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## Traditional knowledge on medicinal plants used by the Irula tribe of Kadambur Hills, Erode district, Tamil Nadu, India

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### Abstract

Documentation of the indigenous knowledge through ethnobotanical studies is important for the conservation of knowledge of traditional medicines preserved in tribal and rural communities of various parts of the world before it is permanently lost. In order to document the traditional knowledge and utilization of the medicinal plants present in Kadambur hills, by the Irula tribes, an exhaustive survey was carried out for 5 months from November 2015 to March 2016.

**Keywords:** Ethnobotanical studies, tribes, survey of medicinal plants, Kadambur hills, traditional knowledge

### 1. Introduction

India is rich diversity of medicinal plants. The supply base of 90% herbal raw drugs used in the manufacture of Ayurveda, Sidda, Unani & Homoeopathy systems of medicines is largely from the wild. This wild source is speedily shrinking day – by – day. Therefore, there is a need for conservation and sustainable use of medicinal plants. It is hoped that, in the future, ethno botany may play an increasingly important role in sustainable development and biodiversity conservation [1]. They key threats for medicinal plants are due to over dependency by local people, grazing, forest fires and commercial activities. The local people depend upon these plants are due to the effective nature, non availability of medical felicities and ethno cultural beliefs. Cultivation is clearly a sustainable alternative to the present collection of medicinal plants from the wild. This can be a potential provider of returns to the farmers.

Recently, considerable attention has been paid to utilize eco- friendly and bio- friendly plant based products for the prevention and cure the different human diseases. It is documented that 80% of the world's population has faith in traditional medicine, particularly plant drugs for their primary healthcare. It is generally estimated that over 6000 plant in India are in use in traditional, folk and herbal medicine, representing about 75% of the medicinal needs of the third world countries.

India is one of the most medico-culturally diverse countries in world where the medicinal plant sector is part of a time honoured tradition that is respected even today. The main focus of the present study is to obtain detailed information on the use of plants and their therapeutic practice among Irula Tribals of Kadambur Hill, Sathyamangalam, Erode District, Tamil nadu. In view of the aforesaid facts, the present study was focussed with the following objectives.

- To document the existing medicinal plants in Kadambur hills of Erode district in Tamil Nadu.
- To enumerate the medicinal uses of the plants to be documented, followed by the Irula tribes inhabiting in the study area.

### 2. Methodology

Ethnobotanical survey was carried out in Kadambur Hills, which is found in Sathyamangalam forest sanctuary, Erode District, Tamil Nadu (Fig 1). Sathyamangalam forest is a part of Western Ghats covered with mixed deciduous vegetation. The Kadambur Hill is situated at 1264 meters above the sea level with a total area of 4532.53 ha. It lies 77° 3' 42' N longitudes and 11° 40' 16' latitude. The medicinal plants survey was carried out among local population and the tribe called Irulas living in this area.

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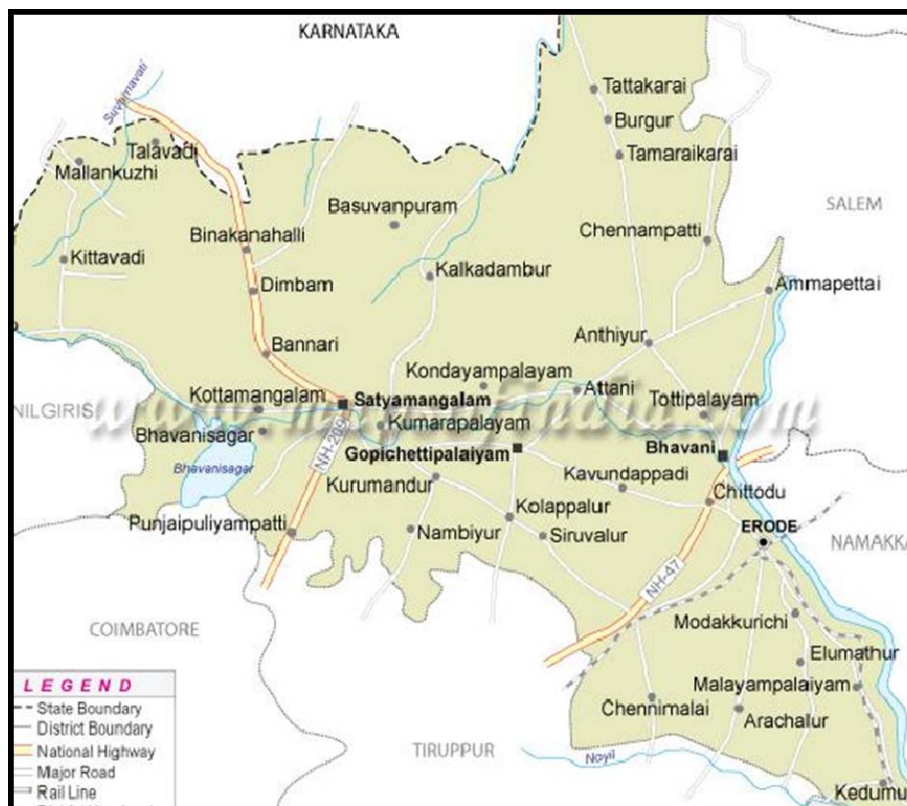


