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ETHNOMEDICINAL PLANTS AND THEIR UTILIZATION BY VILLAGERS IN JAWADHU HILLS OF THIRUVANNAMALAI DISTRICT OF TAMILNADU, INDIA

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ABSTRACT

The present investigation deals with the ethnomedicinal plants of Jawadhu Hills of Thiruvannamalai district, Tamilnadu. The indigenous knowledge of the village dwellers, the herbal medicine practitioners and other traditional healers and the native plants used for medicinal value were collected through questionnaire and personal interviewed during field trips. The study revealed some unknown medical uses of medicinal plants. The scientific name, family, vernacular name (Tamil), part used and traditional practice of 50 species, are discussed here for the treatment of various ailments.

Key words: *Ethnomedicinal plants, Jawadhu Hills, Traditional practice, Thiruvannamalai district.*

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INTRODUCTION

Ethnobotany is the study of how the people of a particular culture and regions makes the use of indigenous plants while the ethno botanist explores how plants are used for food, shelter, medicine, clothing hunting and religious ceremonies. It is the relationship between a given society and its environment and in particular the plant world (Aumeeruddy, 1996).

Indigenous knowledge is as old as human civilization but the term ethnobotany was first coined by an American botanist, John Harshburger (1896), to study the plants used by the primitive and aboriginal people. Since then it has been defined as the traditional knowledge on indigenous

communities, about surrounding plant diversity and as the study of how the people of particular culture and region make use of indigenous plants. Ethnobotany has its roots in Botany. Botany in turn originates in part from an interest in finding plants to help fight illness. In fact, medicine and botany have close ties. Many of today's drugs have been derived from plant resources.

The medicinal use of plants is very old. The writings indicate that therapeutic use of plants is as old as 4000–5000 B.C. and Chinese used first the natural herbal preparations as medicines. In India, however, earliest references of use of plants as medicine appear in Rigveda which is said to be written between 3500–1600 B.C. Later the

properties and therapeutic uses of medicinal plants were studied in detail and recorded empirically by the ancient physicians in Ayurveda (an indigenous system of medicine) which is a basic foundation of ancient medical science in India (Sirkar, 1989).

The knowledge of medicinal plants has been accumulated in the course of many centuries based on different medicinal systems such as Ayurveda, Unani and Siddha. In India, it is reported that traditional healers use 2500 plant species and 100 species of plants serve as regular sources of medicine (Pei, 2001). India is one of the twelve-megabiodiversity centers with 2 hot-spots of biodiversity in the Northeastern Region and Western Ghats. There are about 400 families in the world of the flowering plants; at least 315 are represented in India (Sharma, 2003).

The ethnobotanical research based on ethnopharmacological information is generally considered as an effective approach in the discovery of new anti-infective agents from higher plants (Kloucek *et al.*, 2005). With the trend of coming back to nature in the past years, medicinal plants have become the focus of intense study regarding their potential pharmacological effects. Herbal medicine are based on a premise that plants comprise natural substances that promote health and alleviate illness. Traditionally used medicinal plant produce a variety of compounds of known therapeutic properties (Iyengar, 1985; Chopra *et al.*, 1992; Harborne and Boxtor, 1995).

Jawadhu hills is situated in Thiruvannamalai district of Tamil Nadu in Southern India. The hills has an area of 150 km² and a population of 80,00 (with 98% tribals and others 2%) with 11 Panchayat unions and 229 mountainer villages in Jawathu Hills Taluk are Jawathu Hills , Kanamalai , Kovilur , Melsilambadi , Nammiyambat , Palamarathur, Puliyur, Themalai Athi pathu, Veerappanur, Veergoundanur. It is bounded on the East of Pollur (43 kms), on the West of Amirthi (33 kms) and on the North of Allangayam (25 kms) in Thiruvannamalai district and a part of the Eastern Ghats. The beautiful mountain lies at about 2315 to 3000 mtrs at the sea level. Jawadhu hills have many

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scenic spots. Temperature varies with in the altitude and ranged from 12°C to 33°C. The area is well known for excessive rainfall (> 1000 mm) and dry months are rare. The relative humidity remains high and varies from 40 to 85%.

In the present study, 50 medicinal plant species were surveyed to assess their therapeutic significance in managing various diseases. Ethnomedicinal exploration was conducted in the different localities of the Jawadhu Hills and numbers of valuable data on the uses of indigenous medicinal plants were recorded.

