis.) Juss	Euphorbiaceae	Shahdevi	Leaves	Dried leaf powder applied on wounds of animals and human.
17.	<i>Citrulus colocynthis</i> (L.) Schrad.	Cucurbitaceae	Kadu-indrayan	Leaves, Root	Leaf juice applied on swellings in animals, root with water in jaundice.
18.	<i>Cocculus villosus</i> DC.	Menispermaceae	Vasanvel	Leaves	Leaves in dysentery.
19.	<i>Datura innoxia</i> Mill.	Solanaceae	Pandhara Dhotra	Leaves	Warmed leaves applied on joint pains, swellings and carbuncles.
20.	<i>Datura metel</i> L.	Solanaceae	Kala Dhotra	Leaves	Juice & salt on swellings & pains in muscles of animals.
21.	<i>Daucus carota</i> L.	Apiaceae	Gajar	Roots	Root juice in jaundice.
22.	<i>Echinops echinatus</i> Roxb.	Asteraceae	Bharamda nda	Roots	Root decoction in cough and toothache.
23.	<i>Eclipta alba</i> (L.) Hassk.	Asteraceae	Maka	Shoot	Juice in cold and cough. Paste of leaves, tender shoot of <i>Lantana</i> and betel leaf remove spine from foot.
24.	<i>Euphorbia tirucalli</i> L.	Euphorbiaceae	Nangadi Sher	Cladode	After warming of cladode juice is poured in ear for severe Ear-ach
25.	<i>Ficus benghalensis</i> L.	Moraceae	Wad	Tender prop roots	Jaggery and crushed roots promote lactation in women.
26.	<i>Ficus glomerata</i> Roxb.	Moraceae	Umber	Latex and bark	Bark ash in coconut oil applied on wounds, latex applied on wounds.
27.	<i>Glossocardia bosvallea</i> (L. f.) DC.	Asteraceae	Khadak Shepu/ Ran Shepu	Shoot	Bitter shoot in throat infection and hoarseness of throat.
28.	<i>Hibiscus rosa-sinensis</i> L.	Malvaceae	Jaswand	Leaves, flowers	3 Tender shoots, 3 flowers, 7 leaves, Turmeric & salt on gall or cancerous galls
29.	<i>Jatropha curcus</i> L.	Euphorbiaceae	Mogli Erand	Stem	Juice on toothache & hurt of eye, juice on jaundice, latex seals and heals wounds.
30.	<i>Lagenaria siceraria</i> (Molina) Standl.	Cucurbitaceae	Dudhi-bhopala	Fruits	To reduce body fats.
31.	<i>Lepidagathis cristata</i> Willd.	Acanthaceae	Bhui-tervad	Shoot	Dried ash applied on skin infections.
32.	<i>Macrotyloma uniflora</i> (Lam.) Verdc./ <i>Dolichos uniflorus</i> Lam.	Papilionaceae	Hulaga	Seeds	Soup in rejuvenation after prolonged illness. Seeds also taken in asthma and stomachic.
33.	<i>Mangifera indica</i> L.	Anacardiaceae	Amba	Bark and seed kernel	Bark used in dysentery and stomachic, seed kernel with curd in dysentery.
34.	<i>Momordica charantia</i> Linn.	Cucurbitaceae	Karale	Fruit and leaves	Fruits given in diabetes and piles, leaf juice used to remove worms.
35.	<i>Nyctanthes arbor-tristis</i> L.	Oleaceae	Parijatak	Leaves	Leaf decoction taken orally in joint pains.
36.	<i>Ocimum basilicum</i> L.	Lamiaceae	Sabja	Seeds	Seeds soaked in water and used against kidney stone.
37.	<i>Ocimum sanctum</i> L.	Lamiaceae	Tulas	Leaves	Leaf decoction in chronic fever and cough. Juice applied on ringworm.
38.	<i>Polygala erioptera</i> DC.	Polygalaceae	--	Whole plant	Dried powder or fresh leaves in water along with sugar in piles.
39.	<i>Pongamia pinnata</i> (L.) Pierre.	Papilionaceae	Karanj	Seeds	Seed paste applied on wounds, carbuncles.
40.	<i>Ricinus communis</i> L.	Euphorbiaceae	Erand	Leaves	Leaf juice & milk on jaundice.
41.	<i>Sesamum laciniatum</i> Klein ex Willd.	Pedaliaceae	Rantil	Shoot	Juice given in animal dysentery.
42.	<i>Solanum xanthocarpum</i> Schrad. & Wendl.	Solanaceae	Bhuringani	Seeds	Seed smoked on toothache.
43.	<i>Syzygium cumini</i> (L.) Skeels	Myrtaceae	Jambhul	Seeds and bark	Powder in diabetes, bark boiled in water and gargled for toothache and pus in gums.

Table 1: Continued...

