Ethnobotanical studies of Irular Community in Pennagaram Forest, Dharmapuri District, Tamilnadu, India

ENAYATHULLA KATHAR BASHA[a], VIJAYA DHAMODARAN *

Address:

[a]Ph.D Research Scholar PG and Research Department of Botany, PG and Research Department of Botany, Government Arts College, Dharmapuri.

*Associate Professor and Head Department of Botany, PG and Research Department of Botany, Government Arts College, Dharmapuri.

Corresponding author: vijdhamu@yahoo.co.in

ABSTRACT

A Botanical survey was conducted to secure information available on the use of medicinal plants by the Irular community in Irular Kottai, Pennagaram Forest, Dharmapuri District, Tamil Nadu, India. The survey was conducted through standardized questionnaires, interviews with resource persons, group discussions, and field trips in all the tribal villages of Pennagaram forest. Ethnic healers use these plants to cure beetle bites, snake bites, chest pain, dental aches, ulcers, bone fractures, psoriasis and eczema, wound healing, kidney stones, asthma, and gynecological disorders. The study was conducted from January 2021 to November 2024. To collect the information, the informants were selected in all age group and gender. 50 medicinal plants were identified, and their medicinal properties were listed. This information will help in conserving Traditional knowledge among the Irular communities. A total of 50 plant species distributed belonged to 31 families and were utilized to cure diseases. Preliminary phytochemical tests were conducted to a few plants to assess its potential medicinal value. Scientific Documentation has a key role in conserving the valuable knowledge passed on for many generations within an ethnic group Phytochemical studies were carried out with these medicinal Also known from plants.

Keywords: Ethnobotany, Phytochemical, Medicinal Plant, Irular Tribes, Traditional, Pennagaram, Dharmapuri.

Introduction

The World Health Organization (WHO) reported that 80% of the world's populations rely chiefly on indigenous medicine and that, the majority of traditional therapies involve the use of plant extracts and their active constituents. The people of rural India are dependent on traditional medicines for their healthcare and treatment of diseases. Plant products have excellent antimicrobial properties and have been shown to be useful in the prevention and treatment of both communicable and non communicable infections (Thangaraj *et el*.,

2023). The indigenous knowledge of plants among the local people is essential for the identification and documentation of plants (Dixit, 2009). The term Indigeous Technical Knowledge is used as "Local Knowledge" and "Traditional knowledge" (Brahmi, 2004).

The Ethnobotanical systems and herbal medicines as therapeutic agents are of paramount importance in addressing the health problems of traditional communities. The indigenous knowledge available to these people plays an important role in the quick and proper identification of natural resources. There is no literature available regarding the medicinal plants used by Irula tribes (Ragasudha and Priya 2019). The origin of the word "irular" is not clear. Some explanations are Tamil word "Irular," implying the dark complexion of their skin or the thick jungle in which they live or they being capable of finding one's path in the darkness, often spotted by villagers as distinct silhouettes in the forests, a key characteristic of the irulas. Supporting their local name, the forest peoples them in claim to have originated from darkness. They're additionally called as Villians (bowmen). Irulars depend on plant kindom for their day to day living, through collecting safe to eat tubers (yams) specifically. 'irularkhizanghu' (*Dioscorea opoositifoliai*) and 'vallikhizanqhu' (*Dioscorea pentaphylla*). While others are of the opinion that archaic word "Irular," which means one who digs "tubers," as the indigenous people of that time engaged in the aforesaid activity (Stanley and Muthukumar, 2021). One of the most important aspects of their culture is herbal medicine. They used medicinal herbs found in forests and mountains to prepare medicine for many incurable diseases and preserved their wisdom from generation to generation. Especially if they are bitten by poisonous animals like snakes, they are familiar with various herbal medicines to overcome the poison.

The pharmaceutical industries depend on plant products for the preparation of medicines. Such natural medicines have been and continue to be used as medicine or as food supplements for various disorders, as described in various texts and folklore. Safe, effective, and inexpensive indigenous remedies are currently gaining popularity among the people of both urban and rural areas in India (Sivaraj *et al.*, 2017). The tribal people are unsophisticated and backward in terms of pre-agricultural technology, literacy, economy, and education (Kumaraguru *et al*., 2023). The tribal community population in India's 8.6%, according to the 2011 census. There are about 36 types of tribal people who live in Tamil Nadu and the census of 2011 reveals that their total population is 7.21 percent. Amongst them, the six communities of Thoda, Koda, Kurumbar, Irular, Paniyan and Kattu Nayakkan are slowly disappearing. Irular's are listed as a Particularly Vulnerable Tribal Group by the Ministry of Home Affairs. According to the government, they are on the list of endangered tribes (Chitra, 2022).

