



## Herbal healing practices of Indigenous Irular tribal peoples of Sendurai Block at Ariyalur District, TamilNadu

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### ABSTRACT

*An ethnobotanical survey was carried out among the ethnic groups (Irular) at Sendurai Block in Ariyalur District, South India. The tribal communities of Irular nurture rich knowledge about medicinal plants and its traditional uses. Therefore, we have done an exhaustive ethnobotanical survey in this area. In this present investigation, it is observed that the tribes being used 47 wild valuable plant species belonging to 21 families were identified with relevant information and documented in this paper with regard to their botanical name, family, vernacular name, parts used and utilization by the local tribal people for different human ailments. The common diseases treated by the herbal practitioner were appetizer, aphrodisiacs, asthma, corn, dandruff, diuretic, diabetes, jaundice, indigestion, infertility, piles, paralyzes, skin diseases, sting of scorpion and wasp, ulcer.*

**KEYWORDS:** *Indigenous tribes, medicinal plants, herbal practitioner and diabetic*

### I. INTRODUCTION

Plants have been used in traditional medicine for several thousand years. The knowledge of medicinal plants has been accumulated in the course of many centuries based on different medicinal systems such as Ayurveda, Siddha and Unani. In India, it is reported that traditional healers used 2500 plant species and 100 species of plants serve as regular sources of medicine (Pei, 2001). The Indian subcontinent is being inhabited by over 53.8m tribal people in 5,000 forest dominated villages of tribal community and comprising 15% of the total geographical area of Indian landmasses, representing one of the greatest emporia of ethnobotanical wealth (Chowdhuri, 2000). They have a deep belief in their native folklore medicine for remedies and they rely exclusively on their own herbal cure (Sajem and Gosai, 2006).

Traditionally, this treasure of knowledge has been passed on orally from generation to generation without any written documentation (Perumalsamy and Ignacimuthu, 2000) and is still retained by various indigenous groups around the World. Utilization of plants for medicinal purposes in India has been documented long back in ancient literature because they are essential to human survival (Tulsidas, 1631 and Sastri *et al.*, 1996). Documenting the indigenous knowledge through ethnobotanical studies is important for the conservation and utilization of biological resources. Ethnobotanical survey has been found to be one of the reliable approaches to drug discovery (Fabricant and Farnsworth, 2001). These

traditional medical systems are generally based on the uses of natural and local products which are commonly related to the people's perspective on the world and life (Toledo *et al.*, 2009). Several active compounds have been discovered from plants on the basis of ethnobotanical information and used directly as patented drugs (Carney *et al.*, 1999).

For every disease of man, medicine is available in the form of plants in our surrounding. It is our responsibility to identify the medicinal plants and use them in the proper way. The science of ethnobotany has recently received much attention. On the other hand, knowledge of the people associated with the traditional folk practices using wild plants are now fast disappearing due to modernization and gradual migration to mainstream medicines. Hence, there is an urgent need to study and document this precious Indigenous and traditional knowledge for our posterity (Panimalar, 2005). Traditional uses medicinal plants cure many diseases like cold, fever, dysentery, wounds, hysteria, diabetes, spleen animal and insect bite, birth control, stomach complaints (Krishnamoorthi *et al.*, 2015).

## II. MATERIALS AND METHODS

### Study area

This study was designed to analyse and document the traditional and Indigenous knowledge of the Irular tribe's community of the Sendurai Block at Ariyalur district in Tamil Nadu. The survey was conducted in five different places of Sendurai Block viz, Kannjamalaippatti, Ponnparappi, Sendurai, Sirukadambur, Sirukathur, Shozhankurichy and Udaiyankudikadu. About hundred respondents were interviewed for their knowledge and mode of use of medicinal plants. Information was recorded by using a questionnaire.

### Irular Tribes

The Irular are a tribe of around 150,000 people and are categorized as "backward caste," or "B.C." for short. They are the lowest of the low and the poorest of the poor in Indian society, with little means at their disposal of enforcing their rights, despite the fact that they live in the world's largest functioning democracy. The Irular inhabit the northern districts of Tamil Nadu, a state in south-eastern India. Located not far from the city of Madras, they live in a tropical area subject to monsoon rains. Their language, Irular, is related to Tamil and Kannada and, in the Tamil language, the name *Irula* means "people of darkness." This could refer to their dark-coloured skin or to the fact that all important events traditionally took place in the darkness of night.