Fig 1: Study area

Data were collected according to the methodology suggested by [2] through questionnaire interviews and discussions among tribal practitioners in their local language. Our questionnaire allowed descriptive response on the plant prescribed, such as part of the plant used, medicinal uses, and detailed information about mode of preparation (i.e., decoction, paste, powder and juice) form of usage either fresh or dried and mixtures of other plants used as ingredients.

Periodical field visits have been carried out once in a week for 5 months to the study ethno medicinal plants at Kadambur, Erode. The local people near by the study hills has been enquired and interviewed to gather the first hand information on the medicinal uses of plants with vernacular name, method of preparation of drug, mode of administration for each and every medicinal plants collected during the study period. The present study involves the identification, enumeration and

utilization of medicinal flora in the selected local people and tribal.

### 3. Results

The study is based on the survey of traditional information on the medicinal plants from Irula tribes inhabiting in Kadambur hill, Erode district. Presented data are the general results of the ethnobotanical survey conducted from November 2015 to March 2016. The traditional informations regarding the medicinal uses of medicinal plants have been collected and are represented (Table-1). During the study, it was found that, around 25 plant species were used as herbal remedy for the treatment of several ailments. Medicinal plants belonging to the family such as *Apocynaceae*, *Asteraceae*, *Acanthaceae* were largely represented (2 species each). The rest of the families recorded in one species each.

**Table 1:** Traditional Knowledge on Medicinal Plants Used by the Irula Tribe of Kadambur Hills, Erode District, Tamilnadu, India

S.No	Botanical name	Family	Local name	Habit	Parts used	Ailments treated
1	<i>Andrographis paniculata</i> Nees.	Acanthaceae	Periaanangai	Shrub	Leaf	Snake bite, Chicken kunia, Cancer.
2	<i>Asparagus recemosus</i> Willd.	Asparagaceae	Neermulli	Shurb	Leaf and root	Weakened immunity
3	<i>Biophytum sensitivum</i> Linn	Oxalidaceae	Nilaccurunki	Herb	Leaf	anti-diabetic treatment.
4	<i>Bixa orellene</i> Linn.	Bixaceae	Sappiravirai	Small tree	Leaf & Seed	treat various disorders
5	<i>Celosia argentea</i> Linn.	Amaranthaceae	Pannaisedi	Herb	Leaf	Musculoskeletal disorder, Dysuria
6	<i>Cuccinia indica</i> Weight	Cucurbitaceae	Thondaisedi	Climber	Leaf	diabetes treatment
7	<i>Curcuma pseudomontana</i> J.Graham	Zingberaceae	Kattumanjal	Herb	Tuber	cure jaundice
8	<i>Cynodon dactylon</i> (L) Pers.	Poaceae	Pullu	Herb	Leaf	<b>Diabetic, piles</b>
9	<i>Eupatorium parfoliatum</i> Linn.	Asteraceae	Neerpoodu	Shrub	Leaf	fever and colds
10	<i>Indigafer atictoria</i> Linn.	Fabaceae	Kokkaisedi	Shrub	Root	Stomac pain, fever, animal bite