MATERIALS AND METHODS

Periodic field trips for ethnobotanical exploration were undertaken during December 2009-April 2010 in Jawadhu Hills of Thiruvannamalai district. During the surveys personal interviewed were conducted with the village dwellers, the herbal medicine practioners and other traditional healers. Each of the plant material was assigned field book number and documented as to family, scientific name, vernacular name (Tamil), part used and medicinal uses, plant parts that were identified as having use in ethnobotany were collected and compressed. Plant species collected were identified with the help of flora books (Hooker, 1884; Gamble, 1936; Henry *et al.*, 1987; Matthew, 1983). Voucher specimens are deposited in the herbarium of Botany Department, Annamali university, Annamalai nagar.

RESULTS AND DISCUSSION

During present observation and interaction with the village dwellers, the herbal medicine practioners and other traditional healers of Jawadhu Hills. 50 angiospermic plants were enumerated with their medicinal importance. All the 50 species have medicinal uses. 10 species are used for snake bite. Several species are used for diarrhoea , snake bites dyspepsia, diarrhoea and fever. Species such as *Bauhinia tomentosa*, *Coleus forskohlii*, *Gymnema sylvestre*, *Hardwickia binata* and *Holoptelea integrifolia* are used to treat diabetes. For treating skin diseases, *Pterocarpus*

marsupium. The local people utilize *Terminalia bellirica*, *Terminalia chebula* are used for cure cold, cough, fever and stomachache. Due to more demand of ethnomedicinal plants and more profit, local villagers have been motivated for conservation and cultivation of these plant species.

Enumeration:

The plant species are arranged in alphabetical order. Each plant is followed by its

Table 1. Medicinal plants used by the Tribals in Jawadhu Hills

S. No.	Plant name	Family	Vernacular name	Parts used	Mode of application
1.	<i>Acorus calamus</i> Linn.	Acoraceae	Vasambu	Rhizome	<ul style="list-style-type: none"> • <i>Acorus calamus</i> extract is anti-rheumatic and analgesic. The extract is used in the form of powder and balms and it is very much useful in case of asthma, bronchitis and cough. As per Indian Ayurveda it was used as an anesthetic for toothache and headaches. • The rhizome contains from 1.5-3.5% essential oil which is extracted from the fresh roots or the unpeeled dried root by steam distillation. The essential oil is anticonvulsant, antiveratrinic and antiarrhythmic. It is also taken as an infusion, tincture or fluid extract. • The rhizome alcoholic extract has sedative and analgesic properties and causes depression in blood pressure and respiration. Extracts are used to treat intestinal cholis, anorexia, gastritis and gastric ulcers.
2.	<i>Albizia lebbek</i> (L.) Benth.	Mimosaceae	Vagai	Stem	<ul style="list-style-type: none"> • The plant parts used for blood condition-higher blood cholesterol, respiratory tract conditions, asthma, allergic rheumatics. • The dried stem bark is used to cure allergic condition, reduce the release of histamines through the stabilizing effect on most cells.
3.	<i>Alpinia galanga</i> (L.) Willd.	Zingiberaceae	Cittarattai	Rhizome	<ul style="list-style-type: none"> • The rhizome is a common ingredient in Thai soups and curries, where is used fresh in chunks or thin slices, washed and mixed into curry paste, or dried and powdered. • Ground rhizome is washed, crushed and the juice is used to cure the treatment of skin infections like eczema, ringworm, etc.
4.	<i>Artabotrys odoratissimus</i> R. Br. exker Gaul.	Annonaceae	Manoranjitham	Leaves, roots	<ul style="list-style-type: none"> • Leaves: The leaves are found to contain antifertility principle. A decoction of the leaves is given in cholera. • Root: The root of <i>A. odoratissimus</i> is a Chinese folk remedy for malaria.
5.	<i>Atalantia monophylla</i> L.	Rutaceae	Kattu Elumichai	Leaves, root and bark	<ul style="list-style-type: none"> • Leaves: A decoction of the leaves is applied in itch and other cutaneous complaints. • Roots: The roots possess anti-spasmodic, stimulant and resolvent properties and used rheumatism and swelling.

