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Medicinal plants used by Irula tribes of Nellithurai Beat, Karamadai Range, Western Ghats, Tamil Nadu, India: An ethnobotanical survey

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Abstract

Objectives: To explore traditional ethnomedicinal knowledge of Irula tribes of Nellithurai Beat, Karamadai Range, Western Ghats, Tamil Nadu, India.

Methods: With the help of standardized questionnaires, resources person were interviewed on medicinal use of local flora in all the tribal villages of Nellithurai Beat, during the months of Aug 2015 to Oct 2015 as a single season survey using the community survey approach and some of the places were revisited again during Jan 2016 to Mar 2016.

Results: A total of 169 plant species belonging to 127 genera of 61 families were reported in the study area, of which Trees ranked first with 48 species. In terms of the number of medicinal plant species in a family, Caesalpiniaceae and Rubiaceae (7 species) are dominant families. Leaves were most frequently used plant parts for the treatment of diseases. Decoction ranks first in the mode of administration.

Conclusion: Our study revealed that in all tribal villages the plants were used to cure common diseases like fever, skin diseases, wound healing, asthma, etc. Many of these plants in the study area are threatened now due to constraints of population and natural hazards. The study suggested that the present information on medicinal use of plants may be used for botanical and pharmacological research in future for the discovery of new sources of drugs.

Keywords: Irulas; Traditional medicine; ethnobotany

1. Introduction

From time immemorial, man has been dependent on nature for survival. This dependency led the aboriginal people living in harmony with nature to evolve a unique system of knowledge about plant wealth by trial and error methods. Traditionally, this treasure of knowledge has been passed on orally from generation to generation without any written document [6] and is still retained by various indigenous groups around the world.

India has a rich wealth of medicinal plants and the potential to accept the challenge to meet the global demand for them. It is rich in ethnic diversity and indigenous knowledge that has resulted in exhaustive ethnobotanical studies. There are over 537 different aboriginal groups in India with extensive knowledge of plants [5]. Many quantitative and qualitative field surveys have documented on detailed utility of specific plants for many aboriginal groups such as Kadars, Kanikars, Irulas, Malasars, Todas and Kotas [1]. Irulas are an ethnic group of India. They inhabit the area of the Nilgiri Mountains. Now there are only 23,116 Irula households in Tamil Nadu. It was observed that Irulas use many valuable wild plant species to treat diseases. This knowledge has been passed on from one generation to another without any written document, and also it has helped them to have sense of responsibility in judicious utilization of the plant resources and also to conserve.

Folklore and traditional knowledge is in the process of degeneration due to disruption of forest covers, uprooting of tribal population due to industrialization. So there is urgent need to document the available information in detail for future application and scientific investigation [3, 8]. The present paper is developed based on ethnobotanical information gathered from the unexplored Irulas tribal pocket of Nellithurai Beat, Karamadai Range, Western Ghats, Tamil Nadu, India.

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2. Materials and Methods

2.1 Study area

The present study area, Nellithurai Beat is confined to a major range in the Western Ghats of Nilgiri Biosphere Reserve, Coimbatore District, Tamil Nadu, India. The area of investigation approximately lies 11° - 18' latitude and 76° - 53' longitude from a portion of Karamadai Range. It has twelve villages which comes under Nellithurai Panchayat beat. The total area is about 2279.71 Hec. (Table 1 & Fig 1) The present study concentrates on 8 villages. The community was composed of approximately 196 residences. Each village is found in different elevations from 500-910 MSL. Maximum mean daily temperature is 32°C during summer and minimum mean daily temperature is 11.2 °C during winter. The annual average rain fall ranges from 1000 to 1400 mm.

2.2 Data collection

District forest officer, Nilgiris South Division, Udhamandalam gave permission to go for survey in the above set villages with concerned Forest Rangers. Information about Forest villages and Tribal population were gathered with

the help of Forest Department. On the basis of information a plan of work was chalked out for our survey. Ethnobotanical information was collected between the Months of Aug 2015 to Oct 2015 as a single season survey using the community survey approach and some of the places were revisited again during Jan 2016 to Mar 2016.

Data were collected in the study area from the local Irulas. During the field survey the data like Local Name of the plant, traditional method of medicine preparation, Medicinal Usage and the parts used were collected from the informants especially from elderly persons. Information was collected by interviews, employing a semi- structured questionnaires and discussions in their local language about the medicinal plant resources available and its usage. The plant specimens were collected in flowering and fruiting conditions as directed by the resource persons. Photographs of the plants were also taken. Collected specimens were dried and herbarium sheets were prepared and deposited in the Department of Botany, Vellalar College for Women, Erode, Tamil Nadu, India. The collected specimens were identified with the help of local florists.

