

ETHNOMEDICINAL APPROACHES FOR TREATING VARIOUS DISEASE BY IRULA TRIBALS, KONBANUR VILLAGE, ANAIKATTI HILLS, THE WESTERN GHATS, COIMBATORE DISTRICT

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ABSTRACT

Ethno-medicine means the medical practices for the treatment of ethnic or aborigine people for their health care needs. Indigenous traditional Knowledge is an integral part of the culture and history of a local community. It is evolved through years of regular experimentation on the day to day life and available resources surrounded by the community. The present paper documented 85 ethno-medicinal plants of Konbanur village, Anaikatti, Coimbatore district, the Western Ghats, Tamil Nadu belonging to 48 families were used by the Irula tribals for various diseases and food. The conventional ethno medicinal plants were mostly used for different inflammation, cough and cold, leucoderma, different skin diseases, ulcers and leprosy. The medicinal plants used by the Irula tribal traditional users of Konbanur village, Anaikatti hills are arranged alphabetically followed by botanical name, family, local name and medicinal uses.

Keywords: Ethnomedicine, Irula tribals, Anaikatti hills.

1. INTRODUCTION

India is endowed with a variety of natural resources. All along the West coast the Western Ghats are sprawling. The entire Western Ghats is known for its biodiversity, richness and endemism of different species. India harbours about 15% (3000 – 3500) out of 20,000 medicinal plants of the world. About 90% of these are found growing wild in different climatic regions of the country. The tribal and rural populations of India are, to a large extent, dependent on medicinal plants not only to meet their own healthcare needs by self-medication, but also for their livestock. The Western Ghats is richly credited with varied kind of vegetation and unimaginable topographical features. There are about 2,000 plant species that has been found to possess the medicinal value, in all the four systems of indigenous medicine, viz, Ayurveda, Unani, Siddha, and Homeopathy. Irulas are a small tribal community that is part of the Dravidian language group that is spoken in South-Eastern India. They are recognized as a Scheduled Tribe (ST) by the Government of India (Sasi *et al.*, 2011; Ragupathy and Newmaster, 2009). The Irulas are the Dravidian inhabitants and one among the 36 sub-tribal communities in Tamil Nadu that holds the population about 26,000 Irulas living in Tamil Nadu, out of the total population of 558 lakh in the state (Department of Tribal Welfare of Tamil Nadu, Statistic table, July 2006), which is less than 0.5 % of the entire state's population (Census of India, 1991

and 2001). The study area Konbanur village, Anaikatti (11°6'N, 76°45'E). is occupied 250 acres site constitutes a part of the large two square kilometers catchment area. Two hill slopes, northern and southern, also form a part of NBR park. The hills elevate to a height of 80 to 120 metres from the valleys (Fig. 1).

2. MATERIALS AND METHODS

Each and every ethnobotanical work has various activities. They are field trip, observations, identification retrieving the medicinal properties and mode of preparation of drug from the plants by Irula tribal community.

The present work is the outcome of intensive field studies undertaken in hamlet inhabited by Irulas community. Explorative field trips were regularly made once in a month of the study area to all habitants to elicit information on medicinal plant used to treat various ailments. Folklore medico botanical investigations were carried out according to the method adopted by Schultes (1960, 1962); Jain (1989) and Martin (1995). Fieldwork is the most significant aspect in this type of study. Extensive field trips were conducted to remote rural settlements. From each village, two or three local herbal healers were interviewed to elicit first hand information in respect of the plant/plant product curing various diseases. The voucher specimen plants collected were identified with the help of Flora of Presidency of

Madras by Gamble (1936) and Flora of Tamilnadu and Carnatic by Mathew (1983).

The medicinal plants collected in this way are tabulated. They are documented, both family and genus are arranged according to the alphabetical order. The botanical names followed by author citation and synonyms of the plant species, local name of the plant species also provided. Most of the plants are used as a medicine rest of them served as an edible plants.

