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Ethnobotanical and Medicinal plant study in Trimbkeshwar Taluka, District Nashik, (MS), India

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ABSTRACT

The present study on ethnobotanical, traditional medicinal plants were conducted different locality of Trimbkeshwar taluka during 2018. The study was focused on identifying medicinal plants, disease treated, method of preparation, part of the plant used etc. The data was collected using interview and questionnaires by traditional healers. A total 40 medicinal plant species belonging to 30 families have been reported as employed by the rural folk and tribals. These ethnomedicinal plants species need obviously further scientific evaluation to have new sources of drugs. So it must be preserved and propagated.

Keywords: indigenous knowledge, ethnobotany, medicinal plants

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INTRODUCTION

India has one of the oldest, richest and most diverse cultural traditions associated with the use of medicinal plants in the form of traditional system of medicine. Ethnobotany is the study of the interaction between plant and people, with a particular emphasis on traditional tribal cultures. According to the world health organization about 65 – 80 % of the world's population in developing countries depends essentially on plants for their primary healthcare due to poverty and lack of access to modem medicine. Traditional knowledge of medicinal plants and their use by indigenous healers and drug development in the present are not only useful for conservation of cultural tradition and biodiversity but also for community health care and drug development in the local people. The indigenous knowledge on medicinal plants appears when humans stared and learned how to use the traditional knowledge on medicinal plants (Emiru et al, 2011).

A history of medicinal plants is intimately connected with history of botany and environment. The use of various plants and plant part have specific capacity to cure human diseases from remote past medicine men "Vaidus" (Tribal priest) used various plant and animal organs in preparation of crude drugs. India has vast and inexhaustible resource of medicinal plants. Several medicinal plants used for this purpose were collected from forest. Many rural people and different tribes live in forest of Trimbkeshwar taluka. These tribal people use different plants for various purposes like thatching roofs, building their huts and mainly as medicines. They use many plants and different plant part to cure various diseases. They follow various methods to obtain the medicines from the plant.

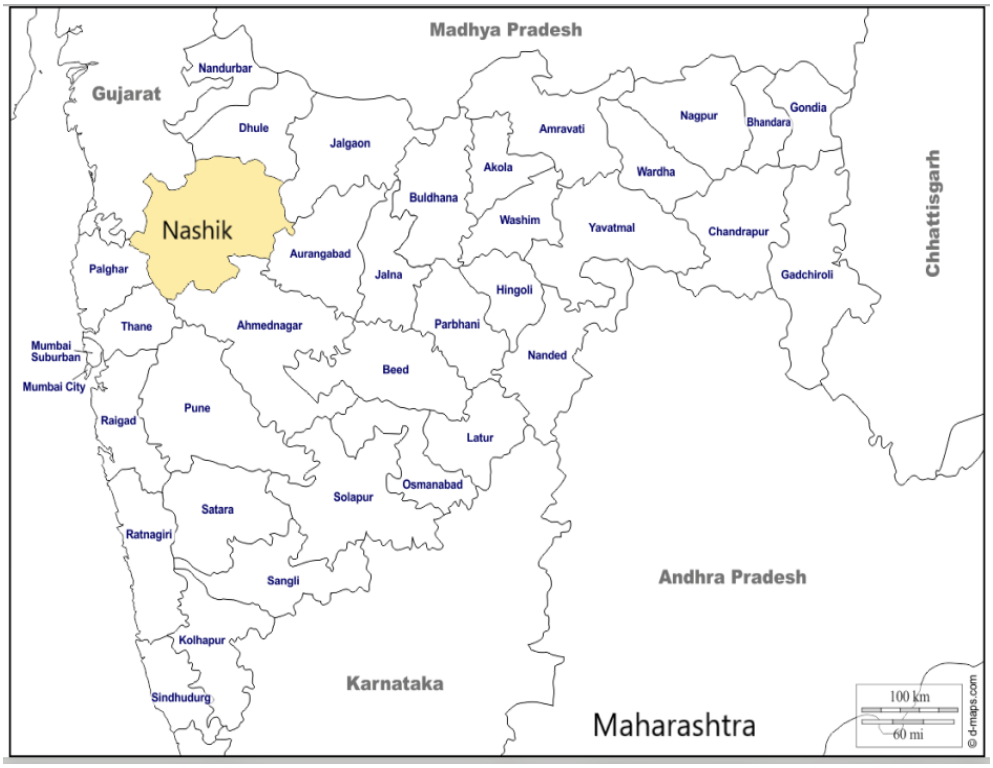
They live in thatched cluster of huts. Few tribal headman, women or medicine men treat various ailments of human beings and their domestic animals. These tribal are although forest dwellers, do some agriculture, but agriculture alone does not provide full time engagement all the year round and enough money to survive. Therefore they have to depend also on forest resource for their livelihood.

