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## Ethanobotany of medicinal herbs in indigenous folklore of siruvani region of Tamil Nadu

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### Abstract

The gorgeous foot hills of Western Ghats is bestowed with various medicinal plants that has been used drastically in health care measures. To exploit the full latent awareness of medicinal plants, the present investigation was carried out to find out the ethno medicinal uses of various herbs in Siruvani region of Coimbatore district, Tamil Nadu. Traditional healers were interviewed with standardized questioners with a purpose to obtain data on medicinal herbs traditionally used for the management of various illness. Most of the plant species are used to cure common diseases like stomach pain, head ache, skin diseases, fever and ulcer etc., Usage practices of these medicinal herbs have been reported here. The investigation documented 21 plant species belonging to 16 families are commonly used in the treatment of different diseases. The collected medicinal plants have been arranged alphabetically according to botanical name, followed by common name, vernacular name, family along with organs used.

**Keywords:** ethno medicinal, standardized questioners, siruvani, common diseases

### Introduction

The Indian subcontinent has a very rich diversity of plant species in a wide range of ecosystems. Plants have been used since ancient times for the treatment of various ailments<sup>[1]</sup>. Traditional medicine may be summarized as the sum total of all the knowledge and practical, whether reasonable or not, used in the diagnosis, prevention and elimination of physical, mental or social imbalances, which is relying exclusively on practical experience and observations handed down from generation to generation through either verbally or in writings.

The traditional systems of medicine together with folklore systems continue to serve a large portion of the population, particularly in rural areas, in spite of the advent of the modern medicines. There are about 17,000 species of higher plants, of which approximately 8,000 species are considered to be the ideal medicinal systems, such as Ayurveda, Siddha, etc.<sup>[2]</sup>. Nature has bestowed on us a very rich botanical wealth and a large number of diverse types of plants grow wild in different parts of the country. Increased awareness about the potential of this group of interesting and useful plants has encouraged many innovative and progressive growers and entrepreneurs to take up their cultivation as a commercial enterprise. Apart from health care this enterprise provides means of livelihood to cores of people. However, our knowledge of medicinal plants has mostly been inherited traditionally. Use of plants for using various ailments are not confined to the doctors only but is known to several households as well. Information from ethnic groups on indigenous herbal medicines had always played a role in the discovery of novel chemotherapeutic agents from plants<sup>[3]</sup>.

Ethnobotany tries to study the relationship between humans and nature. Ethnic people are highly knowledgeable about the plants and their medicinal values. This knowledge is passed through oral communication from generation to generation. Over the last century, ethnobotany has evolved into a specific discipline that looks at the people-plant relationship in a multidisciplinary manner, such as ecology, economic botany, pharmacology, public health and other disciplines as needed<sup>[4]</sup>. Today according to the World Health Organization (WHO) as many as 80% of the world's people depend on traditional medicine for their primary healthcare needs<sup>[5]</sup>.

Herbal medicines are assumed to be of great importance in the primary healthcare of individuals and communities in many developing countries<sup>[6]</sup>. Considering the current rate of deforestation with the concurrent loss of biodiversity, there is a need for accurate documentation of the knowledge and experience of the traditional herbalists<sup>[7]</sup>. Documentation of the indigenous knowledge through ethno-botanical studies is important for the conservation and utilization of biological resources<sup>[8]</sup>. The present study was intended to document the medicinal herbs usage by rural people of Siruvani, Coimbatore district in Tamil Nadu for the

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treatment of various human ailments.

## Materials and methods

### Study area

Siruvani is located in suburb of Coimbatore in the Indian state of Tamil Nadu. It is a western suburb of Coimbatore city. Siruvani is located  $10^{\circ} 93' 0''$  North,  $76^{\circ} 68' 0''$  East. Siruvani receives an average of 730 mm of rainfall yearly and the average annual temperature is  $25.5^{\circ}\text{C}$ . The traditional healers of Siruvani region of Tamil Nadu are having a commendable knowledge of the medicinal values those grow around them. This knowledge is now stated to disappear due to modernization and the tendency among younger generation to discard their traditional life style. There is an urgent need to study and document this precious for the future generation.