11	<i>Justicia adhatoda</i> Linn.	Acanthaceae	AaduotteShrubsoppu	Shrub	Leaf	<b>treat fever, cancer</b>
12	<i>Mirabilis jalapa</i> Linn.	Nyctaginaceae	Ubathiuirundai	Shrub	Leaf, Tuber	treat wounds. treat abscesses
13	<i>Hemidesmus indicus</i> (L.) R.Br.	Apocynaceae	Nannari	Climber	Leaf	coolant and blood-purifier
14	<i>Pergularia daemia</i> (Forsk.) Chiov.	Apocynaceae	Kuruttigaisedi	Climber	Leaf	Asthma and snake-bite
15	<i>Plumbago zeylanica</i> Linn.	Plumbaginaceae	Kodiveri	Herb	Root	Piles
16	<i>Smilax zeylanica</i> Linn.	Smilacaceae	Naguthali	Climber	Bark, Root	Abscesses
17	<i>Solanum nigrum</i> Linn.	Solanaceae	Chukutikeerai	Shrub	Leaf	Wound healing
18	<i>Tinospora cordifolia</i> (Thumb.) Miers.	Menispermaceae	Vayvasale	Climber	Stem	jaundice, diabetes
19	<i>Toddalia asiatica</i> Lamk.	Rutaceae	Masihasedi	Herb	Bark	Fever, cough
20	<i>Vanda coerulea</i> Linn.	Orchidaceae	Seguduolai	Herb	Leaf, Stem & Root	Skin treatment
21	<i>Vernonia cinerea</i> Linn.	Asteraceae	Karumpoolai	Herb	Leaf	Asthma, cough and muscular pain
22	<i>Sansevieria fischeri</i> Thumb.	Asparagaceae		Herb	Leaf	Ear infections, abdominal pain
23	<i>Anogeissus latifolia</i> (Roxb. ex DC.) Wall. & Perr.	Comberetaceae	Vellainagam	Tree	Bark	dysuria, cough, colic, liver complaints, snake bits and skin diseases.
24	<i>Mitragyna parvifolia</i> (Roxb.) Korth.	Rubiaceae	Kadambam	Tree	Leaf & Root	fevers, colic, muscular pain, cough.
25	<i>Trichodesma indicum</i> (Linn.) R.Br.	Boraginaceae	Kallutaitumpi	Herb	Root, Leaf & Flower	Fever, skin diseases

The presently collected 25 medicinal plants, 40% plants were herbs, 8% were tree species, 28% shrubs and 20% climbers (Figure-2). The presently studied Irula tribes used leaves (56

%) as the major part in majority of the medicinal preparations, which is followed by whole plant (22%) root, (10 %) bark, (6 %) tuber, (6 %) stem is very low (Figure-3).

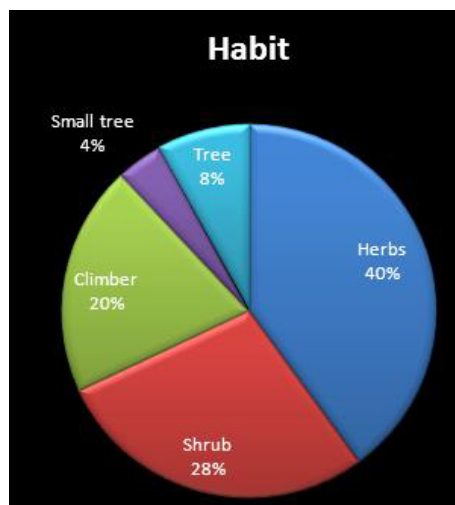


Fig 2: Life forms of reported common medicinal plants

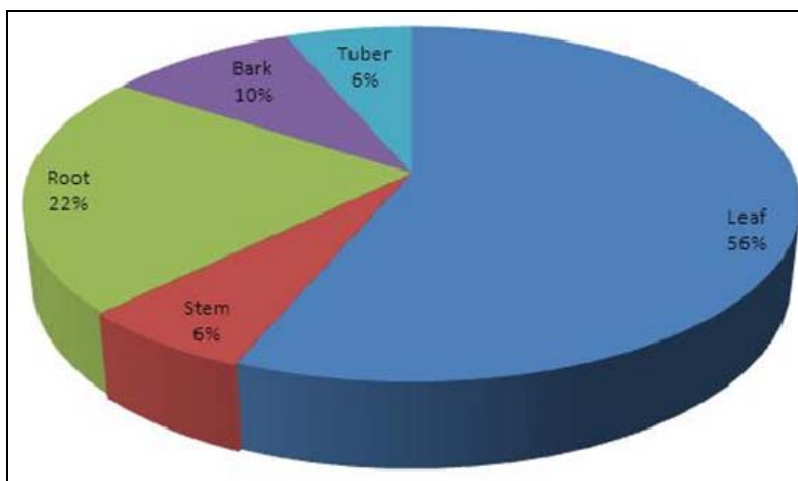


Fig 3: Percentage of plant parts used for the preparation of medicine.