The traditional folk medicines of the world have brought to light some of these rare wonder herbs which make big promise to salvage the mankind from some of the deadly modern human diseases. Such studies may provide new materials to the workers in the field of pharmacology and photochemistry. The results will be encouraging but scientific scrutiny is absolutely necessary before being put into practice.

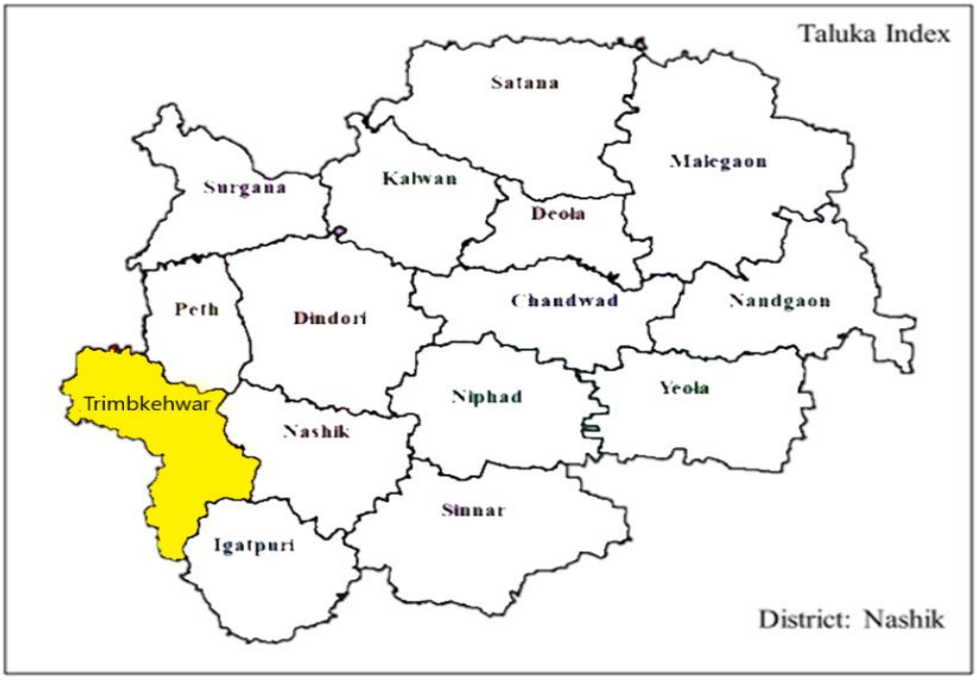
MATERIAL AND METHODOLOGY

The study area, Trimbkehwar taluka, part of Western Ghats, lies between the north latitudes 19.9322472 N and the east longitudes 73.5306744 E. It covers a total area of around