Irulas are natural specialists in Traditional Herbal Medicine and healing practices. The women are very knowledgeable with regard to the plant species, particularly the medicinal varieties. This knowledge has been passed on from many generations and some of the women are 'Vaidyas' (traditional doctors). This knowledge usually transferred from generation to generation through word of mouth. Presently, there is gradual decline in the traditional healing practices among Irula younger generation. Documentation of Irular

knowledge on medicinal plants in snake bite will be valuable (Dhivya, 2015). There is an urgent need to document the Irulas knowledge on Ethnomedicinal practice.

This is revealed by its phytochemical profile and pharmacological studies, which to a broad spectrum support traditional uses of the plant. Apart from these benefits, more effort is required to overcome the barrier toward the clinical applications of the plant. Therefore, future study should continue to isolate and identify bioactive compounds, evaluating mechanisms of action and their effectiveness against various diseases (Ripanda *et el.,* 2023). The objective of this study is to identify and document the indigenous knowledge of the primary healthcare medicinal plants and its utilization by the Irular ethnic/tribal people. This documentation will provide valuable inventory of local forest resources and ethnic healthcare knowledge.

MATERIALS AND METHODS

Ethnic Group:

Basic information about the Irular group's history, demographics, lifestyle, culture, and art of living, diet, important role in preserving medicinal plants, local language, and medicines used will be documented. Also general life practices observed through field social interaction, highlighting their food habits, marriage, health, worship, and cultural festival practices will be recorded. Based on information gleaned from the questionnaire, further research on phytochemicals was carried out, Phytochemical screening is a preliminary test for determining the group of compounds and providing an overview of secondary metabolites that possess a plant's biological activity. This is used as preliminary information in knowing the group of chemical compounds contained in a plant (Adrian, 2023).

STUDY AREA

Geographical Location

The survey was carried out in Irular Kottai 420.2M, N 12 07' and E 770 82' Poovanur Beat, Masakkal R.F. (West), Sigaralahalli, Podur, Pannapatti, Moolabellur Reserve Forest, and Chinnar Beat of Dharmapuri. The Dharmapuri district is located between latitudes 120 33' and longitudes E 770 82' and 780 40'. Occupies an area of km2 (i.e., 3.46% of Tamil Nadu). It is bounded on the north by Krishnagiri District, on the east by Tiruvannamalai and Villupuram Districts, on the south by Salem District, and on the west by Karnataka's Chamarajnagar District. The whole district is surrounded by hills and forests. The Dharmapuri District consists of six taluks, namely Dharmapuri, Palacode, Pennagaram, Harur Pappireddipatti, and Karimangalam. The study area of Podur hamlet is in the Pennagaram Taluk and the study was carried out in Irular Kottai. The Masakkal reserve forest area of the Eastern Ghats was selected. The Pannapatti beat which is the present settlement of the Irular community, is approximately 2 km to 22 km from this reserve forest area. The geographical coordinates, elevation were studied.

Ethnobotanical Data collection

Selection of informants and Interviews with tribal practitioners

All the selected informants have been living in the study area since their birth and have been given importance in all the ceremonies. All informants were agriculture laborers or honey, gooseberry, bamboo,

phoenix, and other forest product collectors and sellers. The participants were both men and women aged between 26 and 80 years. Before collecting data, all the participants were clearly stated, and their purpose and willingness to participate in this study were sought. Questions were asked about medicinal plants, medicine derived from the part of the plant extracts.

Preliminary Phytochemical tests:

Preliminary phytochemicals analysis was carried out for all the extracts as per standard methods described by Brain and Turner, (1975) and Evans (1996). Plant leaf extracts obtained by the above method was subjected to qualitative analysis for the presence of Phenolic groups, Glycosides, Alkaloids, Flavonoids, Tannins, Terpenoids, Saponins, steroids as described by the method of Trease and Evans (2002), and also as specified in the book of Practical Pharmacognosy (Kokate, 2005).

Detection of Alkaloids: Extracts were dissolved individually in dilute hydrochloric acid and filtered. The filtrates were used to test the presence of alkaloids. Mayer's test: Filtrates were treated with Mayer's reagent. Formation of a yellow cream precipitate indicates the presence of alkaloids. Wagner's test: Filtrates were treated with Wagner's reagent. Formation of brown/ reddish brown precipitate indicates the presence of alkaloids.