Table 1: Details of surveyed villages in Nellithurai Beat

S. No	Name of the Villages	Area (in Hec)	No. on Family	No. of population		Total no. of peoples	Panchayat	Irrigation / Non Irrigation	Electricity
				Male	Female				
1.	Gethaikkadu	17.20	24	51	53	104	Nellithurai	Rain fed	Electricity
2.	Manar	38.00	53	86	108	194	Nellithurai	Irrigation by canal	Hut connection
3.	Korappathi	30.00	30	65	57	122	Nellithurai	Rain fed	Electricity
4.	Veerakkal	16.80	14	21	21	42	Nellithurai	Rain fed	Electricity
5.	Neeradi	24.00	10	18	17	35	Nellithurai	Rain fed	Electricity
6.	Sithukuni	30.00	15	21	19	40	Nellithurai	Irrigation by canal	Electricity
7.	Kadaman Kombai	24.00	20	31	29	60	Nellithurai	Rain fed	No Electricity
8.	Sundappatti	18.80	15	30	27	57	Nellithurai	Rain fed	Electricity

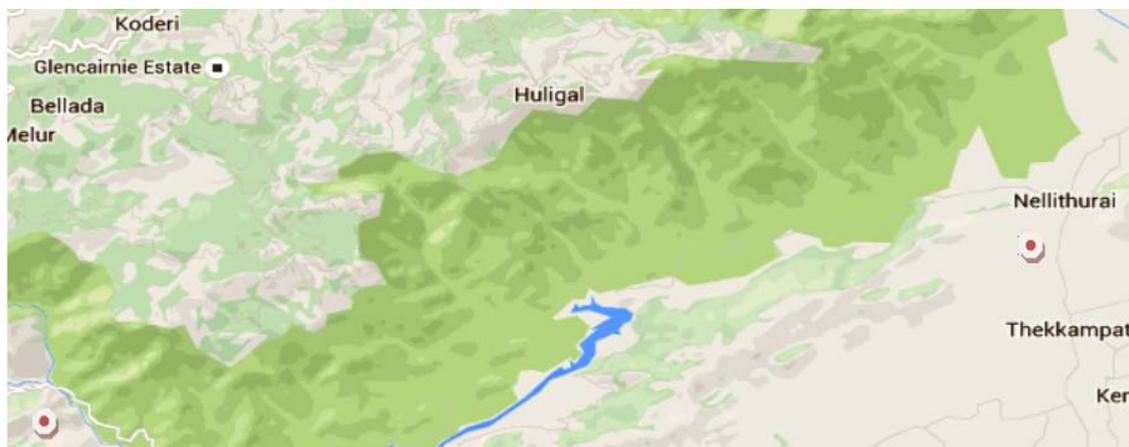


Fig 1: Satellite map showing location of Nellithurai Beat, Karamadai Range, Western Ghats, Nellithurai Beat Tamil Nadu, India.

3. Results

The results of this study indicate that Irula Tribes of Nellithurai Beat possess a good knowledge on the medicinal plants which are traditionally used for the treatment of various diseases. In this study 169 plant species of 161 families were found to be used for medicinal purposes by Irulas. The reported plants were arranged according to their scientific name, family name, local name, parts used, therapeutic usage and mode of administration and the same were shown in Table 2.

Distribution of medicinal plant species in the families also showed variation. Caesalpiniaceae and Rubiaceae are represented by 7 species, Asclepiadaceae, Lamiaceae and

Rhamnaceae are represented by 6 species, Apocynaceae, Convolvulaceae, Euphorbiaceae, Fabaceae and Tiliaceae are represented by 5 species, Acanthaceae, Cappariaceae, Malvaceae, Mimosaceae, Oleaceae, Poaceae, Rutaceae and Sapindaceae are represented by 4 species, Asteraceae, Solanaceae, Liliaceae, Meliaceae, Moraceae and Moringaceae are represented by 3 species. Two species in each are recorded by 12 families. Whereas the rest of 21 families have one species each.

Among different plant parts used for the preparation of medicine, Leaves (53%) were found to be most frequently used plant part followed by Roots (18%), Whole plants (15%), Fruits (14%), Stem (9%), Bark (8%), Seeds (8%), Flower and

Tuber (2 %) and only in one occasion each by Latex and Aerial parts (Fig 2).

The method of preparation fall into Seven categories, viz. Plant parts used as Decoction, Juice extracted from the plant parts, plant parts applied as Paste, Infusion Extraction, Powder made from dried material and Tonic. Majority of the remedies were prepared in the form of decoction from freshly collected plant parts. The paste was usually prepared by pounding or crushing the plant parts in a stone made mortar and pestle. Water was mostly used to prepare the medicine.

The medicinal plants used in different categories of ailments were given in Fig. 3. Forty species were used to treat wounds, 35 species for skin diseases and fever, 25 species for asthma, 21 species for ulcer, 20 species for cancer, 18 species for diabetes and inflammation, 17 species for diarrhoea, 16 species for jaundice, 8 species for liver and rheumatism, 7 species for nervous diseases and 4 species were used to treat Kidney problems. Photographs of few surveyed species were given in plate 1.