3. RESULTS AND DISCUSSION

The present study was carried out in the Konbanur village of Anaikatti hills, the Western Ghats, Coimbatore District. Fieldwork is the most significant aspect in this type of study. Extensive field trips were conducted to remote rural settlements. From each village, two or three local herbal healers were interviewed to elicit first hand information in respect of the plant/plant product curing various diseases. In Table 1, data obtained from the field survey are presented. In this study 85 plant species belonging to 48 families have been recorded. Many plant species belonging to families of Solanaceae, Asteraceae and Amarandhaceae are frequently used (Table 2). The informations collected from this study are in agreement with the previous reports (Pushpangadan and Atal, 1984, Kala, 2005; Jain and Shrivastava, 2001; Ayyanar and Ignacimuthu, 2005; Sandhya *et al.*, 2006; Ignacimuthu *et al.*, 2006). For common ailments such as fevers, stomach ache and respiratory disorders, skin diseases, joint pains, hair loss, dysentery, diarrhea, snakebite, jaundice and malaria more number of medication were used. On the other hand, few were used to complicated problems such as heart diseases, kidney disorders skin diseases, cancer and diabetes. The knowledge informants were taken to the field and information on medicinal plants was recorded. The informants were asked to explain therapies of the diseases and to list plants they employ (Table 3-5). In this investigation, there are 20 species belonging to 17 families and 18 Genera were reported by the local practice for the treatment of common heart diseases (Table 3). Among them, 17 families represents atleast single species each. Nearly 20 species, they are using for the treatment of common stomach problems which belonging into 12 families and 20 Genera (Table 4) and The Irula communities of the study area selectively used around 15 families with their 19 plant species especially for the treatment of kidney disorders which is belonging into (Table 5) Amarandhaceae, Asclepiadaceae, Cucurbitaceae,

Lamiaceae, Fabaceae, Malvaceae, Menispermaceae and Nyctaginaceae etc.,

For each plant species complete documentation of folklore medicinal information including medicinal property, their vernacular names, family, parts of used, uses and their identified phytochemical compounds was recorded (Martin, 1995).

The most important aspect of the Irula tribal medicine is that fresh plant material is used for the preparation of medicine. Alternatively, if the fresh plant parts are not available, dried plant materials are used. For this reason several plants served as edible food and alternative remedy to cure a more than single diseases. From this study it is clear that Irula tribal possess innate ability to discern the character of plants and exploit the plant resources to meet their health care needs.

Fig. I. Location of the study area.

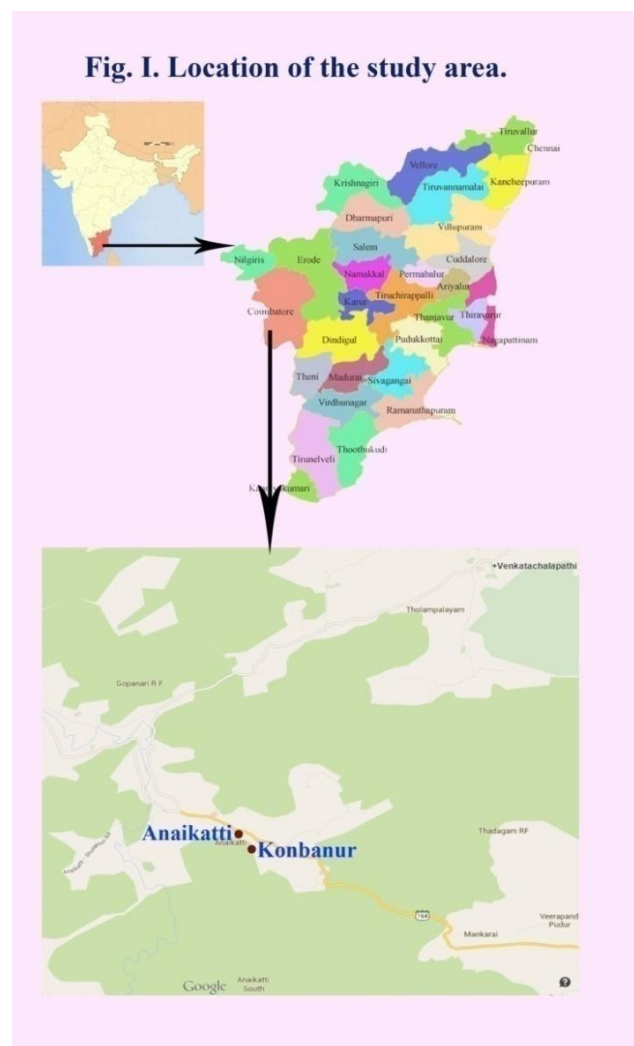


Table 1. List of Ethnomedicinal plants used by Irula tribal in study area.