### Data collection

Standard questionnaire was used to gather the knowledge on ethno medicinal use of medicinal herbs from the rural people of this village. The information regarding the medicinal uses of plants, perception of the local people regarding use of plants in common diseases were collected through questionnaires among the traditional practitioners in the study area. In addition to the vernacular names, information on plant part used, mode of preparation, forms of usage were also collected.

**Table 1:** List of plants used for various medicinal uses

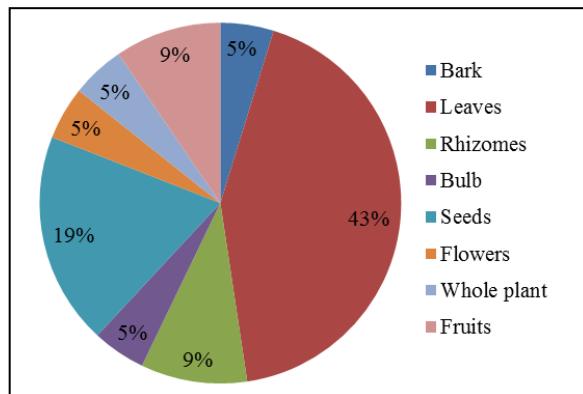
S. No	Scientific name	Common name	Tamil name	Family	Parts used
1.	<i>Abutilon indicum</i>	India mallow	Thuthi	Malvaceae	Bark
2.	<i>Acalypha indica</i>	Indian Acalypha	Kuppaimeni	Euphorbiaceae	Leaves
3.	<i>Acorus calamus</i>	Sweet flag	Vasambu	Araceae	Rhizome
4.	<i>Allium cepa</i>	Onion	Vengayam	Amaryllidaceae	Bulbs
5.	<i>Andrographis lineata</i>	King of bitters	Siriya nangai	Acanthaceae	Leaves
6.	<i>Cardiospermum halicacabum</i>	Mudakathan	ballon vine	Sapindaceae	Leaves
7.	<i>Cuminum cyminum</i>	Cumin	Jeeragam	Apiaceae	Seeds
8.	<i>Curcuma longa</i>	Indian saffron	Manjal	Zingiberaceae	Rhizome
9.	<i>Datura metel</i>	Devil's trumpet	Oomathai	Solanaceae	Flowers
10.	<i>Hamidesmas indicus</i>	Indian sarsaparilla	Nannari	Apocynaceae	Whole plant
11.	<i>Hibiscus rosa-sinensis</i>	Hibiscus	Sembaruthi	Malvaceae	Leaves
12.	<i>Nigella sativa</i>	Black cumin	Karunjeeragam	Apiaceae	Seeds
13.	<i>Phyllanthus niruri</i>	Seed-under-leaf	Keelanelli	Phyllanthaceae	Leaves
14.	<i>Piper nigrum</i>	Pepper	Milagu	Piperaceae	Seed
15.	<i>Plectranthus amboinicus</i>	Country borage	Karpooravalli	Lamiaceae	Leaves
16.	<i>Solanum nigrum</i>	Black Nightshade	Manathakkali	Solanaceae	Leaves
17.	<i>Solanum trilobatum</i>	Purple Fruited Pea eggplant	Thuthuvalai	Solanaceae	Leaves
18.	<i>Syzygium cumini</i>	Jamun	Naaval	Myrtaceae	Fruits and leaves
19.	<i>Tamarindus indica</i>	Tamarind	Puliya maram	Fabaceae	Fruit pulp
20.	<i>Trigonella foenum-graecum</i>	Fenugreek	Vendhayam	Fabaceae	Seeds
21.	<i>Ziziphus jujuba</i>	Red date	Ilandhai	Rhamnaceae	Leaves

The most extensively used plant part in the preparation of medicine for various ailments is the leaf, followed by seeds. Among the different plant parts, the leaves were most

## Results and discussion

The traditional use of plants has declined due to the scarcity of species, which is caused by human activities and over grazing by animals. Therefore, it has become essential and need of the hour to focus on conservation of these plants. Siruvani people have good knowledge about the use of many plants. The study reveals that the old people of this region even now use some of the plants and plant products for domestic purposes specially medicines utilized their traditional knowledge which had been developed by their forefathers through trial and error methods and passed on them through an oral tradition from one generation to another. Most of the traditional knowledge about medicinal plants and their use survived only by words of mouth from generation to generation and are slowly lost. Moreover, the herbal healers had the strong tendency to keep their knowledge secret without any documentation. In most cases, the active molecules of the medicinal plant reported here are unknown. The result shows 21 species belonging to 16 families, were identified from the region of Siruvani, Coimbatore district (Table 1.). Among them three trees, two shrubs, thirteen herbs and three climbers. The collected plants have been arranged alphabetically according to botanical name, followed by common name, vernacular name, family along with organs used.

frequently used (43%) for the treatment of diseases followed by seeds (19%), whole plant parts (5%), bark (5%), bulb (5%), rhizome (9%) fruits (9%) and flowers (5%) (Fig. 1).