900.27 sq. km. The elevation of the hills ranges between 720m. (2362 fit) above mean sea level. The Trimbkehswar taluka are a major range of hills situated in the Western Ghats of Nahik District. Nashik district is located in state of Maharashtra. The information was collected from people of these villages about the medicinal plants and plant parts. Ethnobotanical plants investigations are carried from 2018 in trimbkeshwar taluka, Nashik district of Maharashtra state (India). The tribals were interviewed for obtaining their traditional knowledge regarding bio resources available to them. Elder persons, heads of societies and villages were consulted during these visits. Information write plant species in use, useful part, purpose, etc. were noted in field. The plants species of ethnobotanical significance will be collected and documented along with data on ethnomedicinal uses as informed by the tribals and rural people. The survey is important to preserve the knowledge of medicinal plants used by tribal peoples. Then the herbarium sheets will be prepared by using traditional method of pressing and drying, e-herbarium was also prepared. They are identified by using local floras, Patil's key (1992), Naik (1998), Patil (2003) and arranged according to Bentham and Hooker's classification system.



Map 1: Map of Maharashtra state, District index



Map – 2: Location map of study area Trimbkeshwar taluka

RESULT AND DISCUSSION

Present work is the result of intensive ethnobotanical and ethnomedicinal studies of Trimbkeshwar made during the period 2016-2018. The present study area is rich in vegetation and provides diverse useful species. Out of the various species observed total of 40 plant species are enumerated in present work According to Bentham and Hooker's system of classification, the plant species are distributed. The growth forms of the species includes Trees (18 Species), Shrubs (9 species), Herbs (8 Species) and Climbers (5 Species). Different plant parts like Stem, Stem bark, fruits, leaves, root, root bark, rhizome, tuber, flower, seeds have curative property. External applications as well as internal consumptions are involved in the treatment of disease. Mostly the medicines are used in crude from after crushing, heating or extracting juice etc. Most of the preparations include a single plant species and in rear cases, the combination of two or more plant species is used.

The tribals administer these medicines in the forms of Kadhas (Decoction), Bhasmas (dry ash), Powder, Poultice, Paste, Oil, Infusion, Juice, Latex etc. Kadha is prepared by concentration the plant extract by heating or boiling. Bhasma is the powdery residue left after burring of medicinal plant or plant part. It is applied on the body part after mixing with water milk, oil, ghee etc. Some plants are used in the dried form, especially the underground parts are dried cut into small pieces or powdered and stored. Dominant used of plant part such as Stembark of 14 species, fruits of 10 species and Leaves of 14 species, seed 2 species entire plant 3 plant species rhizome 2 plant species are used as medicine.(Fig. no.1) *Dioscoria bulbifera* is very effective curing skin infections and dog bite. *Vitex negundo* plant species used women in irregular menstruation etc.The information collected reveals that despite the extension of modern medicines and facilities by the government hospitals and health centers, the rural folks of these villages and tribal hamlets depend on folk medicines.

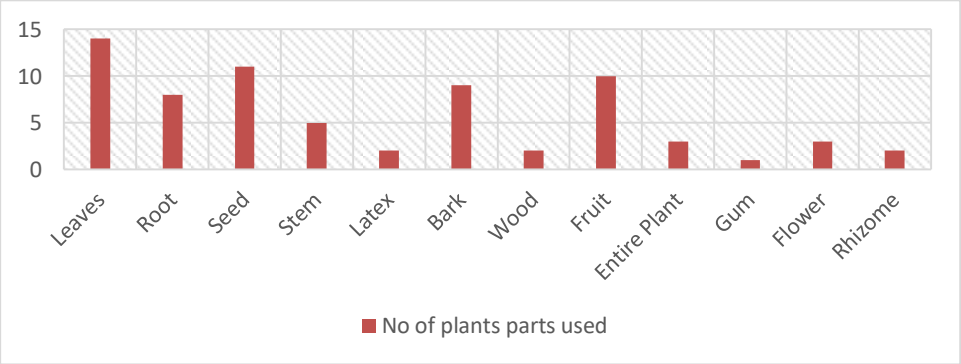


Fig. No.1 Plant parts used traditional Medicine

CONCLUSION

The present studies indicate that the Trimbkeshwar area is a rich reservoir of medicinal plants and associated ethnobotanical practices.The knowledge about these plants has been handed over from generation to generation. The main threats to endemic and threatened herbaceous plants are from heavy human disturbance including trampling by grazers, livestock and pilgrims. Many factors like increasing religious tourism leading to trampling of the area, cattle grazing and continued consumption of the species by humans. Local people continue to collect and consume the edible tubers of various plants