Detection of Flavonoids: Lead acetate test: Extracts were treated with few drops of lead acetate solution. Formation of yellow colour precipitate indicates the presence of flavonoids. H_2SO_4 test: Extracts were treated with few drops of H2SO4. Formation of orange colour indicates the presence of flavonoids.

Detection of Steroids: Extract is hydrolyzed with sulphuric acid & extracted with chloroform. The chloroform layer is used for Steroids test.

Procedure : 2ml take of plant extract & add few drops of sulphuric acid.

Detection of Steroids: The presence of steroid in the lower layer is shown by its red colour.

Detection of Terpenoids: Salkowski's test: 0.2g of the extract of the whole plant sample was mixed with 2ml of chloroform and concentrated H2SO4 (3ml) was carefully added to form a layer. A reddish brown coloration of the inner face was indicates the presence of terpenoids.

Detection of Anthraquinones: Borntrager's test: About 0.2g of the extract was boiled with 10% HCl for few minutes in a water bath. It was filtered and allowed to cool. Equal volume of CHCl3 was added to the filtrate. Few drops of 10% NH3 were added to the mixture and heated. Formation of pink color indicates the presence anthraquinones.

Detection of Phenols: Ferric chloride test: Extracts were treated with few drops of ferric chloride solution. Formation of bluish black colour indicates the presence of phenol.Lead acetate test: Extract was treated with few drops of lead acetate solution. Formation of yellow colour precipitate indicates the presence of phenol.

Detection of Saponins: About 0.2g of the extract was shaken with 5ml of distilled water. Formation of frothing (appearance of creamy miss of small bubbles) shows the presence of saponins.

Detection of Tannins: A small quantity of extract was mixed with water and heated on water bath. The mixture was filtered and ferric chloride was added to the filtrate. A dark green color formation indicates the presence of tannins.

Detection of Carbohydrates : Benedict's test: Take 3ml of extract add few drops of benedict's reagent it was heated for few min. Formation of red color indications the presence of carbohydrates.

Detection of Oils and Resins: Test solution was applied on filter paper. It develops a transparent appearance on the filter paper. It indicates the presence of oils and resins.

Results

Irular Ethnic group:

Anthropological studies suggest that *Irular* people belong to the Necrito race, the primitive race of mankind. They are original Tamil inhabitants who have left the mountains and migrated to the forests and plains. Their habitat is forested and hilly land. They also live in the Western Ghats and Eastern Ghats. Those who live in the hills are known as mountain Irulas. The Irulas living in the plain area are called Sama Irulas. There are massive differences socio-culturally and linguistically between the hill *Irulars.* The Irulas began by serving as Kings Guard in Chola dynasty and moved on to specializing in catching venomous snakes and rodents. They specialize in cobra antivenin, where they milk a cobra to produce an antidote for snake bite. Irulas began moving to cities in Kerala, Tamil Nadu, and Karnataka once there was a requirement of snake bite cure.

One of the major tribal groups in Tamil Nadu, is the population of the Irula tribe. They reside in the hills of northern Tamil Nadu and are one among the six oldest Adivasi tribes. In Tamil Nadu, their concentration is more in the north western districts. The districts with considerable population of the Irulas are Chengalpet district, North Arcot, South Arcot, Coimbatore, Dharmapuri, Periyar and Nilgiris. Some of them also live in Kerala and Karnataka. Irula's refrain from eating rice and consume millets, unlike the common habit in South India. This is because the millet based food was ideal for the climate and was the best fit for their rigorous lifestyle. Sorghum, Finger Millet, Pearl Millet, Foxtail Millet, Broomcorn Millet, Rice, Grains, and Pulses are consumed. Irulars depend on plants for their day to day living by collecting edible tubers (yams), namely' Irular khizanghu' Sweet potato (*Dioscorea oppositifolia)* and 'vallikhizanghu' (*Dioscorea pentaphylla*). These tubers were repeatedly washed and cooked before consumption. These are mainly and specifically used Mavalli khizanghu, Karudan khizanghu (built before the house) Kannove khizanghu (not to be eaten) Maravalli khizanghu, Perung khizanghu Sweet potato.

Traditionally, the main occupation of the Irulas has been snake, rat catching, and honey collection. Generally employed as a herder of Agriculture, sheep and cattle, goat grazing farming. They also work as labourers in the fields of the landlords during the sowing and harvesting seasons or in the rice mills. Fishing and cattle farm is also a major occupation. Retailing herbal raw materials like herbs, trees, medicine plants, and nutritional vegetables Pumpkin, Neem, Nelly, Honey, Medicinal Plant Leaf, Medicinal Plant Root is also done.