S.No	Botanical Name	Family	Vernacular Name	Parts used ,Mode of Preparation, Ethno medicinal uses and some other plants used as ingredients
1	<i>Abelmoschusesculandus</i> L.	Malvaceae	Bhendhi	Protect from asthma and diabetes
2	<i>Abrusprecatorius</i> L.	Fabaceae	Rosary pea, Ratti	Used in stomach pains and diarrhea
3	<i>Abutilonindicum</i> Linn.	Malvaceae	Thuthi	Protect from Piles and Pulmonary tuberculosis
4	<i>Achyranthesaspera</i> Linn.	Amaranthaceae	Chirchitta	Useful in treatment of Vomiting, Cough, Dysentery
5	<i>Aconitum heterophyllum</i> L.	Fabaceae	Athividayam	Extracts used for treating Snakebite, Fever
6	<i>Acoruscalamus</i> L.	Acoraceae	Vasambu	Rhizome used for cough & fever. Leaf used for Diuretic
7	<i>Adina cordifolia</i> (Roxb.)	Rubiaceae	Kadami	Medicine for Stomach-ache, cold cough, fever
8	<i>Aeglemarmelos</i> (L.) Correa	Rutaceae	Vilvam	Fruits used for Dysentery
9	<i>Aervalanata</i> L.	Amaranthaceae	Kanpulai	Leaf juice cure kidneystone
10	<i>Ageratumconyzoides</i> L.	Asteraceae	Chick weed	Treating for stomach pain and antifungal disease
11	<i>Allium ceba</i> L.	Liliaceae	Onion	To relieve congestions especially in lungs & bronchial tract.
12	<i>Allium sativum</i> L.	Liliaceae	Garlic	To lower blood pressure and cholesterol.
13	<i>Amarandhuscaudatus</i> L.	Amaranthaceae	Cirukeerai	Avoid diarrhea done by its powder
14	<i>Amaranthusspinus</i> L.	Amaranthaceae	Mullu	Leaf juice used for Diuretic & Digestion
15	<i>Andrographispaniculata</i> (Burm.f.)	Acanthaceae	Siriyangai	Leaf paste mixed with milk internally taken for snake bite
16	<i>Aristolochia bracteolata</i> Lam.	Aristolochiaceae	Aaduthinnapaalai	Leaf Paste used externally on the wound of snake bite
17	<i>Artocarpusheterophyllum</i> Lam.	Moraceae	Palamaram	Leaf juice used for taken internally for ulcer
18	<i>Basella alba</i> L.	Basellaceae	Kodipasalai	Leaves boiled in water and taken internally to cure piles
19	<i>Boerhaaviadiffusa</i> L.	Nyctaginaceae	Mukkurttaikkoti	Taken for treatment of abdominal pain,tumors
20	<i>Bryophyllumpinnatum</i> (Lam.)oken	Crassulaceae	Malaikali	Cure kidney stone and Cough
21	<i>Burberis vulgaris</i> Linn.	Berberidaceae	Jaundice barberry	Fruit used to reinforce the heart and liver
22	<i>Caesalpinia pulcherrima</i> Linn.	Fabaceae	Peacock Flower	Focusing the diseases like asthma, malaria, kidney stone
23	<i>Caesalpinia bonduc</i> (L.) Roxb.	Caesalpinaceae	Kazhichikai	Seed used for Fever. Leaf juice used for diabetics
24	<i>Camellia sinensis</i> (L.) Kuntze	Berberidaceae	Tea plant	Tea used for cancer, heart disease, liver disease
25	<i>Canna indica</i> L.	Scitamineae	Kalvazhai	Root juice are used for diuretic & digestion