Table 2: List of medicinal plants used by Irula tribes of Nellithurai Beat

S. No	Botanical Name	Family Name	Local Name	Parts used	Medicinal Usage	Mode of Action
1.	<i>Abutilon indicum</i> G.Don.	Malvaceae	Thuthi	Leaves	Anti-inflammatory in piles	Extraction
2.	<i>Acacia caesia</i> , Willd.	Mimosaceae	Nanjupattai	Bark	Wound healing	Paste
3.	<i>Acacia planifrons</i> W.&A.	Mimosaceae	Odai	Leaves	Skin allergy, cancer	Juice
4.	<i>Acacia pennata</i> (L)Wild..	Mimosaceae	Seengai	Leaves	Fever, wound healing	Juice
5.	<i>Acalypha fruticosa</i> Forsk.	Euphorbiaceae	Ceeras edi	Whole plant	Febrifuge, whooping cough, Constipation	Extraction
6.	<i>Acalypha indica</i> , L.	Euphorbiaceae	Kuppaimeni	Leaves, Roots	Skin diseases, vomiting, Ulcers, Laxative	Extraction
7.	<i>Achyranthes aspera</i> , L.	Amaranthaceae	Neiyuruvie	Whole plant	Stomach ache, Piles, Menstrual disorder	Extraction
8.	<i>Aegle Marmelos</i> Corr.	Rutaceae	Vilvam	Root, Bark and Fruit	Laxative astringent, diarrhoea, dysentery, Piles	Decoction
9.	<i>Albizzia lebeck</i> Benth.	Mimosaceae	Katuvagai	Whole plant	wound healing hypoglycaemic, anticancer	Dry powder
10.	<i>Ailanthus excelsa</i> Roxb.	Simaroubaceae	Peru	Bark	Skin diseases, jaundice, anthelmintic, antiasthmic Broncho constriction	Paste
11.	<i>Aloe vera</i> L.	Liliaceae	Katthazhai & Kumari	Whole plant	Purgative, jaundice, skin diseases	Extraction
12.	<i>Alternanthera pungens</i> , Kunth.	Amaranthaceae	Chikmagalur	Leaves, thorns	Anti-oxidant	Infusion
13.	<i>Anagallis arvensis</i> L.	Primulaceae	Culliver	Flower	Fever	Infusion
14.	<i>Anaphalis beddomei</i> , Hk. f.	Compositae	Pearl	Whole plant	Fever, cough, diarrhea.	Juice
15.	<i>Anisomeles indica</i> , (L.) Kuntze.	Lamiaceae	Gobura	Leaves	Astringent, sores, ulcers, fever and cough	Tonic, Decoction
16.	<i>Anona muricata</i> , L.	Annonaceae	Katuanoda	Seeds & Leaves	Head lice	Decoction
17.	<i>Anona squamosa</i> , L	Annonaceae	Sitappalam	Seeds, Leaves	Tumor, Cough	Infusion
18.	<i>Argyrea cuneata</i> , Willd. Ker-Gawl.	Convolvulaceae	Kanvalipoo	Leaves	Diabetes	Decoction
19.	<i>Argyrea pomacea</i> , Roxb.	Convolvulaceae	Mustai	Root	Jaundice	Extraction
20.	<i>Aristolochia bracteolata</i> , Lam.	Aristolochiaceae	Esvaraveru	Whole plant	Anti-inflammation & Anthelmintic	Dry powder
21.	<i>Aristolochia indica</i> , L.	Aristolochiaceae	-	leaves	Cough	Juice
22.	<i>Asparagus racemosus</i> , Willd.	Liliaceae	Neervekkaea	Tuber & root	Nervous disorders, dyspepsia, tumors, tuberculosis, cough bronchitis	Decoction
23.	<i>Atalantia monophylla</i> , (L.) Corr. Serr.	Rutaceae	Kaduimbi	Leaves	Rheumatism -Joints/ disorders	Decoction
24.	<i>Azadirachta indica</i> , A. Juss.	Meliaceae	Vembu	Whole plants	Virus infection, stomach anti-inflammatory insecticide	Extraction
25.	<i>Barleria acuminata</i> , W.	Acanthaceae	Vellaikurinji	Whole plant	Antiseptic, fever, respiratory diseases, tooth ache and joint pain.	Infusion
26.	<i>Benkara malabarica</i> ,(Lam.) Tirreng.	Rubiaceae	Pudan	Leaves	Abdominal pain and throat infection	Juice & Paste
27.	<i>Blepharis boerhaaviaefolia</i> Pers.	Acanthaceae	-	Leaves Root Fruit Seeds	Wound healing, ulcers, asthma, throat inflammation, ascitis, liver and spleen disorders, dysmenorrhoea, Urinary disorder,	Decoction
28.	<i>Cadaba trifoliata</i> , (Roxb.) Wt. & Arn.	Capparidaceae	Kattagatti	Leaves stem, roots	Anti-rheumatic, anthelmintic, antibacterial, viral infection	Decoction, extraction
29.	<i>Caliptocarpus vialis</i> , Less.	Asteraceae		Leaves	Fever, diarrhoea	Decoction
30.	<i>Calyptrocarpous vialis</i> , (Less.) A. Gray.	Asteraceae	Lawn flower	Fruit	Laxatives	Extraction
31.	<i>Canthium coromandelicum</i> , L.	Sapindaceae	Bellakarai	Bark Root	Fever, Diarrhoea.	Decoction
32.	<i>Canthium parviflorum</i> , Lamk.	Rubiaceae	Karaiceti	Roots and leaves	Astringent, diuretic, febrifuge, anthelmintic	Tonic
33.	<i>Capparis diversifolia</i> , L	Capparidaceae		Leaves	Fever	Extraction
34.	<i>Capunaregim spinosa</i> ,	Rubiaceae	Madkarai	Furit,bark,	Antispasmodic, asthma	Decoction