They are very devoted to nature. Their clan deity is *Kanniyamman*. It is customary to ask *Kanniyamman* for a sign before doing any work, and they do everything only on the orders of the family deity. It is customary to worship many deities such as the deity who gave the title, the guardian deity, the *Kashta* deity, and *Murugan.* Some of the hill *Irulars* are said to worship Vishnu under the name *Rangasami* and they also worship *Mariamman*. Likewise, they believe in worshipping dead ancestors. And *Nadukal* (hero stone) worship. Researchers believe that the worship of *Nadukal* was spread to others from them. Fortune telling is one of their characteristics. They call Monday the "Day of Fire". They also believe that the snake will not come out of the shell on Wednesday.

They speak the Irula dialect, Irula Basai. According to UNESCO in its report, this language is slowly going towards extinction. They also possess good knowledge of snake identification and skill in catching snakes. They also have knowledge of herbal medicine used as an antidote for snake bites. For example, the leaves of *Andrographis paniculata* and *Vernonia anthelmintica*, the tubers of *Corallocarpus epigaeus*, the roots of *Rauvolfia tetraphylla*, and the bark of Cassia fistula are used to treat snake bites. These plants are used either individually or collectively (Fernandaz *et al.*, 2020) The tribals used several plants current investigation found from the in area to cure plants Used by Irular Tribes. The plant species were discovered with members of the family has therapeutic properties. The Irular Kottai Poovanur, Forest plants collected is listed. The number of people interviewed was overwhelming. Responses were received from seniors. The younger generation is more interested in medical related area and is eager to learn. Young men and women are going to schools and colleges.

Traditional knowledge of Irular Community Study

In the interview the following aspects were repeatedly mentioned by the participants. All species of snakes are predatory. Buffaloes and elephants will perceive the presence of snake even if they are far away. While walking along the forest path, they wear *Andrographis paniculata* dried roots around their trunk and also chew the same roots in their mouths. This practice is believed to protect them from poisonous snakes and insects bite. Wearing a Black auspicious thread around the neck or wrist is an age old practice.

Mumps and measles are treated in a peculiar way. Sugar syrup is coated on the skin of people suffering from mumps and measles and allowed to dry in sun. The sugar peeling (along with the warts of mums) is later taken orally by the sick person to cure the disease. Pepper and garlic is administered for 15 days (without drinking water) to the new mother immediately after delivery. Elderly people have the practice of admistering coconut oil in the mouth of a new born baby. They believe that problems like sprain, family problem are solved by burning camphor and chanting mantras.

Table 1. List of Ethnobotanical Plants Used By Irular Tribes: Irular Kottai Reserve Forest

No	Botanical name	family	Vernacular name	Parts used	Medicinal use
1	*Albizia amara* (Roxb.) Boivin	Leguminosae	Arappu	Leaves, stem	Mix with water to make a paste, hair conditioner
2	*Abrus precatorius* L.	Fabaceae	Gundumani	Roots	Bile, itching
3	*Acalypha fruticosa* Forssk.	Euphorbiaceae	Chinni chedi	leaves	Improves digestive power, Protects against urinary tract infections.
4	*Achyranthes aspera* L.	Amaranthaceae	Naayuruvi	Seeds	Dental problems, Lung mucus
5	*Alangium salvifolium* (L.f.) Wangerin	Alangiaceae	Alinji	Fruit, bark	Extermination of stomach bugs, Poisonous snakes, rats are cured
6	*Argemone mexicana* L.	Papavaraceae	Bramandanthu	Root	Lung disease, Snake bite
7	*Aristolochia bracteolata* Lam.	Aristolochiaceae	Aaduthinnapaalai	Leaves	Leaves are ground and used psoriasis
8	*Bauhinia racemosa* Lam.	Leguminosae	Aathi	Leaves, bark	Mouth ulcer. Relieves constipation
9	*Boerhavia diffusa* L.	Nyctaginaceae	Mukkurattai	Leaves, Stem	Excretion of gallstones
10	*Cadaba fruticosa* (L.) Druce	Cappadidaceae	Vizhuthi	leaf	Pain in the joints, Dissolves clots
11	*Calophyllum inophyllum* L.	Guttiferae	Punnai	Flowers	Typhoid fever is cured
12	*Calotropis gigantea* (L.) W.T. Aiton	Apocynaceae	Erukkalam	Leaves	Chest cold, Poisonous insect bites
13	*Canthium parviflorum* Lam.	Rubiaceae	Karai chedi	Leaf	Abdominal pain