6.	<i>Bauhinia tomentosa</i> L.	Caesalpiniaceae	Eruvachi	Flower, root and bark	<ul style="list-style-type: none"> • Flower: The juice of the flowers is used to treat diarrhoea, dysentery and other stomach disorders. • Root: The fresh root with water and made a paste and gives orally or the fresh roots given to cure antidote to snake bites. • Bark: The juice of the bark is drunk for treatment of cuts and wounds and skin diseases, scrofula and ulcers.
7.	<i>Caesalpinia bonduc</i> (Linn.) Roxb.	Caesalpiniaceae	Kalichchikkai	Leaves, fruits, and seeds	<ul style="list-style-type: none"> • Leaves: Leaves and bark is used for treatment of febrifuge and antiperiodic. • Fruits: Fruits are used as tonic and antipyretic. • Seeds: Fatty oil extracted from the seeds is used as a cosmetic and for discharges from the ear.
8.	<i>Calophyllum inophyllum</i> L.	Clusiaceae	Punnai	Seeds	<ul style="list-style-type: none"> • The nut should be well dried before cracking after which the oil-laden kernel should be for the dried. • The seed oil meets all the major boil-diesel requirements in the United States. • Medicinal use or hair greese active ingredients in the oil to regenerate the tissue and an ingredients in skin creams.
9.	<i>Cardiospermum luridum</i> (Bl.) Adelb.	Sapindaceae	Kattu mutakathan	Whole plant	<ul style="list-style-type: none"> • Various parts of the plant can be extracted to provide laxative, emetic and diuretic, joint pain effects etc. • Leaves can be made into medic pulmonary complications.
10.	<i>Cassia alata</i> L.	Caesalpiniaceae	Vandukolli	Leaves	<ul style="list-style-type: none"> • The leaves are ground in a mortar to obtain a kind of “green cotton wool”. This is mixed with the equal amount of vegetable oil then rubbed on the affected area 2-3 times a day. A fresh preparation is made every day. • <i>Senna alata</i> is often called the ringworm bush because of its very effective fungicidal properties, for treating ringworm and other fungal infections of the skin.
11.	<i>Cassia fistula</i> L.	Fabaceae	Sarakkondri	Whole plant	<ul style="list-style-type: none"> • The leaves for erysipelas, malaria, rheumatism and ulcers. The buds for biliousness, constipation, fever, leprosy and skin disease. • The fruit as anti-inflammatory, antipyretic, purgative and good for chest complaints. • Ayurvedic medicine recognizes the seed as antibilious, aperitif, carminative and laxative. • The root for adenopathy, burning sensations, leprosy, skin diseases, syphilis and tubercular glands.
12.	<i>Chrysopogon zizanioides</i> (L.) Roberty.	Poaceae	Vettiver	Roots	<ul style="list-style-type: none"> • Dried roots are mixed with coconut oil to reduce the dandruff, and hair falling. • Dried roots are used for cosmetics, perfumes and aromatherapy, soaps, lotions, creams to cure for wounds acne and irritating skins. • The roots internally used to cure nervous and circulatory problems, externally used to cure all around tonic bath, to ease muscle pains, as well as treatment for lice.