They try to conserve certain plants like *Ficus religiosa, Alegle marmelos, Ensete superbum* etc., but on the other hand, intensive use of the plants by the tribal people has led to over- exploitation making some species endangered for example *Ceropegia anjanerica.* Therefore, there is immediate need to conserve the important species by using modern techniques like micro propagation, in-situ and ex-situ conservation. Ex- situ cultivation of such species will not only promote their conservation but also offer source of income to the local folks.The study explores the medicinal plants used by the tribes' people for the treatment of various ailments and the resulting record of these plants and their uses provides baseline data for future phytochemical and pharmacological studies.

Acknowledgements: The thankful to the traditional healer of the study area for their hospitality and kind response for sharing their accumulative indigenous knowledge to our inquire data.

Family Botanical Name Habit	Common Name	Habit	Plant part used	Medicinal uses
Annonaceae *Annona squamosal* L.	Sitaphad	Tree	Leaves	Seed powder is mixed with leaf juice and this mixture is applied to hairs for 3 days to expel lice. Juice of leaf applied over cuts and wounds by tribes.
Menispermaceae *Tinospora cordifolia* (willd.) Miers.	Gulvel	Climber	Root	Root powder is mixed in water to prepare concentrated extract. Mixture is diluted to a glass of water and 2-3 spoonfuls given in fever. Decoction of stem useful in dysentery and Jaundice. Entire plant used for diabetics.
Papaveraceae *Argemone mexicana* (L)	Bilayat	Herb	Seed, stem, Latex	The juice of the plant is used in Jaundice and skin problems Its latex is used to treat cataract, reddening and itching in the eyes Oil extracted from its seeds is very toxic and must not be consumed
Malvaceae *Abutilon indicum* Linn.	Mudra	shrub	Leaves bark	The bark powder is used in strangury and urinary complaints. Decoction of leaves with water is useful in bronchitis
Sterculia foetida L.		Tree	Seed	The seed of *Sterculia foetida* are edible, but they should be roasted prior to eating. Comparable to sunflower. Bark powder used treatment of dropsy for tribal people.
Bombacaceae *Bombax ceiba* L.	Katery saver	Tree	Wood, Fruit floss	Flower and sugar cubes with water is very good tonic. The fruit floss of this tree is used for the cushions, stuffing of pillows etc.
Sterculiaceae *Helicteres isora* L.	Murudshenge	Shrub	Bark, Root, Fruit	Root paste applied externally for treating in leucoderma (white spot on skin) is given once a day. Decoction of root is taken internally for diabetes Smooth paste is prepared by rubbing fruits and given internally for indigestion in children.
Rutaceae *Alegle marmelos* (L.) Corr.	Bel	Tree	Leaves, Unripe fruit	It 2-3 leaves of Bel chewed regularly, empty stomach in the morning; it would help completely cure diabetes. Fruit pulp is used as digestive and appetizer. Fruit pulp is also useful in diarrhea
Burseraceae *Garuga pinnata* Roxb	Kakad	Tree	bark	It is a common tree that supplies decent fuel and is also used as beams and posts of huts and sheds. Its bark is soft and elastic and is as flooring of cattle sheds.
Sapindaceae *Sapindus trifoliatus* Vahl.	Ritha	Tree	Fruits	A shampoo made from the fruits of this tree is reputed to promote hair growth. Fruit boiled in water and that water is used for washing clothes hairs and skin disease.
Fabaceae *Abrus precatorius* L. Syrt.	Gunj	Climber	Seed, Entire plant	Seeds are boiled in water, the concentrated extract taken as blood purifier for a period of 4-5 weeks. Entire plant parts is dried, roasted and ash is applied on wounds.
Butea monosperma (Lam.) Taub.	Palas	Tree	Gum	The fruit & seed are used in skin disease & also given for scorpion sting. The bark is useful in fractures of the bones. The fresh juice of this species is used reduce the rate of sugar in Diabetes. The gum is applied for cracks on the foot while sleeping at night. Decoction of seed obtained by crushing and boiling used in intestinal worms in children.
Dalbergia sissoo Roxb.	Shisham	Tree	Wood, Bark	The powdered bark of the tree is used in the treatment of dysentery.
Pongamia pinnata (L) Pierre.	Karanj	Tree	Bark , Seeds	Oil extracted from seeds is used externally for skin disease. Bark powder with mix oil is pasted on the wounds of animals for healing.
Sesbania grandiflora (L.) Pers.	Hadga	Tree	Flower	Flowers may be dipped in batter and fried in butter. Tender portions serve as cattle fodder. Tender leaves and flowers are eaten alone as a vegetable. Decoction of bark used in treating eruptive fevers.
Caesalpinaceae *Cassia fistula* L.	Bahawa	Tree	Seed, Leaves and Bark	Seed powders are given on fever of infants. Seed powder are taken with milk for drinking The fresh leaves and flowers of this tree are used in the treatment of ringworm and some skin diseases. Fruit is soaked in water and pulp is taken out; drops of pulp extract are put in the ear during earache Stem bark is powdered. About 10 gm per day is consumed with butter for a weed to cure leucorrhoea