14	*Cassia auriculata* L.	Leguminosae	Aavaram poo	Flower	Arthritis,
15	*Catharanthus roseus* (L.) G. Don	Apocyanaceae	Nithyakalyani	Leaf, Root	Respiratory disorders, High blood pressure
16	*Centella asiatica* (L.) Urb.	Umbelliferae	Vallarai	Leaves	Psoriasis, reduce sore throat, fever and cold
17	*Chloroxylon swietenia* DC.	Rutaceae	Porasamaram	Leaves	Arthritis, sprain,
18	*Cissus quadrangularis* L.	Vitaceae	Perantai	Leaves, Stem	To heal a broken bone, Arthritis, joint wear.
19	*Coccinia grandis* (L.) Voigt	Cucurbitaceae	Kovai keerai	Leaves, fruits	Relieves stomach ulcers and relieves body heat
20	*Benincasa hispida* (Thunb.) Cogn.	Cucurbitaceae	venpusani	Leaves, Fruit	Pimples, Prevents eye diseases.
21	*Cocculus cordifolius* (Willd.) DC.	Menispermaceae	Seenthilkodi	Leaves	Spleen, vomiting, asthma
22	*Datura metel* L.	Solanaceae	Oomathai	Leaves	Tuberculosis is cured
23	*Delonix elata* (L.) Gamble	Caesalpinaceae	Vadhanarayanan	Fruits	Cure hand and foot swelling and pain
24	*Enicostemma littorale* Blume	Gentianaceae	Vellerugu	leaves	Rash, scabies, skin disease
25	*Euphorbia hirta* L.	Euphorbiaceae	Amman pacharisi	Leaves	mouth ulcer, To secrete breast milk
26	*Evolvulus alsinoides* (L.) L.	Convolvulaceae	Vishnukaranthai	whole plant	Cure dengue fever, Cough, cold, fever, fever
27	*Gymnema sylvestre* R. Br.	Apocynaceae	Sirukurinjan	Leaves	Diabetes
28	*Hibiscus rosa-sinensis* L.	Malvaceae	Semparathai	flowers	Hair growth, stomach ulcer
29	*Hygrophila spinosa* T. Anderson	Acanthaceae	Neermuli	Leaves	Increases urination, nerve disorder

30	*Justicia adhatoda* L.	Acanthaceae	Adathodai	Leaves	blood pressure, Asthma
31	*Leucas aspera* (Willd.) Link	Lamiaceae	Thumbai	Leaves	Ear abscess is cured
32	*Mucuna pruriens* (L.) DC.	Fabaceae	Poonaicali	seed	Nerve-related disease
33	*Musa paradisiaca* L.	Musaceae	valaittandu	stem	Acidity, Prevents kidney stones
34	*Ocimum sanctum* L. *(synonym: Ocimum tenuiflorum)*	Lamiaceae	Thulasi	Leaves	Improves digestion, Boost immunity
35	*Pergularia daemia* (Forssk.) Chiov.	Asclepiadaceae	Veli parutthi	leaves	Swelling of limbs, swelling, shivering, indigestion, cough
36	*Phyllanthus amarus* Schumach. & Thonn.	Phyllanthaceae	Keelaneli	Root	It also cures liver related diseases, Relieves rashes and scabies
37	*Piper nigrum* L.	Piperaceae	Milagu	Seeds	Colds, coughs and colds, Boost immunity
38	*Rhinacanthus nasutus* (L.) Kurz	Acanthaceae	Nagamalli	root powder	Intestinal worms, itching
39	*Ricinus communis* L.	Euphorbiaceae	Aamanakku	Leaves	Constipation, Dermatosis, psoriasis, acne
40	*Sesbania grandiflora* (L.) Pers.	Leguminosae	Agathi	Leaves	Bile of blood, Cures skin diseases.
41	*Sida cordata* (Burm.f.) Borss. Waalk.	Malvaceae	Nilathutthi	Leaves, roots	Cure hemorrhoids
42	*Sida cordifolia* L.	Malvaceae	Sitramuti	leaves	Heals unhealed sores.
43	*Solanum*	Solanaceae	Malai	fruits	Liver and Pancreas