Irula houses are built together in small settlements or villages called *mottas*. The *mottas* are usually situated on the edges of steep hills and are surrounded by a few dry fields, gardens, and forests or plantations. The typical house consists of only one room with an earthen floor, thatched roof, and a front porch. Less traditional houses have tile roofs and stone walls. The people sleep on mats, which they roll up and store in a corner during the day. They always wash their feet before going inside the house, where usually only family members and relatives are allowed.

### Documentation of ITK of medicinal plants

The method of exploration was conducted with representatives drawn from various age groups and discussed about opinion to document their traditional and indigenous knowledge for conservation, proper documentation and utilization of their own valuable information. The information was collected by following the questionnaire in an informal way during interactions to avoid nervousness among the respondent. After collection of data it was analyzed with the help of relevant existing literature.

**Table 1. Showed different age groups of Irular tribe’s questionnaire by use of medicinal plants.**

S. No	Village Name	More than 50 years		30-50 years		Less than 30 years	
		Person surveyed	Answered relatively	Person surveyed	Answered relatively	Person surveyed	Answered relatively
1.	Kannjamalaippatti	30	13	40	7	30	5
2.	Muthukulam	30	12	40	7	30	4
3.	Sendurai	30	15	40	10	30	7
4.	Sirukathur	30	11	40	7	30	3
5.	Shozhankurichy	30	10	40	4	30	2

### III. RESULT AND DISCUSSION

Among the 7 different places and 3 different age groups at Poiyur people answered relatively higher traditional knowledge information compared to other places. Among the different age group more than 50 year old persons gave highest information compared to middle and young age group (Table. 1). The following are some of the uses and advantages of medicinal plants revealed by the respondents. Herbs are remarkable plants, with a rich and fascinating history that dates back thousands of years.

The result of this study has revealed 47 plant species belonging to 21 families that are used for various purposes by herbalists, traditional healers and tribal people of Sendurai Block. All these medicinal plant species collected by local communities from the surrounding areas, forests and alpine meadows and used them as remedies for various ailments. Methods of using these plants vary according to the nature of diseases and knowledge of individuals. The methods of preparation categorized into six categories. The plant parts applied as a paste, boiled, decoction, juice extracted from the fresh plant parts, powder made from dried plant parts, others. Paste is the main methods of preparation, either for oral for external administration. The inhabitants in the villages of Sendurai Block use a number of medicinal plants for the treatment of various diseases. The indigenous knowledge about medicinal plants and therapies was composed verbally and passed orally from generation to generation. They fear that their recognition in the society which they have earned due to their knowledge will be lost and hence they want to keep it secret. The secrecy of traditional medical practice is also a common phenomenon found in other part of Haryana (Sharma *et al.*, 1992), India (Upadhyay *et al.*, 2007) and worldwide (Giday *et al.*, 2009 and Ayyanar *et al.*, 2005). Similarly the threat to traditional knowledge also observed in other parts of India due to less interest of the younger generation (Muthu *et al.*, 2006).

Now the herbal medicine is a recognized system of medicine throughout the World. For centuries, plants with medicinal properties have been utilized successfully in the treatment of ailments of varying degrees of severity (Bartram, 1995). The leaves are most frequently used for the treatment of diseases. External applications and internal consumption are involved in the treatment of wounds, snake bite; headache and skin diseases (Nithyadevi and Shivaanant, 2015). Largest numbers of remedies are digestive problems followed by respiratory disorders, skin diseases, wound healing, genital disorders, snake bite and diabetes (Kausik Mondal *et al.*, 2015).

### IV. CONCLUSION

People used these medicinal plants for the treatment of various diseases like cold, cough, arthritis, body pain, diabetic, hair problem, stomach problem, genital disorders. It can be concluded from the study, these result forms a good basis for selection of potential plant species for further phytochemical and pharmacological investigation.

**Table 2. Showing the list of medicinal plants and their use, mode of consumption by the Irular tribes of Ariyalur District, TamilNadu.**