	(Thumb.)			root and seeds		
35.	<i>Carissa carandas</i> , L.	Apocynaceae	Kallakai	Root bark	Anthelmintic, wound healing, diabetes	Decoction
36.	<i>Carissa spinarum</i> , L.	Apocynaceae	Sirukallakai	Fruit	Wound healing, rheumatism.	Juice
37.	<i>Carmona retusa</i> , Vahl. Mesumune	Boraginaceae	Muttan	Leaves	Control menstrual disorders.	Juice
38.	<i>Cascabela thevetia</i> , (L.) Lippold	Apocynaceae	Thangaarali	Fruit	Treat venereal disease.	Extraction
39.	<i>Cassia absus</i> L.	Caesalpinaceae	-	Leaves Seed	Astringent, cough remedy Cathartic, skin infections	Decoction
40.	<i>Cassia leschenaultiana</i> DC.	Caesalpinaceae	-	Leaves and Stem	Constipation, cold, fever, intestinal disorder, aguezia and skin diseases	Juice, decoction
41.	<i>Cassia auriculata</i> L.	Caesalpinaceae	Aavaram	Leaf and flower	Diabetes, joint and muscle pain, eye infections, constipation, liver disease, urinary tract diseases	Paste, juice
42.	<i>Cassia obtusa</i> Roxb.	Caesalpinaceae	Nilavaagai	Leaf, Stem and Fruit	Cure various ailments	Decoction
43.	<i>Cassia sophera</i> , L.	Caesalpinaceae	Sulari	Whole plant	Bronchial asthma, respiratory dypnoea, catarrhal type of asthma	Decoction
44.	<i>Cassia tomentosa</i> , Willd.	Caesalpinaceae		Leaves	Antifungal, antimicrobial, eczema and intestinal parasities	Decoction
45.	<i>Cassia tora</i> , L.	Caesalpinaceae	Tagarai	Whole plant	Skin ailments, snake bite	Decoction
46.	<i>Cuscuta reflexa</i> , L.	Convolvulaceae	Kodiyagundal	Leaves	Antioxidant	Decoction
47.	<i>Cryptolepis grandiflora</i> , Wight.	Apocynaceae	Nattiavasa	Leaves	Gastrointestinal disorders	Decoction
48.	<i>Cenchrus ciliaris</i> , L.	Poaceae	Kollukattai	Leaves	Kidney pain, Wound healing, tumors	Decoction
49.	<i>Centella asiatica</i> (L)Urb.	Apiaceae	Vallarai	Leaves	Wound healing, Brain tonic, Cardio tonic	Infusion
50.	<i>Cereus pterogonus</i> , Lem.	Cactaceae	Ooci kalli	Whole plant	Refrigerant, anti-periodic and antipyretic.	Extraction
51.	<i>Chloris barbata</i> , L.	Poaceae	Kodaipullu	Leaves	Skin diseases, fever, diarrhea, Diabetes	Infusion
52.	<i>Cipadessa baccifera</i> , (Roth.) Miq.	Meliaceae	Pullipancheddi	Whole plant	Indigestion	Juice
53.	<i>Cissampelos pareira</i> L.	Menispermaceae	Malai Thangivaer	Root Leaves	External application-wound healing, fistula, antidote anti-inflammation	Paste
54.	<i>Cissus quadrangularis</i> L.	Vitaceae	Pirandai	Whole plant	Bone breakage, indigestion, piles	Juice
55.	<i>Cissus repanda</i> , Vahl.	Vitaceae		Leaves & roots	Skin diseases, itch	Paste
56.	<i>Clematis gouriana</i> , roxb.	Ranunculaceae		Whole plant	Fever, Musculo skeletal Disorder	Decoction
57.	<i>Clitoria ternatea</i> , L.	Fabaceae	Sangupushpam	Leaves	Throat pain, Swellings	Paste
58.	<i>Coccinia grandis</i> , Voigt.	Cucurbitaceae	Kovakai	Fruit	Leprosy, fever, asthma, bronchitis, jaundice.	Juice
59.	<i>Combretum album</i> , Pers.	Combretaceae	Odaikodi	Root, seed, fruit	Anthelmintic to expel parasitic	Decoction
60.	<i>Commiphora caudata</i> Engl.	Burseraceae	Mangiluvai	Stem Bark & Leaves	Anti-viral, anti-inflammatory, analgesic	Decoction
61.	<i>Cordia Sinensis</i> , Lam.	Boraginaceae	Sellai	Leaves & Fruit	Anti-inflammatory, Blood pressure,	Decoction
62.	<i>Crataeva adansonii</i> , Dc.	Capparidaceae	Mavalingam	Stem Bark	Joint pain	Decoction
63.	<i>Crataeva religiosa</i> , F	Capparidaceae	Maavilangam	Bark	Urinary complaints, snake bite.	Decoction
64.	<i>Crotalaria pallida</i> , Aiton.	Fabaceae	Kilukiluppai	Leaves	Vermifuge, fever	Extraction
65.	<i>Cucumis trigonus</i> , Roxb.	Cucurbitaceae	Thumattikai	Root	Purgative, snake bite, less irritation	Paste
66.	<i>Cyanodon dactylon</i> , (L.) Pers.	Poaceae	Arugampillu	Leaves	Stomach ailments, digestion,	Juice
67.	<i>Cyanotis axillaris</i> , (L.) D. Don	Commelinaceae	Vazhukaipul	Whole plants	Fever, Abdominal pains	Decoction
68.	<i>Cyanotis clavata</i> , (Linn.)	Commelinaceae	Kuthiraiikulamba di	Leaves, roots	Cough, biliousness, diarrhea	Decoction, juice
69.	<i>Dactyloctenium aegyptium</i> , (L.) P. Beauv.	Poaceae	kakkakalpul	Whole plants	Dysentery, Anti-inflammatory,	Extraction
70.	<i>Daemia extensa</i> , (J)R.Br.	Asclepiadaceae	Kodalma	Whole plant	Gastric ulcers, uterine, menstrual complaints,	Juice, decoction
71.	<i>Desmodium triflorum</i> , (L.)DC.	Fabaceae	Sirupullati	Leaves & seeds	Carminative, tonic, diuretic	Decoction
72.	<i>Dioscorea oppositifolia</i> , L.	Dioscoreaceae	Riya	Tuber	Stomach and spleen, cancer of uterus	Decoction
73.	<i>Dioscorea tomentosa</i> , J.	Dioscoreaceae	Noorai	Tuber	Fever, cough, cold and body swelling	Juice