13.	<i>Coleus forskohlii</i> (Briq.)	Laminaceae	Maruthuvacoorgan	Whole plant	<ul style="list-style-type: none"> The leaf is used as an expectorant, emmenagogue and diuretic. The tubers are prepared as pickle and eaten. Ayurvedic systems of medicine, the plant has been used for treating heart diseases, respiratory disorder, asthma, intestinal disorders, etc. The plant is also used for veterinary purposes.
14.	<i>Commelina benghalensis</i> Linn.	Commelinaceae	Kanavazhai	Whole plant	<ul style="list-style-type: none"> The whole plant used to cure a medicinal herb, that is said to have diuretic, febrifugal and anti-inflammatory effects. It is used to cure swellings of the skin, leprosy and laxative.
15.	<i>Curculigo orchioides</i> (Gaertn.)	Amaryllidaceae	Nilapanankilengu	Leaves, shoots	<ul style="list-style-type: none"> Leaves: The peel is remedy for dysentery and is eaten to overcome halitosis. The distilled juice is given as a sedative. The leaf juice, combined with that of <i>Polygonum</i> and <i>Indigofera</i> is taken after childbirth. A leaf infusion is given as an antispasmodic. Shoots: A decoction of the shoots of wild plant is administered to improve appetite, relieve stomachache and expel intestinal worms.
16.	<i>Datura fastulosa</i> L.	Solanaceae	Karuoomathai	Leaves, flower	<ul style="list-style-type: none"> Leaves: The leaves or juice of it, is consumed make the person dumb (unable to speak). Flower: The dry flower, particularly the violet coloured, if rolled and used like cigar, will help to relieve the asthma or wheezing like symptoms.
17.	<i>Ficus racemosa</i> Roxb.	Moraceae	Atteeka	Bark, root, latex and fruits	<ul style="list-style-type: none"> According to Ayurveda, roots are useful in hydrophobia whereas bark is acrid, cooling, galactagogue and good for gynaecological disorders. Fruits are astringent to bowels, styptic, tonic and useful in the treatment of leucorrhoea, blood disorders, etc. According to Unani system of medicine, leaves are astringent to bowels and good in case of bronchitis whereas, fruits are useful in treatment of dry cough, loss of voice diseases of kidney and spleen. Bark is useful in asthma and piles. Latex is applied externally on caronic infected wounds to alleviate edema, pain and to promote the healing.
18.	<i>Guizotia abyssinica</i> (L.f.) cass.	Asteraceae	Malai ellu	Seeds	<ul style="list-style-type: none"> Seed oil is used reduce the body heat to cure the stomachache. The oil from the seed is used in the treatment of rheumatism, it is applied to treat burns. A paste of the seeds is applied as a poultice in the treatment of scabies, antirheumatic parasiticide and poultice.
19.	<i>Gymnema sylvestre</i> R. Br.	Asclepiadaceae	Sirukurinchan	Leaves, root	<ul style="list-style-type: none"> Leaf powder is mixed with cow's milk and taken orally to treat diabetes. A powder of the dried leaves is used to reduce the sugar level of the blood. The root powder is taken orally and also applied on the bitter spot to treat snakebite.

20.	<i>Hardwickia binata</i> Roxb.	Fabaceae	Achan	Bark	<ul style="list-style-type: none"> • Tannins from the bark are used to produce medicines for the treatment of diarrhoea, worms, indigestion and leprosy. • These tannins also produce an appetizer.
21.	<i>Holoptelea integrifolia</i> (Roxb.) Planch.	Ulmaceae	Aya	Whole plant	<ul style="list-style-type: none"> • The leaves and bark are used in treating, oedema, diabetes, leprosy and other skin diseases, intestinal disorders, piles and spruce. • Seed and paste of stem bark is used in treating ringworm.
22.	<i>Limonia acidissima</i> L.	Rutaceae	Vilam pazham	Leaves, fruits	<ul style="list-style-type: none"> • Leaves: The leaves are aromatic and carminative. Leaves, bark, roots and fruit pulp are all used against snakebite. The pulp is poulticed onto bites and stings of venomous insects, as it the powered rind. • Fruit: The fruit is much used in India as a liver and cardiac tonic, and when curipe, as an astringent means of halting diarrhea and dysentery and effective treatment for hiccough, sore throat and diseases of the gums.
23.	<i>Madhuca indica</i> Gmel.	Sapotaceae	Elupai	Flowers, seed, bark	<ul style="list-style-type: none"> • Flowers: Flower juice is used in the treatment of enlargement of axillary gland, neurotic disorder and taken with cow's milk as an aphrodisiac, in cough and bronchitis. • Seeds: Seed paste is applied to cure muscle fatigue and relieve pain in the muscle and joints to improve the texture and vigor of skin. • Bark: Bark decoction is used in curing bleeding gums and ulcers.
24.	<i>Marsilea quadrifolia</i> L.	Marsileaceae	Aarakeerai	Leaves	<ul style="list-style-type: none"> • A juice made from the leaves is diuretic and febrifuge. It is also used to treat snakebite and applied abscesses.
25.	<i>Melia dubia</i> Willd.Cav.	Meliaceae	Malayvembu	Leaves, seeds	<ul style="list-style-type: none"> • Leaves paste is applied topically on the body to treat small pox, rheumatism and skin diseases. The young twigs are used as toothbrush to develop strong teeth. • The seed and leaf parts of this plant is used to cure cuts and wound and intestinal parasites.
26.	<i>Mimusops elengi</i> L.	Sapotaceae	Magizham	Flowers, fruits	<ul style="list-style-type: none"> • Flowers: Extract of flowers used against heart diseases, leucorrhoea, menorrhagia and act as antiduretic in polyuria and atitodin. The snuff made from the dried and powdered flowers used in a disease called Ahwa in which strong fever, headache and pain in the neck, shoulders and other parts of the body occurs. • Fruits: Ripened fruits facilitates in burning urination. The ripe fruit powdered and mixed with water is given to promote delivery in childbirth.
27.	<i>Mucuna pruriens</i> (L.) DC.	Fabaceae	Poonakkali	Seeds	<ul style="list-style-type: none"> • <i>Mucuna pruriens</i> is used in Siddha medicines for a quite long time for improving sexual function, to cure Pakka Vaatham.