Sr. No.	Botanical Name	Family	Local Name	Part Used	Medicinal Uses
44.	<i>Tamarindus indica</i> L.	Caesalpiaceae	Chinch	Bark	Bark ash & coconut oil applied on burns, bark ash with honey in vomiting.
45.	<i>Tinospora cordifolia</i> (Willd.) Miers	Menispermaceae	Gulwel	Leaves, root	Leaf juice with curd in jaundice and piles, leaf and root juice in cholera.
46.	<i>Tribulus terrestris</i> L.	Zygophyllaceae	Sarata	Shoot	Vegetable given in waist pains, decoction on seminal debility.
47.	<i>Tridax procumbens</i> L.	Asteraceae	Dagadi pala	Shoot	Leaf juice on wounds and applied at insect bite.
48.	<i>Vernonia anthelmintica</i> (L.) Willd.	Asteraceae	Kadu Karale	Seeds	Baked seeds in milk on respiratory diseases and asthma.
49.	<i>Vitex negundo</i> L.	Verbinaceae	Nirgudi	Leaves	Leaves, turmeric powder & salt: Chewing and applied on eye hurt of animals.
50.	<i>Withania somnifera</i> (L.) Dunal	Solanaceae	Ashwagandha	Leaves and root	Leaves used to reduce obesity. Root powder in milk given in seminal debility.
51.	<i>Xanthium strumarium</i> L.	Asteraceae	Landga	Leaves	5-6 leaves with salt chewed to cure toothache.
52.	<i>Zizyphus oenoplia</i> (L.) Mill.	Rhamnaceae	Bor	Leaves	Leaf juice with sugar in dysentery, leaf juice applied on scorpion sting.



1



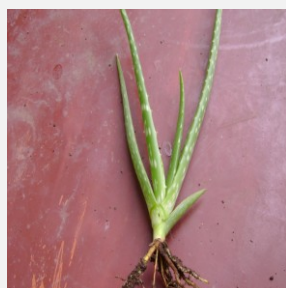
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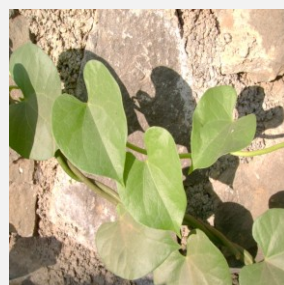
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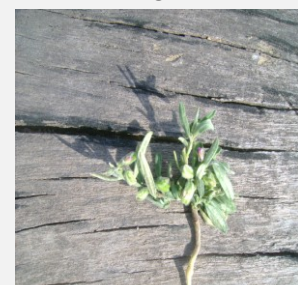
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PLATE I : 1. *Cassia auriculata* L., 2. *Boerhavia diffusa* L., 3. *Sesamum laciniatum* Klein ex Willd., 4. *Glossocardia bosvallea* (L.f.) DC., 5. *Aloe vera* (L.) Burm.f., 6. *Tribulus terrestris* L., 7. *Caralluma adscendens* var. *fimbriata* (Wall) Grav. & Mayur, 8. *Datura metel* L., 9. *Acalypha indica* L., 10. *Echinops achinatus* Roxb., 11. *Tinospora cordifolia* (Willd.) Miers, 12. *Polygala erioptera* DC



PLATE II: 1. *Celosia argentea* L., 2. *Argemone mexicana* L., 3. *Cardiospermum helicacabum* L., 4. *Cocculus villosus* DC., 5. *Xanthium strumarium* L., 6. *Vitex negundo* L., 7. *Chrozophora rottleri* (Geis.) Juss, 8. *Calotropis procera* (Ait.) R. Br., 9. *Carica papaya* L., 10. *Nyctanthes arbor-tritis* L., 11. *Withania somnifera* (L.) Dunal, 12. *Lepidagathis cristata* Willd.

Herbal practitioners use specific plant parts and specific doses, for treatment of human and animal diseases. The plant products are consumed as raw, juice, decoction, paste or dried powder. These preparations are taken orally or applied externally on affected areas. Plant parts used for therapeutic purposes are leaves, stem, roots, seeds, bark, fruits, flowers and whole plant. Generally dicot herbs are commonly used. Mostly fresh plant parts are used and on unavailability dried parts are also used. Majority of medicinal plants are used as simple drug and some plants are used in combination with other plant parts.

CONCLUSIONS

The present investigation reveals that the study area is rich in traditional and herbal medicines with diversified ethno-medicinal significances. These plant showed great

potentiality and appeared to have useful to local people to fulfil their requirements. The local people not only rely, but also depend on traditional medicines prescribed by *vaids* or herbal healers. The information generated from the present study regarding the medicinal plants used by rural people of Satara district need thorough pharmacological and phytochemical investigations. This could help in creating mass awareness towards the need of conservation of such plants and also in the broadcasting of ethno-medicinal knowledge within the region.

It is essential to take firm step in this promising field with the active support of local people, so that importance of these medicinally important plants could be rejuvenated for the benefit of future generation. The phytochemical study of plants and screening by team of experts, pharmacologists and medicinal experts may give idea to local people about collection and conservation of

important plants. The residents of *Dharpudi* and adjoining area should be recognized as collaborators in the process to enhance the relationship between the researchers and local experts, this relation may build management strategy for future utilization of local flora.

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