Mimosaceae *Acacia Arabica* (L.) Wild .	Babul	Tree	Young twig, Stem bark	Powder of stem bark mixed with some common salt is applied on teeth and Gum to stop offensive smell of mouth. Gum is useful in diarrhea, dysentery and also used in diabetes. Young twigs are used for cleaning teeth's.
Combretaceae *Terminalia belarica* Roxb.	Baheda	Tree	Stem, Branches and Fruit	The dried fruit of this tree is used in the treatment of cough, fever, indigestion, leprosy etc. The fruit used in the Ayurvedic preparation called "Triphala Churna," which also contains the fruit of *Terminalia chebula* and *Emblica officinalis*.
Terminalia chebula (Retz.) Gaertn.	Hirda	Tree	Stem, Branches and Fruit	Decoction of fruits is taken once or twice a day for the treatment of excess heat in the body. Powder of dried fruit is used toothache and gingivitis. The fruit used in a digestive, anti-inflammatory & skin disease problem. Seed powder a pinch of it given to babies twice a day to cure cough. Dried fruits powder used in cough.
Myrtaceae *Syzygium cumini* (L.) Skeels.	Jambul	Tree	Leaf, Seeds	Seeds boiled in water, decoction mixed in warm cow milk, taken once a day regularly remedy for diabetic patients. 10-20 ml. leaf juice is given twice a day as remedy in dysentery.
Lythraceae *Woodfordia fructicosa* (L), Kurz.	Dhaiti	Shrub	Flower	Tribals extract colors from flowers and use it for dying cloths. Entire plant used made up of hut Flower applied externally to relieve burning sensation of skin. Flowers are sprinkled over wounds and ulcers for quick healing.
Asteraceae *Guizotia abyssinica* L.F. Cass.	Khurasini	Herb	Fruit	Chutney prepared from seeds which is also added to mutton dishes. The seed oil is applied topically to treat burns. Seed powdered mixed with honey, are taken to treat to cough use in tribal people.
Plumbaginaceae *Plumbago zeylanica* L.	Chitrak	Herb	Entire plant	This species is informed to be effective in the treatment of intestinal complaints. Roots are used in rheumatism. Roots decoction is used in skin diseases and diarrhea.
Sapotaceae *Madhuca indica* J.F. (Roxb.) Chevalier	Mahu	Tree	Flowers and Fruit	Flowers are crushed in water and then applied on the body of a baby for massage. Decoction of bark is used for gargling on tonsilotis.
Ebenaceae *Diospyros melanoxylon* (Roxb)	Temburni	Tree	Fruit, Stem bark , Leaves	Fruit decoction is used to gargle in throat infection. The unripe fruit is very astringent and an extract is used in preparation of medicine. Leaves are useful in epitasis and in night blindness. Leaves are also used for preparation of veedis. Fruits are edible taste as astringent.
Apocynaceae *Carissa congesta* Wt. Icon.	Karvand	Shrub	Root	Root piece of this plant is used scorpion bite, kept on molar tooth, chewed and its remnant is applied on stung part. Decoction of roots is given to women to relieve from delivery pain after childbirth. Latex is applied on lips to protect them in winter.
Asclepidaceae *Cryptolepis buchanani* R. and S.	Medvad	Climber	Latex , Root	Plant latex is applied on goitre. Root extract taken orally early in the morning for 6 days to treat jaundice..Root paste is applied over bone fracture.
Hemidesmus indicus (L.) Schultes.	Anantmul	Shrub	Root	Roots are crushed to obtain powder with water and taken internally twice a day to cure for all urinary troubles. Root paste is taken internally on snake bite. Decoction of root is orally taken in mooring times to cure ulcer problems. The extract of whole plant is orally given to recover from fever
Solanaceae *Solanum anguivi* Lam.		Herb	Fruit ,Leaves	Grinded leaves are applied externally on skin infections are healed within few days. Fumigation of fruits is given in toothache to kill worms.
Acanthaceae *Carvia callosa l*Nees.	Karvi	Shrub	Branch ,Leaves	The Karvi leaves are crushed and the juice is used to cure stomach ailments. Leaves are used as feed for cattle to increase lactation
Hygrophilla spinose (Tand).	Talimkhana	Herb	Leaves , Seed	Leaves and seeds are used internally remedy for Jaundice. Seeds taken internally along with milk, which acts as aphrodisiac
Verbenaceae *Vitex negundo* L.	Nirgudi	Shrub	Leaves and Entire plant	The leaf juice is mixed with water and added with small amount of sugar. A spoon of a mixture is given orally twice a day to get relief from fever. Leaf juice and urine of cow is taken internally twice a day by