28.	<i>Phyla nodiflora</i> (L.) Michx.	Verbenaceae	Poduthalai	Leaves	<ul style="list-style-type: none"> The leaves are used for cold and their roots are used for shortness of breath and chest. Commonly the plant used for preparation of decoction, it is also employed as a remedy for cough, colds, grippe and asthma.
29.	<i>Piper betle</i> L.	Piperaceae	Vettilai	Leaves	<ul style="list-style-type: none"> In India, betel is used to cast out worms. According to traditional Ayurvedic medicine, chewing areca nut and betel leaf is a good remedy against bad breath. In Malaysia they are used to treat headaches, arthritis and joint pain. In the Philippines, Thailand, Indonesia and China they are used to relieve toothache. They are also used in an infusion to cure indigestion, as a topical cure for constipation, as a decongestant and as an aid to lactation.
30.	<i>Prosopis cineraria</i> (L.) Druce.	Fabaceae	Vanni	Whole plant	<ul style="list-style-type: none"> The smoke of the leaves is good for eye troubles. Flower is powdered mixed with sugar and used during pregnancy as safeguard against miscarriage. Extract of the stem bark exhibits anti-inflammatory properties. The fruit is dry and hot with a flavour, indigestible causes biliousness and destroys nails and to cure snakebites.
31.	<i>Pterocarpus marsupium</i> Roxburgh.	Fabaceae	Vengai	Leaves, flowers, gum	<ul style="list-style-type: none"> The plant pacifies vitiated kapha, pitta, diabetes, skin disease, leucoderma, diarrhea, arthritis cough and graying of hair. The gum kino extracted from the bark is useful in many diseases including diabetes.
32.	<i>Rauvolfia tetraphylla</i> L.	Apocynaceae	Pampukaalacch	Leaves, roots	<ul style="list-style-type: none"> The leaves and fruits are used to cure snakebite. The roots yield the drug deserpidive, which is an antihypertensive and tranquilizer. Alkaloids in the plants reduce blood pressure, depress activity of the central nervous system and act as hypnotics.
33.	<i>Rhinacanthus nasutus</i> (L.) Kurz.	Acanthaceae	Snake jasmine	Root, leaves	<ul style="list-style-type: none"> The fresh leaves and roots, bruised and mixed with limejuice, are useful remedy efficacious in ringworm. The root-bark is a remedy for dhobie's itch. The roots are believed in some parts of India to be an antidote to the bites.
34.	<i>Santalum album</i> L.	Santalaceae	Santhanam	Wood	<ul style="list-style-type: none"> Sandalwood is often used in aromatherapy to treat depression and emotional sexual dysfunction. Sandalwood oil is most useful for the skin; a classic choice for dry any dehydrated skin. In Ayurvedic medicine the oil is prescribed as a tonic, to treat ulcers and abscesses and to treat mucus discharge.
35.	<i>Sapindus laurifolius</i> Vahl.	Sapindaceae	Soap nut	Seeds	<ul style="list-style-type: none"> The seeds are rich in saponins. It is an antibacterial cleanser. Exfoliant. It has expectorant and emetic properties. It is used as cleansing agent for hair, skin and laundry. It is also protects sensitive skin. It prevents hair loss, controls dandruff.