Hence is present study, around 25 medicinal plants used by the Irula tribes to treat the various ailments inhabiting kadambur hills, Erode District, were documented. Further phytochemical and pharmacological study may be carried out to identifying the active principles of the potential medicinal plant (s).

#### 4. Discussion

In the present study area a total number of 25 species has been documented. Over 3500 wild species are used to cure ailments in man and his domesticated animals. Wounds and as disinfectant. *Panicum antidotale*, *Artemisia maritime*, *Bronchisl troubles*. Bulps of *Urigenia indica*. Blood purification and promoting lochial discharge. Moolugo cerviana, Urinary troubles. *Glinus lotoides*, used for swelling. Root paste of *corallocarpus epigaeus* is used for dental disorders. The root decoction of *Hemidesmus indicus* used as blood purifier and used for the treatment of skin diseases and ulcer. The Rutaceae member, *Feronia elephantinis* administrated for urinary problems, dysentery, diarrhea and snakebite. *Bidenspilosa* [3] it have the curing properties for following ailments glandular sclerosis, wounds, colds and flu, acute or chronic hepatitis and Urinary tract infctions.

*Lucus aspera* used as anti bacterial medicine and also as pain reliever [4], reported that the cumin *Cuminum cyminum* used to dyspepsia and gastric disorders and as antiseptic agent. This may be explained that the utilization value of the studied foot hills of Ponnuthumalai was formed to be higher because of the presence of large number of plant species as medicinally important. [7] His also identified a great percentage of economically and medicinally important speceies in the floristic list of Nilgiri shoals.

*Aerva lanata* (L) A. L. Juss. ex Schulets. (Amaranthaceae) locally known as 'bui' is an erect or prostrate undershurb with a long tap-root and many woolly-tomentose branches, found in the wild, throughout India. In traditional medicine the plant is used in cough strangury (slow to be and painful discharge of urine), headache and urolithiasis [5].

The Ayyanarkoil hill range of Viruthunagar forest division, inhabited by the paliyan tribals, to collect the information on ethnomedical plants used by them for their primary healthcare and the survey enumerated only 43 species of plants with multiple ethnomedical properties [6].

A survey on the plants used as medicine by Paliyar tribes of Shenbagathope in Viruthunagar district of Tamil Nadu<sup>7</sup>. They documented the traditional medicinal uses of 58 angiospermic plant species belonging to 54 genera of 31 families for various diseases and ailments like bronchitis, snake poison, wounds, burns, fever, tooth and ear-ache, dysentery, skin diseases etc. 84 plants were followed by the Paliyar tribes of Ayyanar Koil of Viruthunagar in Tamil Nadu to cure different ailments<sup>8</sup>. Conversely, the present investigation carried out in Thalayanai hills which is located adjacent to the above mentioned areas revealed that 110 plants are used as medicine by the Paliyar tribes.

An ethnobotanical survey to collect the information on the use of medicinal plants by Paliyar tribes using an integrated approach in Madurai district. A total of 60 ethnomedicinal plant species distributed in 32 families were documented and were mostly used to cure skin diseases, poisonus bites, stomach-ache and nervous disorders [9].

To enumerate the ethnomedicinal plants used to cure diarrhea and dysentery among the Paliyar tribes living in Pachalur hills of Dindigal district in Tamil Nadu, Southern India. The paper deals with 54 ethnomedicinal plants of 52 genera belonging to 31 families used by the tribes for diarrhea and dysentery in

Pachalur hills [10].

A total of 41 plants speices of 39 genera belonging to 23 families were found in Vaigai river of Manamadurai region possess medicinal values and are used to cure various diseases and ailments like diarrhea, asthma, fever, jaundice, wounds, stomach pain, cough, cold, poisonous bites [8], etc.

#### 5. Conclusion

Periodical visit to the study area, Kadambur Hills, Sathyamangalam Taluk Erode district were carried out. The identification and collection of 25 medicinal plants belonging to 22 families were made from the available information about the medicinal plants from the local people. The detailed enumerations have been given which include vernacular name, identifying features, active principle and ethnomedicinal uses.

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