	Konig ex Spreng.					
74.	<i>Diospyrous melanoxylon</i> , Roxb.	Ebenaceae	Karai & Karundumbi	Bark & fruit	Anti-microbial & anti-inflammation	Decoction
75.	<i>Diospyrous montana</i> , Roxb.	Ebenaceae	Bankini	Leaves	Treat boils	Decoction
76.	<i>Ehretia ovalifolia</i> , (wight.)	Boraginaceae	Karukattan	Bark	Fever	Juice
77.	<i>Elaeagnus conferta</i> , Roxb	Elaeagnaceae	Kolaga	Fruit	Antidesma	Decoction
78.	<i>Euphorbia antiqorum</i> L	Euphorbiaceae	Chatura Kalli	Stem, Latex	bronchitis, dysentery, dyspepsia, ulcers, asthma	Tonic
79.	<i>Ficus bengalensis</i> L.	Moraceae	Aal	Bark Bark and latex	Rheumatism, dysentery Diabetes, gonorrhoea and piles	Juice
80.	<i>Ficus benjamina</i> , Linn.	Moraceae	pimpri	Whole plant	Ulcers, leprosy	Decoction
81.	<i>Ficus religiosa</i> L.	Moraceae	Arasu	Bark Leaves	Purgative, vomiting Mouth ulcer	Decoction, Juice
82.	<i>Gmelina asiatica</i> , L.	Verbenaceae	Mulkumizh	Fruits, roots	Throat infection, cough, diabetes, dandruff	Paste, juice, decoction
83.	<i>Grewia damine</i> , gaertn.	Malvaceae	Kaatthoother	Leaves	Stomach ulcer and skin disease	Decoction
84.	<i>Grewia flavescens</i> , Juss	Tiliaceae	semparandai	Leaves	Stomach pain and skin diseases	Infusion
85.	<i>Grewia hirsuta</i> , Vahl.	Tiliaceae	Kallai	Fruit	Braintonic, antiacidic	Juice
86.	<i>Grewia tenax</i> , (Forssk.)	Tiliaceae	Unnu	Bark, Fruit	Digestion, reduce body weight	Decoction
87.	<i>Grewia tiliifolia</i> , Vahl.	Tiliaceae	Lumma	Fruit	Diarrhea, ulcerative, colitis.	Paste
88.	<i>Grewia villosa</i> , Willd.	Tiliaceae	Jenukallai	Fruit	Antiinflammatory	Decoction
89.	<i>Guazuma tomentosa kunth</i>	Sterculiaceae	-	Root	Jaundice	Decoction
90.	<i>Gyrocarpus americanus Jacq.</i>	Hernandiaceae	Tanaku	Stem and Bark	Spider bite	Decoction
91.	<i>Hemidesmus indicus</i> , (L.) R.Br. ex Schult.	Asclepidaceae	Nannari	Roots	Ulcer	Juice
92.	<i>Hibiscus micranthus</i> , L.f.	Malvaceae	Sitraamutti	Leaves, roots	Asthma, diuretic,	Decoction
93.	<i>Hibiscus ovalifolius</i> , Forsk. Vahl.	Malvaceae	Thengaipoond	Leaves	Free Urination	Decoction
94.	<i>Hydrolea zeylanica</i> , (L.) V	Hydrophyllaceae	Vellel	Leaves	Wound healing, ulcers,	Decoction
95.	<i>Ipomaea aegyptia</i> , L.	Convolvulaceae		Leaves	Fever, cough	Decoction
96.	<i>Ipomaea cordifolia</i> , Carey ex Voight.	Lamiaceae	Mancalkatampu	Root	Skin diseases	Decoction
97.	<i>Jasminum angustifolium</i> , L.	Oleaceae	Pithikam	Leaves	Skin diseases, ulcer, anti-toxic	Decoction
98.	<i>Jasminum cuspidatum</i> , Rottl. & Willd.	oleaceae	Oosimalli	Flowers & leaves	Anti-septic, antispasmodic, fevers, urinary inflammation	Decoction
99.	<i>Jatropha gossypifolia</i> , L.	Euphorbiaceae	Adalai	Leaves, stem	Antibiotic, anti-cancer	Decoction