**Fig 1:** Share of different plant parts used in treatment of various diseases

Herbal medicines prescribed by traditional healers are either preparation based on single plant part or a combination of several plant parts. Always they prepare medicine to treat diseases in the combination of more number of plants. They believe that combination of several plant parts cures diseases rapidly. The most common forms of preparing the medicine from plants are fresh juice, powder, paste and decoction. Generally, fresh part of the plant is used for the preparation of medicine. When fresh plant parts are unavailable, dried parts are also used. For diseases like cold, fever, cough, diarrhoea, fertility problems, tooth diseases and stomach ache only internal consumption is adopted. These indigenous practices are preferred largely because medicinal plants are less expensive, readily available and reliable, and they are considered to have fewer side effects than modern medicines. The plants which are used by the Siruvani people inhabiting near the Western Ghats of Tamil Nadu in the treatment of various ailments is provided given below with the mode of preparation, method of administration and dosage.

#### **Enumeration of medicinal plants**

##### **1. Jaundice**

*Phyllanthus niruri* (Phyllanthaceae). Local Name: Keelanelli. The plant is an annual herb commonly known as gale of the wind, stonebreaker or seed-under-leaf and found throughout India. One hand full of leaves of this plant along with one spoon of black cumin (*Nigella sativa*) is to be ground with milk. Dosage: This ground paste is taken orally along with one glass of cow's milk twice a day (morning and evening).

##### **2. Diabetes**

###### **1. *Andrographis lineata* Wallich ex Nees (Acanthaceae).**

**Local Name:** Siriya nangai. The plant is annual herb commonly known as king of bitters and found in the hedgerows throughout the plains in India. Leaf is shade dried, powdered and taken orally along with cow's or goat's milk. Dosage: 2 teaspoon of powder is taken twice a day after food for 2-3 months.

###### **2. *Abutilon indicum* (L) (Malvaceae) Local Name:** Thuthi.

It is a small shrub commonly known as India mallow and found in tropical and subtropical regions of India. Bark should be boiled with water to make a decoction. Dosage: Decoction of stem bark (25-50ml) given two times daily after principle meals for 3-4 week.

##### **3. Ear pain**

*Datura metel* (Solanaceae). Local Name: Oomathai. The plant is shrub-like perennial herb commonly known as devil's trumpet found tropical parts of India. Squeeze the flowers of Datura to get an extract. Dosage: This extract should be administered into ear (2 drops alone).

##### **4. Digestion**

*Cuminum cyminum* (Apiaceae). Local Name: Jeeragam. Cumin is an annual herbaceous plant and commonly cultivated in India. Seeds of cumin are boiled with water. Essence of the boiled water is to be taken orally along with or without jaggery. Dosage: 1 cup of boiled water is taken twice a day after food for 1 or 2 days.

##### **5. Cold**

###### **1. *Curcuma longa* L (Zingiberaceae). Local Name:** Manjal. It is an herbaceous perennial commonly known as 'Indian saffron' and found and cultivated throughout tropical plains in India. One tea spoon of Turmeric powder

is mixed with a same proportion of pepper powder (*Piper nigrum*). This mixture is to be boiled with cow's milk. Dosage: This drink is taken orally twice a day for two days.

###### **2. *Solanum trilobatum* (Solanaceae) Local Name:** Thuthuvalai. It is a creeper type bush commonly known as Purple Fruited Pea Eggplant. Leaves of this plant are best to be used in preparing "rasam". Pound the leaves with other dried spices in mortar and boil to make rasam. Take a teaspoon of powdered leaf in a glass of milk daily will completely rid of cold and cough.