S. No	Botanical name	Family	Local name	Parts used	Method of preparation and uses
1	<i>Abutilon indicum</i> L.	Malvaceae	Thuthi	Leaf	Leaf paste is given orally for piles and prepare pillow by using leaves and using as a sitting seat.
2	<i>Achyranthes aspera</i> L.	Amaranthaceae	Nayuruvi	Leaf	Leaf Paste with onion is applied externally on the bitten site of dog and to cure skin diseases, the stem good for tooth which used as a tooth fresh.
3	<i>Aclypha indica</i> L.	Euphorbiaceae	Kuppaimeni	leaves	Fresh leaves paste is applied externally for skin problem and fresh leaf juice mixed with 5% salt given orally for cold.
4	<i>Adhatoda vasica</i> Nees.	Acanthaceae	Adathodai	Shrub	The leaf decoction or leaf powder or one leaf with one block pepper is taken internally to cure cold and cough and also taken in the form of rasam.
5	<i>Aegle marmelos</i> L. Correa	Rutaceae	Villvam	Leaf and fruit pulp	Leaf powder or decoction taken orally for nausea and fruit pulp act as a stomach cleans, body coolant and extra body weight reduction.
6	<i>Allium sativum</i> L.	Alliaceae	Poondu	Bulb	Bulb paste taken in thuvaial, kozhambu, soup form for gastric stimulant and mother milk secretion.
7	<i>Andrographis paniculata</i> Nees.	Acanthaceae	Seriya nangai or nilavembu	Leaf	Leaf paste, powder and decoction is taken orally for snake bite, diabetic, cold ,skin diseases and fever
8	<i>Aristolochia bracteata</i> L.	Aristolochiaceae	Aduthinam palai	Leaf	Fresh leaf paste is given for snake bite, powder given orally for cold, cough and to increase sperm count.
9	<i>Azima tetragantha</i> Lamk.	Salvadoraceae	Mullusangam	Leaf and Root	Decoction prepared from root, taken orally to treat cold and cough. External application of leaf paste for skin tumor, oral administration of long time to relive from arthritis. Young leaves used for chutney preparation.
10	<i>Boerhaavia diffusa</i> L.	Nyctaginaceae	Mukkuratai	Leaf and root	Leaf powder is taken orally for kidney stone, sugar and body pain.
11	<i>Calotropis gigantea</i> L.	Acslepiadeaceae	Vella erukku	Leaf and Latex	Boiled leaf paste is applied externally for tumors. The 3- 5 drops of latex applied for stint of scorpion.
12	<i>Cardiospermum halicacabum</i> L.	Sapindaceae	Mukakkathan	Leaf	Leaf paste is taken as kozhambu and Dosa form for body pain, joint pain and gastric problem. Leaves powder taken with honey also for same one.
13	<i>Cassia auriculata</i> L.	Caesalpiniaceae	Avarai	Flower	Powdered flower is taken orally for Diabetes, skin brightness and flower decoction taken orally for jaundice. Young leaves are made into a paste and used as shampoo to make cleaning and cooling effect. This flower is used to reduce body odor. When it is consumed for once in 15days.

14	<i>Cissus quadrangularis</i> L.	Vitaceae	Pirandai	Stem	Fried along with tamarind, salt, onion, garlic etc grind in to chutney. It acts as an appetizer, cleans the stomach and is a good source of calcium and iron for strengthen the born.
15	<i>Citrullus colocynthis</i> L. Schrad.	Cucurbitaceae	Cumutti kai	Fruit and leaves	It added to the food in the form of koottu for ulcer, worm removal and wound healing.
16	<i>Clerdendron phlomides</i> Lina.	Verbenaceae	Thazhuthalai	Leaf	Leaves decoction is taken for gastric problem. Leaves boiled in hot water bath for body pain.
17	<i>Coccinia grandis</i> L.voigt	Cucurbitaceae	Kovai	Leaves	It added to the food in the form of koottu for ulcer and wound healing and diuretic.
18	<i>Coleus aromaticus</i> Benth.	Lamiaceae	karpooravalli	leaf	Fresh leaves taken orally for cold. Fresh leaf juice is given orally for children.
19	<i>Corallocarpus epigaeus</i> Benth.	Cucurbitaceae	Akasakarudan kizhangu	Tuber	Plant act as a chasing of the air born disease, root tuber powder used for bite of snake, beetle, dog rate, cat etc.
20	<i>Curculigo orchioides</i> Gaetrn.	Hypoxidaceae	Nilappanai	Whole plant	The leaf and tuber paste and powder taken internally to increase sperm count.
21	<i>Cynodon dactylon</i> L.	Poaceae	Arugumpull	Leaf	Leaf juice is taken orally for digestion, body weight reduction and blood purification.
22	<i>Datura metel</i> L.	Solanaceae	Karuoomathai	Leaf and fruit	Leaf paste is taken orally for asthma.
23	<i>Dioscorea pentaphlla</i> L.	<i>Dioscoreaceae</i>	Valli kizhangu	Tubers	Boiled tubers taken as a breakfast or dinner makes them, energetic and diuretic.
24	<i>Eclipta prostrata</i> L.	Asteraceae	Manjal Karisalanganni	Leaf	The green leaf taken orally for the treatment of vision sight and hair growth. Strengthen the liver, kidney stomach and cure the jaundice.
25	<i>Erythrina indica</i> L.	Fabaceae	Kalyanamurungai	Leaf	Leaf powder is given orally for few days – uterus problem and sperm count and wound
26	<i>Euphorbia hirta</i> L.	Euphorbiaceae	Ammann pachrasi	Leaf, fruit and latex	Leaf and fruit powder is mixed with cow's milk and taken orally to treat ulcer, body cool and latex used for corn.
27	<i>Ficus religiosa</i> L.	Moraceae	Arasan	Leaf and fruit	Green leaf is taken orally for uterus problem and to increase sperm count, dry leaves have wound healing activity.
28	<i>Hemidesmus indicus</i> R.Br.	Apocynaceae	Nannari	Root	Roots are used in the preparation of kozhambu which reduces the body pain. Its root powder will cure ulcer when it is consumed with sugar besides acting as a coolant to the body
29	<i>Hybanthus enneaspermus</i> Jacq.	Violaceae	Orithazhthamarai	Leaf	Leaf powder or paste used for the sperm count and lucavea.
30	<i>Lawsonia inermis</i> L.	Lythraceae	Mauthani	Flowers and Young leaves	Leaves acts as a cooling agent and inhaling the fragrance of flowers will induce deep sleep. Application of its leaf paste in hand and foot palms acts as a coolant to the body.
31	<i>Lippia nudiflora</i> L. Greene	Verbenaceae	poduthalai	Whole plant	Paste applied on hair for dandruff.
32	<i>Mimosa pudica</i> L.	Mimosaceae	Thotta sinungi	Leaf	Root and leaf infusion is applied for wound healing and boiled leaves