100.	<i>Leptadenia reticulata</i> , (Retz.) Wight	Asclepiadaceae	Palaikkodi	Leaves & roots	Skin disease, asthma	Juice, paste, decoction
101.	<i>Leucas lanata</i> , Benth.	Lamiaceae		Leaves	Wound healing, anti-microbial, anti-oxidant	Paste, juice
102.	<i>Leucas urticifolia</i> , (Vahl.) n Sm.	Lamiaceae		Whole plant	Asthma, fever	Decoction
103.	<i>Ligustrum vulgare</i> , L.	Oleaceae	Commonprivate	Leaves and bark	Astringent bitter, Vulneraryantiseptic	Decoction
104.	<i>Litsea scrobiculata</i> , Meisn.	Lauraceae	Mulakunari	Bark, leaves,	Diarrhea, dysentery, frac tured limbs	Decoction
105.	<i>Lonicera japonica</i> , Thunb.	Caprifoliaceae		Stem and flower	Respiratory tract, skin diseases, tumors,	Decoction
106.	<i>Loranthus longiflorus</i> , Desv.	Loranthaceae	Pulluri	Leaves	Antioxidant	Infusion
107.	<i>Ludwigia octavalis</i> , Roxb.	Onagraceae	Karamigida	Whole plant	Remedy for venereal diseases	Decoction
108.	<i>Ludwigia peruviana</i> , (L.) H.	Onagraceae	Kattukkirampu	Whole plants	Dysentery, Purgative, vermifuge	Decoction
109.	<i>Melia azedarach</i> , L.	Meliaceae	Malai vembu	Leaves	Antiseptic, heart diseases	Decoction
110.	<i>Michelia Champaea</i> , L.	Magnoliaceae	Sembagam	Bark, Root Bark	Expectorant, purgative	Decoction
111.	<i>Mimosa pudica</i> L.	Mimosaceae	Thotta surungi	Leaves, Roots	Stomachic, piles, muscular pains	Decoction
112.	<i>Micrococca mercurialis</i> , (L.) Benth.	Euphorbiaceae	Kunukkuth thukki	Leaves	Fever, Head ache	Juice
113.	<i>Mitracarpus villosus</i> , (Sw.) Dc.	Rubiaceae	Kayapoond	Leaves	Skin diseases, wound healing	Paste
114.	<i>Mollugo nudicaulis</i> , Lam.	Aizoceae	Parpadagam	Leaves,	Fever, Cough, head	Juice
115.	<i>Moringa oleifera</i> , Lam.	Moringaceae	Nugae	Leaves	Fever, cough, cold, anti-inflammatory	Extraction
116.	<i>Moringa triloba</i> , L. Dun.	Moringaceae	Munagai	Leaves	Fever, cough, cold	Paste
117.	<i>Moringa tinctoria</i> , Roxb.	Moringaceae	Mannanunai	Leaves	Diarrhoea, Ulcer	Paste
118.	<i>Mucuna pruriens</i> , (L.) Dc.	Fabaceae	Punaippidukkan	Root, leaves	Snake bite, intestinal disorders	Juice, decoction
119.	<i>Murraya exotica</i> , L.	Rutaceae	Vengarai	Leaves	Anti-fertility and analgesic	Juice
120.	<i>Nicandra physalodes</i> , (L.) Gaertn.	Solanaceae	Sudakkuthakkali	Seeds, leaves	Analgesic, intestinal pain	Decoction, juice
121.	<i>Ocimum americanum</i> , L.	Lamiaceae	Naithulasi	Leaves	Gastrointestinal problems	Paste, juice
122.	<i>Olea europaea</i> , (Wall. ex G. Don.) cif.	Oleaceae	Saidun	Leaves	Fever, cough, cold	Decoction
123.	<i>Opuntia dillenii</i> Haw.	Cactaceae	Kalli	Whole plant	asthma, whooping cough, fever, constipation, conjulcers, liver complaints	Decoction