###### **3. *Plectranthus amboinicus* (Lamiaceae). Local Name:** Karpooravalli. It is a tender fleshy perennial plant commonly known as Country borage and is distributed throughout India. Raw leaves can be taken for throat infection, cold and coughs. Juice from the leaves can be taken orally.

##### **6. Hair loss**

*Trigonella foenum-graecum* (Fabaceae). Local Name: Vendhayam. Fenugreek is an annual herbaceous plant commonly known as fresh menthi and cultivated in irrigates areas of India. Grind fenugreek seeds with hibiscus leave (*Hibiscus rosa-sinensis*) and make a past. Dosage: Apply this before taking hair wash.

##### **7. For Babies**

*Acorus calamus*. L (Araceae). Local Name: Vasambu/Pillai marundhu. The plant is perennial herb commonly known as sweet flag and cultivated throughout in India. Small square pieces of vasambu tied in a thread should be put around the babies wrist to cure stomach infections. The rhizome is burnt and the ashes are mixed with coconut oil and applied over the lower abdomen.

##### **8. Mouth ulcers**

*Solanum nigrum* (Solanaceae). Local Name: Manathakkali. The plant is shrub herb commonly known as Black Nightshade and found throughout India. Leaves of this plant can be chewed or sucked to quickly heal the ulcers. Leaves of this herb can be cooked with dhal and eaten for curing ulcers.

##### **9. Honey bee stings**

*Tamarindus indica* (Fabaceae). Local Name: Puliya maram. It is a leguminous tree commonly known as tamarind and found throughout the plains of India. Tamarind should be mixed with lime and these paste should be applied the place where honey bites in our body.

##### **10. Scurvy disease**

*Ziziphus jujuba* (Rhamnaceae). Local Name: Ilandhai. This tree is commonly known as red date and found in dry gravelly or stony slopes of hills and mountains of India. Young tender leaves are shade dried and powdered. Mix this powder with water and make the solution. This solution can be used for gargling and rinsing the mouth.

##### **11. Dry cough**

*Allium cepa* (Amaryllidaceae). Local Name: Vengayam. It is an herbaceous geophyte perennials with true bulbs commonly known as onion and found in the tropical regions of India. Mix onion juice with butter milk. Then drink it, will reduce the dry cough.

##### **12. Body Cool**

*Hamidesmas indicus* (Apocynaceae). Local Name: Nannari. It

is diffusely twining undershrub having numerous slender wiry laticiferous branches with purplish brown bark commonly known as Indian sarsaparilla and found throughout the plains of India. Juice extracted from the whole plant of Nannari and decoction of stem bark is taken internally to keep the body cool.

### 13. Cough

*Acalypha indica* L. (Euphorbiaceae). Local Name: Kuppaimeni. The plant is annual herb commonly known as Indian Acalypha and found throughout the India. Juice of fresh leaves is emetic, and used to cure of cough. The herb paste is applied on throat once a day for 2 days to cure severe cough.

### 14. Menstrual problem

*Syzygium cumini* (Myrtaceae). Local Name: Naaval. It is an evergreen tropical tree commonly known as Jamun and found in tropical and subtropical regions of India. Fruit can be eaten. Tender leaves are shade dried and make decoction with the bark.

### 15. Joint pain (Legs)

*Cardiospermum halicacabum* (Sapindaceae). Local Name: Mudakathan. It is a climbing plant commonly known as balloon vine and found throughout India. Take a handful of Balloon vine leaves, clean it properly with water, grind with little quantity of water to make as paste and add it with dosa mix or else you can mix these cleaned raw leaves with dosa mix and then grind it to make dosa.

### 16. Skin diseases

*Acalypha indica* L. (Euphorbiaceae). Local Name: Kuppaimeni. The plant is annual herb commonly known as Indian Acalypha and found throughout the India. Fresh juice of leaves mixed with oil and salt is used to cure Scabies.

### Conclusion

The present study has indicated that the current healers will probably be the final generation of traditional healers in the Siruvani region. It thus becomes necessary to acquire and preserve this traditional system of medicine by proper documentation and identification of specimens. The wealth of traditional knowledge on medicinal plants points to a great potential for research and the discovery of new drugs to fight diseases, obtaining new foods and other new uses. Instead of trying to identify the active components of herbs through massive collection of plants from natural sources, it is better to start investigating the efficacy of the medicinal plant based on the traditional healthcare practices by indigenous people.

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