	erianthum D. Don		sundai		
44	*Solanum surattense* Burm.f.	Solanaceae	Kandankathiri	fruits	Colds, respiratory diseases, cough
45	*Solanum trilobatum* L.	Solanaceae	Thuthuvalai	leaves	Bile decreases
46	*Terminalia chebula* Retz.	Combretaceae	Kadukai	Fruits	Deafness of hearing , Tastelessness, Purifies the blood.
47	*Thespesia populnea* (L.) Sol. ex Corrêa	Malvaceae	Poovarasan	bark	Insect bites, poisonous beetle bites
48	*Vitex negundo* L.	Verbenaceae	Notchi	leaves	Sinus headache, Muscle cramps, muscle pain, fatigue are cured
49	*Wattakaka volubilis* (L.f.) Stapf	Apocynaceae	Perukurinjan	Leaves	Arthritis in the bile body
50	*Withania somnifera* (L.) Dunal	Solanaceae	Amukira kilangu	Tuber	Nervousness, Swelling will dissolve.

Table 2. Preliminary phytochemical tests

S No.	*Botanical name*	Alkaloid	Flavanoid	Steroid	Terpenoid	Anthraquinones	Phenols	Saponin	Tanin	carbohydrate	Oils and resins
1	*Albizia amara* (Roxb.) Boivin	+++	+	ND	+++	++	+++	+++	+++	++	+++
2	*Abrus precatorius* L.	+++	+++	+++	-	ND	++	ND	+++	+++	+++
3	*Acalypha fruticosa* Forssk.	+++	+++	+++	+++	+++	+++	+++	+++	++	++
4	*Achyranthes aspera* L.	+++	+++	+++	+++	-	-	+++		-	-
5	*Alangium salvifolium* (L.f.) Wangerin	+++	+	ND	+	+	+	+	++	+	+
6	*Argemone mexicana* L.	++	+++	++	+++	ND	+	+++	+++	++	ND
7	*Aristolochia bracteolata* Lam.	++	++	++	ND	ND	++	++	++	+	+
8	*Bauhinia racemosa*	+++	+++	ND	++	+	ND	+	+++	ND	+

	Lam.										
9	*Boerhavia diffusa* L.	+++	++	++	++	++	++	+++	+	+	ND
10	*Cadaba fruticosa* (L.) Druce	+	++	+	+	ND	++	++	++	+	+
11	*Calophyllum inophyllum* L.	++	++	+	++	ND	+	+++	+	+++	-
12	*Calotropis gigantea* (L.) W.T. Aiton	++	++	+	+	+	+	++	+	+	-
13	*Canthium parviflorum* Lam.	++	++	++	++	ND	+	+++		+	-
14	*Cassia auriculata* L.	++	+++	++	++	ND	+++	+	++	++	+
15	*Catharanthus roseus* (L.) G. Don	+++	+	+++	+++	ND	+	+++	+++	ND	-
16	*Centella asiatica* (L.) Urb.	++	++	ND	++	++	++	+	++	+	-
17	*Chloroxylon swietenia* DC.	ND	++	+	+++	++	+++	ND	++	+++	-
18	*Cissus quadrangularis* L.	+++	+++	+++	+++	ND	++	++	++	++	ND

19	*Coccinia grandis* (L.) Voigt	++	++	+	++	-	++	++	+	++	-
20	*Benincasa hispida* (Thunb.) Cogn.	+	+	+	ND	-	+++	+++	+++	+	-
21	*Cocculus cordifolius* (Willd.) DC.	+++	+++	-	+++	-	+++	+++	+++	-	-
22	*Datura metel* L.	+	ND	ND	+	ND	+	ND	+	+	-
23	*Delonix elata* (L.) Gamble	+	++	++	++	+++	+++	+++	+++	+	-
24	*Enicostemma littorale* Blume	++	++	++	++	ND	-	+	++	++	ND
25	*Euphorbia hirta* L.	+	+	++	+	-	ND	+	+	+	+
26	*Evolvulus alsinoides* (L.) L.	+++	+++	+++	+++	+++	+++	+++	+++	++	+
27	*Gymnema sylvestre* R. Br.	++	-	+	++	ND	+++	+++	+++	++	-
28	*Hibiscus rosa-sinensis*	+	+	++	++	ND	+	+	+++	+	ND