124.	<i>Orthosiphon glabratus</i> , Benth. in Wall.	Lamiaceae	Chilannippadam	Leaves	Wound healing, ulcer	Paste
125.	<i>Oxalis corniculata</i> , L.	Oxalidaceae	Puliyarai	Leaves	Stomach pain	Decoction
126.	<i>Oxystelma esculentum</i> , (L. F.) R.Br. ex Schult.	Apocynaceae	Oosippalai	Leaves	Gonorrhoea, Cough, Joint pain	Juice
127.	<i>Peristrophecalyculata</i> , (R)	Acanthaceae	Nagananda	Leaves, stem	Anti-inflammatory, anti-microbial	Juice
128.	<i>Phaulopsis imbricatum</i> (F)	Acanthaceae	Olosida	leaves	Urinary problems, skin infection	Decoction
129.	<i>Phyllanthus indofischeri</i> ,B	Euphorbiaceae	Nelli	Fruit	Good tonic, diuretic	Decoction
130.	<i>Physalis minima</i> , L.	Solanaceae	Kupanti	Leaves	Laxative, Abdominal troubles	Juice
131.	<i>Pithecolobium dulce</i> Benth.	Mimosaceae	Kodukapuli	Whole plant	Used for dysentery, For intestinal disorders,	Paste
132.	<i>Pleiospermium alatum</i> , (Wight. & Arn.) Swingle.	Rutaceae	Kaatukichili	Whole plant	Anti-inflammatory and anti-septic	Tonic
133.	<i>Polygonum chinensis</i> , L.	Polygonaceae	Garhwal	Root, tubers	Nerve damage, lymphnode inflammation	Dry powder
134.	<i>Portulaca oleracea</i> L.	Portulacaceae	Paruppukeerai	All parts	Cardiovascular Diseases	Decoction
135.	<i>Portulaca wightiana</i> , Wall.	Portulacaceae	-	All parts	Kidney problems, cardiovascular Diseases	Decoction
136.	<i>Psydrax umbellate</i> , (Wight.)	Rubiaceae	Nanjul	Leaves	Kidney and bladder ailments	Extraction
137.	<i>Randia dumetorum</i> Lam.	Rubiaceae	Karamul	All parts	Cough, skin diseases, ulcers, asthma,	Decoction
138.	<i>Rhynchosia cana</i> (Willd.)Dc.	Fabaceae	Kattuthuvarai	Seed	Anti-inflammation and antipyretic	Decoction
139.	<i>Rivea hypocrateriformis</i> ,C.	Convolvulaceae	Mustae	Leaves	Cough, skin diseases	Juice
140.	<i>Rubus nireus</i> , L.	Rosaceae	Kolainda	Fruit	Anti-inflammatory and anti-microbial	Extraction, juice
141.	<i>Salvadora aculeata</i> , L.	Salvadoraceae	Unna	Shoot, leaves	Astringent, antiseptic, anti-fungal	Paste
142.	<i>Sansevieria roxburgiana</i> Schult.f	Liliaceae	Marul	Leaves	Ear-ache,snake bite	Tonic
143.	<i>Sapindus emarginatus</i> Vahl	Sapindaceae	Pounanga	Leaf Seed	Soapnut istraditionally used as a natural and effective reduces hair loss.	Paste
144.	<i>Sapindus laurifolius</i> , Vahl.	Sapindaceae	Soapkai	Leaves	Anti-inflammatory and rheumatism	Decoction
145.	<i>Sarcostemma brevistigma</i> W&A.	Asclepiadaceae	Kondapala	Aerial part	Asthma	Decoction
146.	<i>Schleichera oleosa</i> (Lour.) Merr.	Sapindaceae	Pulipoocha	Fruit	Asthma	Decoction
147.	<i>Scurrula parasitica</i> , L.	Loranthaceae	-	Leaves	Reduce swelling, lower blood pressure, liver diseases	Decoction
148.	<i>Scutia myrtina</i> (Burm. F.) Kurz.	Rhamnaceae	Sudali	Leaves	Dysentery	Juice
149.	<i>Solanum erianthum</i> , D.Don. L.	Solanaceae		Leaves, root,	Dysentery, fever, diarrhoea	Decoction
150.	<i>Solanum rudepannum</i> , Dunal.	Solanaceae	Sundai	Fruit	Cough, cold, anti-inflammatory	Decoction
151.	<i>Stemodia viscosa</i> , Roxb.	Scrophulariaceae	Niumulli	Leaves root, shoot	Dysentery, fever, cough	Decoction, juice
152.	<i>Syzygium jambolanum</i> , Dc.	Myrtaceae	Novalpazham	Stem bark, Leaves	Sore throats, Dysentery and Ulcer	Juice
153.	<i>Syzygium cuminii</i> , (L.) Skeels.	Myrtaceae	Naval	Seed	Diabetics and reduce the level of sugar in the blood	Decoction
154.	<i>Tarenna asiatica</i> , L.	Rubiaceae	Velichi	Fruits	Eyelids to arrest infection	Extraction
155.	<i>Tephrosia purpurea</i> , (L.) Pers.	Fabaceae	Kollukkai velai	Roots, leaves,	Digestible,tumours,ulcers, asthma andpoisoning	Decoction, juice,
156.	<i>Toddalia aculeata</i> , (SM.) pers.	Rutaceae	Kattumilaku	Whole plant	Anti-inflammatory, fever, cough, asthma and cold	Decoction
157.	<i>Trema orientalis</i> ,(L.)	Ulmaceae	Amparuthi	Whole plant	Diabetes, mellitus, respiratory diseases,	Juice, paste
158.	<i>Tribulus terrestris</i> , L.	Zygophyllaceae	Nerunchi	Whole plant	Fever, haead ache, heel cracks, body shining	Decoction, juice, paste
159.	<i>Trichodesma indicum</i> ,(L.)	Boraginaceae	Kallutaitumapi	leaves	Snake bites, cough	Decoction
160.	<i>Tridax procumbens</i> , L.	Asteraceae	Vettu kayathalai	Leaves	bronchialcatarrh, diarrhea, wound healing	Paste, decoction
161.	<i>Tylophora asthmatica</i> , L.F.	Asclepidaceae	Naypalai	Leaves	Bronchial	Decoction
162.	<i>Vitex negundo</i> , L.	Verbenaceae	Chinduvaram	Root, leaves,	Intestinal worms, Spleen disorder	Decoction
163.	<i>Vitex peduncularis</i> ,W.ex S.	Lamiaceae	Mayilei	Leaves	Anti-inflammatory	Extracton
164.	<i>Wattakaka valubilis</i> , L.f.	Asclepiadaceae	Kurincha	Leaves, flowers	Boils	Decoction
165.	<i>Zizyphus glabrata</i> , W.	Rhamnaceae	Karakodamaram	Fruits	Edible part	Extraction
166.	<i>Zizyphus jujuba</i> Lam.	Rhamnaceae	Ellanthai	All Parts Leaves	Colds,influenza, Diarrhoea and colic,	Decoction
167.	<i>Zizyphus mauritiana</i> , Lam.	Rhamnaceae	Illandai	Fruits	Ulcers, Cuts, liver asthma and fever	Decoction
168.	<i>Zizyphus nummularia</i> , W.& A.	Rhamnaceae	Jhar beri	Leaves	Scabies and other skin diseases	Decoction
169.	<i>Zizyphus oenoplia</i> , Mill.	Rhamnaceae	Churipala chedi	Fruit, bark	Diarrhoea	Decoction