					<ul style="list-style-type: none"> • It balances salivation, epilepsy and chlorosis. Good remedy for dental caries. It is good cleaning agent for oily skin.
36.	<i>Senna auriculata</i> L.	Caesalpinia ceae	Aavaram	Whole plant	<ul style="list-style-type: none"> • Root: The root is used in decoctions against fevers, diabetes, diseases of urinary system and constipation. • Leaves: The leaves have laxative properties. • Flowers: The dried flower and flower buds are used as a substitute for tea in case of diabetes patients. It is also believed to improve the complexion in women. • Seeds: The powdered seed is also applied to the eye, in case of chronic purulent conjunctivitis.
37.	<i>Senna occidentalis</i> L.	Caesalpinia ceae	Peithagarai/ Oolanthavarai	Leaves, fruits	<ul style="list-style-type: none"> • Leaves: Leaf paste is applied topically to treat scabies and to heal bone fracture and for skin diseases. • Fruits: Fruits are consumed to treat stomach disorder.
38.	<i>Sesbania grandiflora</i> (L.) Poiret.	Fabaceae	Akatthi	Leaves, flowers, fruits	<ul style="list-style-type: none"> • Leaves: The leaves are used in biliousness fever and nyctalopia. • Flowers: The juice of the flowers are used to treat headache, head congestion or stuffy nose. • Fruits: The fruits are used to be alexeteric, laxative and intellectually stimulating.
39.	<i>Stachytarpheta indica</i> (L.) Valh.	Verbenaceae	Seemai nayuruvi	Leaves, root	<ul style="list-style-type: none"> • Leaves: The dried leaves are powdered and mixed with salt and water, drunk for controlling the stomachache, cholera and dysentery. • Root: decoction is used for gonorrhoea and stem tips eaten in Java as a flavouring.
40.	<i>Streblus asper</i> Lour.	Moraceae	Bra maram	Whole plant	<ul style="list-style-type: none"> • Various parts of the plants are used in Ayurveda and other folk medicine for the treatments of different ailments such as filariasis, leprosy, toothache, diarrhoea and cancer. • An extract of <i>Strebulus asper</i> leaves have demonstrated to possess a selective bactericidal activity.
41.	<i>Strychnos nuxvomica</i> L.	Loganiaceae	Eatti	Dried ripe seeds	<ul style="list-style-type: none"> • The powdered seeds are employed in a tonic dyspepsia. The tincture of <i>Nux vomica</i> is often used in mixtures for its stimulant action on the gastrointestinal tract. • The senses of smell, touch, hearing and vision are rendered more acute, it improves the pulse and raises blood pressure and is of great value as a tonic to the circulatory system in cardiac failure.
42.	<i>Strychnos potatorum</i> Linn. f.	Loganiaceae	Thetran	Seeds	<ul style="list-style-type: none"> • Plant pacifies vitiated kapha, pitta, diseases of eye, diabetes, ailments related to urinary system. Seeds are also used to clear arishta and asava (Herbal preparation).
43.	<i>Tephrosia purpurea</i> (L.) Pers.	Fabaceae	Kollukai valai	Roots	<ul style="list-style-type: none"> • A decoction of the roots is given in dyspnea, diarrhoea, rheumatism, asthma and urinary disorders. The root powder is salutary for brushing the teeth. It quickly relieves the dental pains and arrests bleeding.

44.	<i>Terminalia arjuna</i> Wight & Arn.	Combretaceae	Marutham	Leaves	<ul style="list-style-type: none"> Juice of this leaf is used to cure dysentery and earache. <i>Arjuna</i> helps in maintaining the cholesterol level at the normal rate, as it contains the antioxidant properties similar to the vitamin E.
45.	<i>Terminalia bellirica</i> Roxb.	Combretaceae	Thandrikkai	Fruits	<ul style="list-style-type: none"> The fruits of this plant used to cure cold, cough, fever and stomachache. Powdered fruit is mixed with the water or cow's milk or goat's milk and taken internally.
46.	<i>Terminalia chebula</i> Retz.	Combretaceae	Kadukkai	Fruits	<ul style="list-style-type: none"> The fruits of this plant used to cure cough, cold, fever and stomachache. Powdered fruit is mixed with the hot water or goat's milk or cow's milk and taken internally.
47.	<i>Vitex negundo</i> Linn.	Verbenaceae	Notchi	Leaves	<ul style="list-style-type: none"> Leaves are boiled in water and the vapour is inhaled twice a day to get relief from headache, fever, cold and cough. Leaf extract is drunk for treatment of fever, impaired hearing.
48.	<i>Vitex peduncularis</i> Wallich exshauer	Verbenaceae	Malai Notchi	Leaves	<ul style="list-style-type: none"> Infusion of leaves and bark used in malarial and black water fevers. Leaves show antibacterial properties.
49.	<i>Zingiber officinalis</i> Roscoe.	Zingiberaceae	Enghee	Rhizome	<ul style="list-style-type: none"> Ginger is a safe remedy for nausea relief during pregnancy. Ginger as a remedy for motion sickness is still a debated issue. Tea brewed from ginger is a folk remedy for colds. Three to four leaves of Tulsi taken along with a piece of ginger on an empty stomach is considered an effective cure for congestion, cough and cold.
50.	<i>Ziziphus rugosa</i> Linn.	Rhamnaceae	Kattu elanthi	Fruits	<ul style="list-style-type: none"> The fruits are applied on cuts and ulcers and are employed in pulmonary ailments and fever; mixed with salt and chilli peppers are given in indigestion and biliousness.