	L.										
29	*Hygrophila spinosa* T. Anderson	ND	++	+	+	+	++	++	++	++	-
30	*Justicia adhatoda* L.	+	ND	+++	+	-	+++	+	+	++	+
31	*Leucas aspera* (Willd.) Link	++	++	+	ND	-	+	+	+	++	ND
32	*Mucuna pruriens* (L.) DC.	++	+++	++	++	ND	++	++	-	++	+
33	*Musa paradisiaca* L.	++	ND	++	+	ND	+	+	++	+	ND
34	*Ocimum sanctum* L. *(synonym: Ocimum tenuiflorum)*	±	++	+	+	ND	+	+	+	++	+
35	*Pergularia daemia* (Forssk.) Chiov.	+++	+++	+++	+++	+++	+++	++	+++	ND	ND
36	*Phyllanthus amarus*	++	+	+	+	+	-	+	++	++	

	Schumach. & Thonn.										
37	*Piper nigrum* L.	++	+	++	ND	+	++	+	ND	+	ND
38	*Rhinacanthus nasutus* (L.) Kurz	+++	++	+	+	+	++	+	++	ND	ND
39	*Ricinus communis* L.	+	+	++	+++	+	ND	++	+	+	+
40	*Sesbania grandiflora* (L.) Pers.	ND	++		+	+	+	+	+	++	-
41	*Sida cordata* (Burm.f.) Borss. Waalk.	++	++	+	ND	+	+	+	++	+	ND
42	*Sida cordifolia* L.	++	++	+	++	+	+	++	++	+	-
43	*Solanum erianthum* D. Don	ND	ND	+	++	-	+	ND	++	ND	-
44	*Solanum surattense* Burm.f.	ND	+++	++	++	-	+++	+++	+++	+++	+
45	*Solanum trilobatum* L.	++	++	++	++	+	-	++	++	+	-
46	*Terminalia chebula* Retz.	+	+	+	+	ND	+	++	+	ND	ND

47	*Thespesia populnea* (L.) Sol. ex Corrêa	+++	+++	++	ND	+	+++	++	-	+++	+
48	*Vitex negundo* L.	+	+	ND	+		+	+	+	+	-
49	*Wattakaka volubilis* (L.f.) Stapf	+	+	ND	+	+	ND	+	+	-	-
50	*Withania somnifera* (L.) Dunal	ND	++	+	++	ND	ND	++	ND	++	ND