				women in irregular menstruation. A vapor from heated leaves in earthen vessels is inhaled in severe cough and asthma.
Amaranthaceae *Celosia argentea* L.	Kurdu	Herb	Seed	Decoction of seeds powder with water is given twice a day treating dissolve urinary stones. Spoonful of seed powder is consumed twice a day for three days to treat complaints of uterus.
Euphorbiaceae *Jatropha curcas* L.	Erand	Shrub	Root, Young twigs , Seeds	Paste of bark powder applied on muscular pain, affected part and wrapped with cloth till one gets relief. The young twigs are used as tooth brush in oral disease. The seed oil is used in muscular pain and body swellings. Fresh root powder mixed with black pepper and small amount of asafetida powder is taken internally for treating dysentery.
Zingiberaceae *Curcuma aromatic* (Salish).	Ranhalad	Herb	Root , Leaves	Roots and stem are use as boiling and help in digestion. Rhizome can be dried and used as an alternate for turmeric and blood purification.
Zingiber officinale Rosoe.	Ale	Herb	Rhizome	Rhizome and ajwainfruits powder are taken in used for rheumatism. Fresh rhizome is boiled in water and used in common cough and cold. Decoction of some ginger root used to internally in the treatment of all nausea and indigestion
Discoriaceae *Dioscoria bulbifera* L.	Kanda	Climber	Rhizome, Bulbs , Leaves	Tubers are boiled in water and are consumed for reducing acidity. Rhizome juice is taken internally on dog bite.Bulbs are used to increase appetite. Bulbs are made in pieces and used as vegetable. Leaf juice is very effective in curing skin infections.
Liliaceae *Gloriosa superba* L.	Kal lavi	Climber	Root and Leaves	Root paste with mustard oil applied on the body for four days curing periodic fever. Leaf paste heated and applied on the forehead and neck for 5-6 days for curing asthma of children. Leaf extract is given internally to cattle to kill rings worms.Rhizome paste is applied on legs and hands that help in release of placenta.

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