Acalypha fruticosa, Forsk.



Anisomeles indica, (L.) Kuntze.



Barleria acuminata, W.



Capparis diversifolia, L



Cissampelos pareira, L



Cereus pterogonus, Lam.



Lonicera japonica, Thunb.



Sapindus emarginatus, Vahl.



Tribulus terrestris, L.

Plate 1: Snapshots of some Surveyed plant species

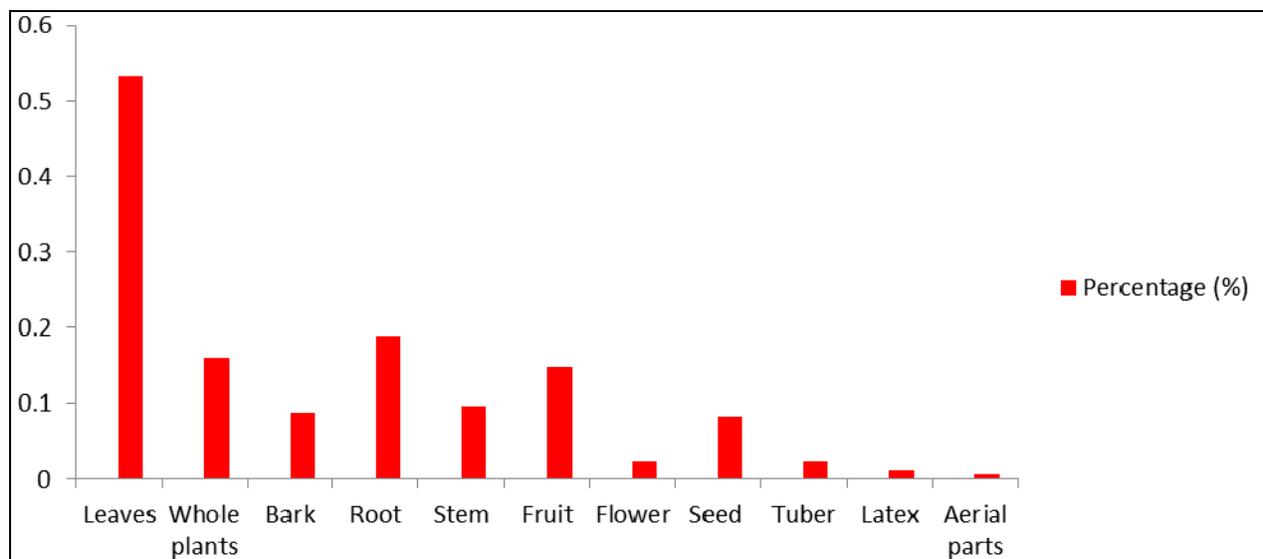


Fig 2: Percentage of plant parts used for the preparation medicine

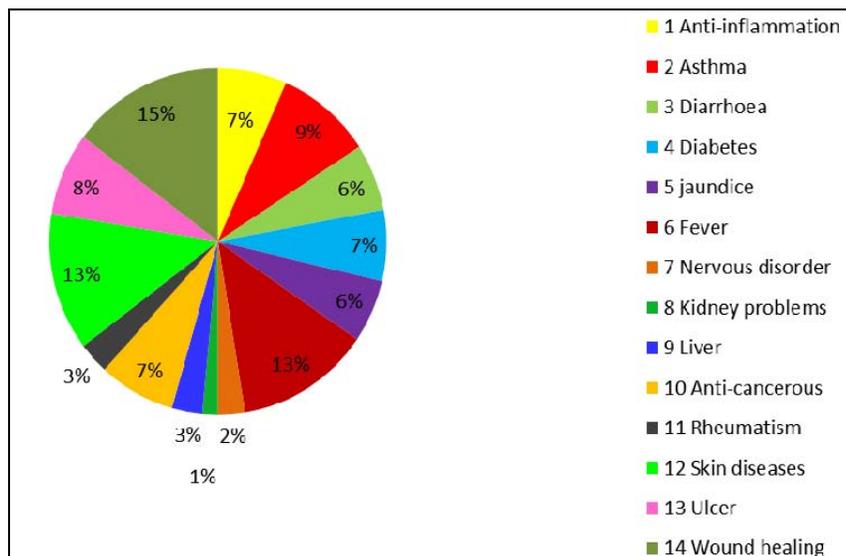


Fig 3: Percentage of different categories of ailment

4. Discussion

Since time immemorial, plants have been an indispensable source of medicines for humans ^[4] and constitute a major economic resource of most countries of the world. In the study area, the use of traditional medicine is widely accepted. This is evident from the number of plant species identified as medicinal.

The use of trees instead of shrubs recorded high number of plants being used for traditional medicine and it could be as a result of their availability throughout the year. The parts of plants commonly used are the leaves and bark. This is due to the availability of these plant parts during the rainy and dry seasons ^[2, 7]. It was observed that some plant species have multiple uses and was used in treating and curing different ailments which included wound healing, Skin diseases, fever, asthma, anti cancerous and ulcer among others ^[2].

The unprecedented interest and demand for plants with medicinal properties and potency for treatment of various ailments is causing over exploitation of such plant genetic resources in the study area. Many of these plants in the study area are threatened now due to constraints of population and natural hazards. Therefore, documentation of traditional knowledge is the only way out to preserve the plants of this area. The present finding is the first record of medicobotanical knowledge in the study area. The information given in the present study will be helpful for the pharmacognosist, botanist and pharmacologist for the collection and identification of the plant for their research work. The survey may create awareness on the importance and conservation of medicinal plants among young budding botanists.

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