					used for skin diseases.
33	<i>Moringa oleifera</i> Lam.	Moringaceae	Murungai	Leaf, flower and fruit	Fresh leaf taken as food for to increase iron and Aphrodisiac.
34	<i>Mukia maderaspatans</i> L.	Cucurbitaceae	Musumusukai	Leaf	Leaf taken orally for the treatment of cold.
35	<i>Ocimum sandum</i> L.	Lamiaceae	Thulasi	Leaf	Leaf powder used for the cold and breathing problem.
36	<i>Phyllanthus amarus</i> L.	Euphorbiaceae	Keela nelli	Leaf and fruit	Roots and fruits are crushed and mixed with goat's milk. The mixture is taken orally to cure jaundice and liver problems
37	<i>Physalis minima</i> L.	Solanaceae	Soddukku thakaali	Fruits	Boiled fruits are taken for kidney problem.
38	<i>Plumbago zeylanica</i> L.	Plumbaginaceae	Kodiveli	Root	The root used for skin disease and body pain.
39	<i>Solanum nigrum</i> L.	Solanaceae	Manathakkali	Leaves and fruits	Boiled leaves and fruits taken as food for mouth and stomach ulcer, body coolant.
40	<i>Solanum torvum</i> Sw.	Solanaceae	Kattu sundaikkai	Fruits	Dried fruit taken as food in the form of kozhambu, soup, fried for cold cough, stomach warms and diabetic.
41	<i>Solanum xanthocarpum</i> L.	Solanaceae	Kandankathiri	Leaf and fruit	Leaf and fruit powder mixed with honey or decoction taken internally to treat cold and cough.
42	<i>Syzygium cumini</i> L.	Myrtaceae	Naval	Seed and bark	Seed powder mixed with either hot water or cow's milk is taken orally in empty stomach to treat diabetes. Bark essence with curd taken for dysentery.
43	<i>Thepesia populnea</i> L.Sol ex. correa	Malvaceae	Poovarasn	Leaf and fruit	Leaf and root powder is given long time for skin diseases and also used for external application.
44	<i>Tridax procumbens</i> L.	Asteraceae	Vettukaya poondu	Leaf	Young leaf paste is used to treat wounds.
45	<i>Tridax procumbens</i> L.	Asteraceae	Vettukaya poondu	Leaves	It is called as biological tincture iodine and is used for healing wounds when taken in either paste or juice form
46	<i>Tephrosia purpurea</i> L.Pers.	Fabaceae	Kolingi	Root	Root paste used as leprosy, ulcers, asthma, diarrhea, rheumatism and stop bleeding.
47	<i>Withania somnifera</i> L. Dunal.	Solanaceae	Nattu Amukara	Root	Root can be taken in the form of soup, powder or paste. This herbal soup is used to cure back pain in day to day life. The herbal paste cures arthritis, boils and reduces swellings. Regular consumption of 5g of root powder cures nervous disorder, infertility, diabetes besides reducing obesity. It is an aphrodisiac and useful in improving the general immunity.



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