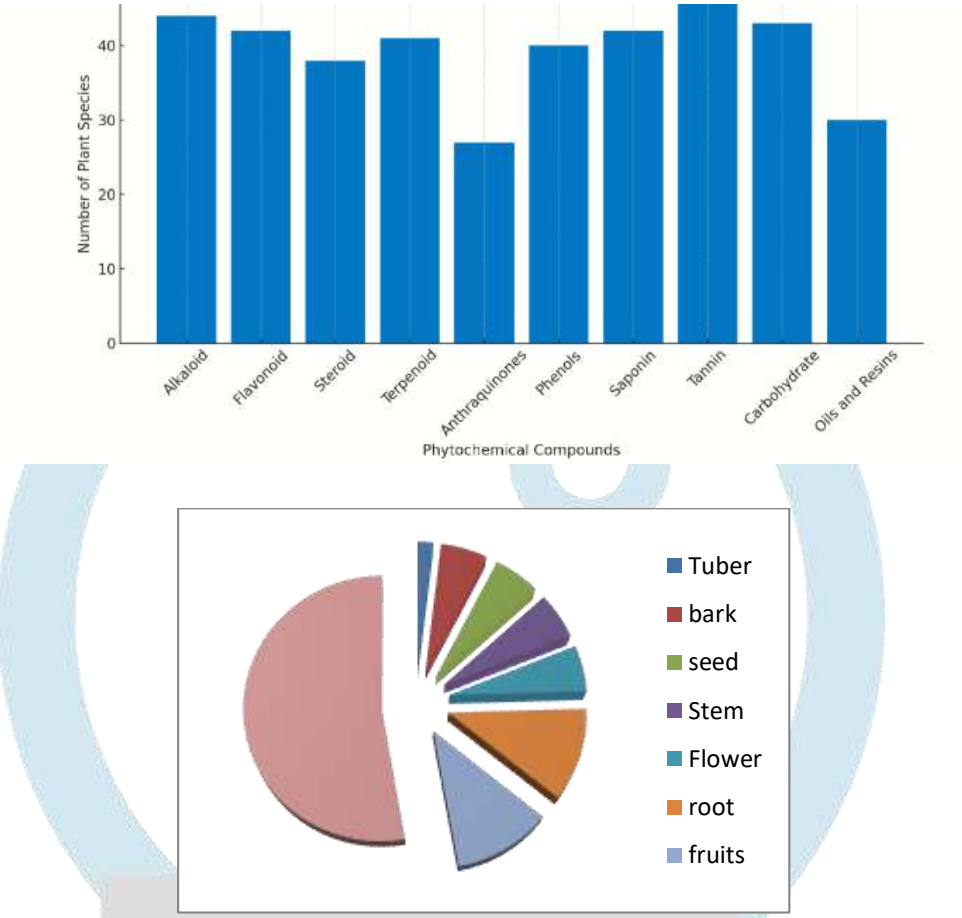


Figure 1. Plant parts used by the irular people

The information given by the people of Irular is known through medicinal plants. These are percentages. (Figure 1) Based on the plants given in his tuber 2% and percentage, bark 6%, seeds 6%, stem 6%, flower 6%. Root 12%, fruits 12%, leaves 56% the plant species given in the table were used on a percentage basis.

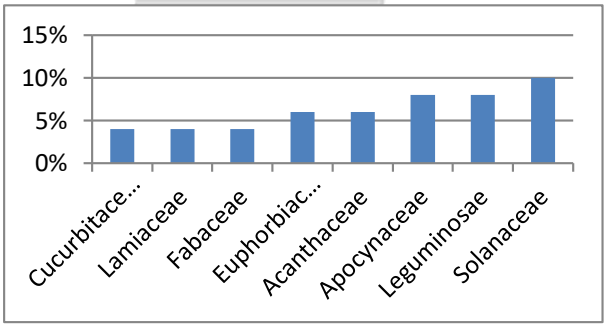


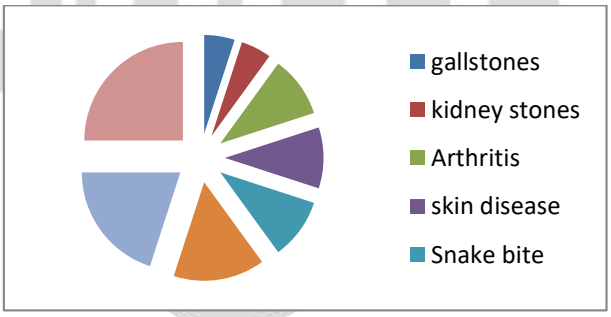
Figure 2. Plant families and the number of family in the study area

Percentage of Medicinal Plants depending on families Cucurbitaceae 4%, Lamiaceae 4%, Fabaceae 4%, Euphorbiaceae 6%, Acanthaceae 6%, Apocynaceae 8%, Leguminosae 8%, and Solanaceae 10%, Assorted (figure 2) family herbal medicines are used.

Plant extract coated with leg pain

Used as mosquito repellent

Irulars the god worshiped by the people



DISCUSSION

There are 80 irregular families and 120 people living in this hamlet. They are recognized and listed as ethnic tribes in both Indian and Tamil Nadu. Due to the forest being in a reserved area, these tribes have been provided with a house by the government in Pannapatti hamlet at the foot of the hill. Earlier, them their means of living were catching snakes or rats; or eradicating it by the herbal fumigation method, collecting forest products like honey, tubers, wild fruits, bamboo, broom sticks, and medicinal plants, and selling them in the local markets. But as most of the activities are prohibited, they are forced to work as live stock rear and other small agricultural activities. Even today, some of the ethnic groups visit the deep forest twice a month for the collection of forest products for their own use, if not for commercial purposes. The data obtained from the 8

informants for the present study ranged within the age group of 20 to 80 years, and among them, one is a local tribal practitioner.

Conclusion

As the ethnic groups are shifted from forest areas and forced to live in nearby villages, their dependence on forests and interaction with the wild is decreasing day by day. The newer generations are less dependent on forests and forest products than their elder generations. This may become a serious threat to documenting the traditional knowledge gained by the ethnic group. The present study has initiated the documentation work, and herbs and trees are documented in snakebite treatment. This study has offered details on the effectiveness of medicinal herbs in treating snake bites, mouth ulcers, blood pressure, Asthma, and abdominal pain and many ailments are treated with medicine methods are derived from Irular people of Pennagaram, Dharmapuri. It is essential to learn about medical information from future younger generations. Information is a must know for everyone, which is essential for the growth of the economy and the development of the herbal medicine business. It contributes to the development of people's economies and is the main effort. phytochemical compounds among the 50 medicinal plants. Tannins**,** Alkaloids**,** and Saponins are the most commonly present compounds. Anthraquinones and Oils & Resins appear less frequently.

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