CONCLUSION

The people of Jawadhu Hills of Thiruvannamalai district, Tamilnadu has been using numerous herbs of therapeutic purpose since time immemorial. Villagers chiefly depend on the herbs for all diseases. They are aware of the plant remedies for common ailments like diarrhoea, jaundice, rheumatism, dyspepsia, asthma, diabetes, dysentery, leprosy, antipyretic, gonorrhoea and skin diseases. Although many of these species are known as medicinal plants, others are mainly used for non-medicinal purposes such as preparing agricultural implements. *Santalum album*, *Terminalia bellirica*, *Cassia fistula*, *Gymnema sylvestre*, *Melia dubia* and *Rauvolfia tetraphylla* are the leading species used as remedies against a variety of complaints. They are also very familiar

with the antidotes for snake bites and scorpion sting. Pharmacological and clinical traits will help in the confirmation of the efficacy of the reported herbs. The use of the reported plant species were collected from the regional people, who use them as tradition. Therefore, it is not advisable to use them without consulting an experienced Siddha medicine practitioner. For the benefit of the community the recorded plant species should be taken care of and also steps be taken for conservation as well as cultivation of these plant species.

REFERENCES

1. Aumeerudy, Y. (1996). Ethnobotany, linkages with conservation and development. In: *Proceeding of first training workshop on*

- Ethnobotany and its applications to conservation NARC, Islamabad*, pp. 152-157.
2. Chopra, R.N., S.L. Nayer and I.C. Chopra, 1992. Glossary of Indian medicinal plants, 3rd edn., Council of Scientific and Industrial Research, New Delhi, pp. 7-246.
 3. Gamble, J.S. (1936). Flora of the Presidency of Madras. Vol.I-III Allard & Co. London. (Reprinted -1956) Botanical Survey of India, Calcutta.
 4. Harborne, S.B. and H. Baxter, (1995). Phytochemical Dictionary: A Handbook of Bioactive compounds from plants, Taylor and Francis, London.
 5. Harsh burger, J.W. 1896. Purpoe of Ethnobotany. *Botanical Gazette*, 21: 146-154.
 6. Henry, A.. N.Kumari, G.R. and Chitra, V. (1987). Flora of Tamil Nadu, India, Series 1: Analysis Botanical Survey of India, Southern Circle, Coimbatore.
 7. Hooker, J.D.(1884). The Flora of British India, L. Reeve and Co kent.
 8. Iyengar, M.A., 1985. Study of crude drugs. 2nd edn., College of Pharmaceutical Sciences, Manipal, pp. 13-78.
 9. Kloucek, P., Z. Polesny, B. Svobodova, E. Vlkova and L. Kokoska, 2005. Antibacterial screening of some Peruvian medicinal plants used in Calleria district. *J. Ethnopharmacol.*, **99**: 309-312.
 10. Matthew, K.M. (1983). The Flora of Tamilnadu Carnatic. The Rapinat Herbarium, Tiruchirapalli, Tamilnadu, India.
 11. Pei, S.J.(2001). Ethnobotanical approaches of traditional medicine studies some experiences from Asia, *Pharama Biol.* **39**:74-79.
 12. Sharma, R. (2003). Medicinal Plants of India – An Encyclopedia. Daya Publishing House, New Delhi.
 13. Sirkar NN. (1989). Pharmacological basis of Ayurvedic therapeutics. In: Cultivation and utilization of medicinal plants. Editors: Atal CK and Kapoor BM (Published by PID CSIR).