26	<i>Canthium coromandelicum</i> (Burm.f) Alston	Rubiaceae	Bellakarai	Roots & Leaves paste used for Diuretic
27	<i>Capparis sepiaria</i> L.	Violaceae	Thottichedi	Root & Leaves are pasted with lemon juice and are applied topically to treat swellings.
28	<i>Capparis zeylanica</i> L.	Capparaceae	Kevisi	Leaves juice used for Immuno stimulant anti-inflammatory
29	<i>Caralluma bicolor</i> Ramach, S. Joseph, H. A. John & C. Sofia	Asclepiadaceae	Kattalae	Plant extract used for Weight loss
30	<i>Caralluma umbellata</i> Haw.	Asclepiadaceae	Chirukalli	Whole plant roasted for a few minutes and roasted paste applied for indigestion
31	<i>Carica papaya</i> Linn.	Caricaceae	Papaya	Cures Abdominal disorders, Amenorrhoea, Atherosclerosis
32	<i>Cassia occidentalis</i> (L)	Fabaceae	Ponnavarai	Works as an antibacterial, antifungal, antimalarial
33	<i>Celosia argentea</i> L.	Verbenaceae	Kozhikontai	Curing infant fever and Chronic cough
34	<i>Cissampelos pareira</i> L.	Menispermaceae	Ponmusutai	Treatment of urinary tract
35	<i>Cocciniagrandsis</i> (L.) J. Viogt	Cucurbitaceae	Koovaikodi	Treating diseases of urinary tract infection, skin diseases, Hypoglycaemic
36	<i>Coleus aromaticus</i> Benth.	Lamiaceae	Karpuravalli	Working against Anti-tumor and Cholera
37	<i>Coleus forskohlii</i> (Willd.) Briq	Lamiaceae	Marunthukoorkankizanku	Treating intestinal disorders, asthma
38	<i>Commiphora mukul</i> (Jacq.) Eng	Burseraceae	Guggul	oleo-gum-resin used in treatment of nervous diseases, leprosy
39	<i>Cordia dichotoma</i> G. Forst.	Boraginaceae	Karadisellai	Seed extract used for Anti-inflammatory
40	<i>Crataegus oxyacantha</i> Linn.	Rosaceae	Hawthorn	To reduce cardiac and cerebral damage, when ischemia
41	<i>Crocus sativus</i> Linn.	Iridaceae	Saffron	Stamens are used for curing heart disease
42	<i>Curcuma longa</i> Linn.	Zingiberaceae	Turmeric	Use in cardiovascular disease and gastrointestinal disorders
43	<i>Cyphomandra betacea</i> (Cav.) Miers	Solanaceae	Maraththakkali	Fruits used for diuretic, cough and cold
44	<i>Datura stramonium</i> L.	Solanaceae	Unmatta	Relieve the diseases urinary retention and ulcer
45	<i>Digitalis lanata</i> Linn.	Scrophulariaceae	Woolly foxglove	Used to relieve from heart diseases and asthma
46	<i>Dioscorea oppositifolia</i> L.	Dioscoreaceae	Chinese yam	Leaves paste is used as antiseptic for ulcers
47	<i>Diplocylos palmatus</i> (L.) Jeffrey	Cucurbitaceae	Sivalingakkodi	Fruits juice used in body pain
48	<i>Dolichos biflorus</i> L.	Fabaceae	Kulaththa	Lowering the level of blood sugar
49	<i>Drynaria quercifolia</i> (L.) J. Sm.	Polypodiaceae	Mudavattukizhangu	Rhizome juice are taken internally for body pain
50	<i>Emblica officinalis</i> Gaertn.	Euphorbiaceae	Indian gooseberry	Treatment of jaundice, dyspepsia and cough
51	<i>Erigeron canadensis</i> L.	Asteraceae	Horseweed	Helps for curing Blood clotting & rheumatic

52	<i>Gloriosa superba</i> L.	Liliaceae	Kanvalipoo	complaints Rhizome paste is applied treat wounds.
53	<i>Glycosmis pentaphylla</i> (Retz.) Dc.	Rutaceae	Melaekulukki	Used for cough, rheumatism, anemia and jaundice.
54	<i>Gompherna serrate</i> L.	Amaranthaceae	Arasan con todo	Cures the Kidney problems and live disorders
55	<i>Guizotia abyssinica</i> (L.f.) Cass.	Asteraceae	Malaiellu	Treatment for Stomach ache
56	<i>Hemidesmus indicus</i> L.	Asclepiadaceae	Nanari	Refrigerant and for kidney and urinary disorders
57	<i>Inula racemosa</i> HOOK. F	Asteraceae	Sunspear	Roots are powerful biological activity.
58	<i>Jatropha multifida</i> L.	Euphorbiaceae	Churakkalli	Protects from Stomach ache, burn
59	<i>Justicia adhatoda</i> L.	Acanthaceae	Aadhatodai	Leaf juice from this plant used for cough, fever and diarrhea
60	<i>Kalanchoe pinnata</i> L.	Crassulaceae	Ranakalli	Medicine for curing kidney diseases
61	<i>Lagenaria siceraria</i> L.	Cucurbitaceae	Surakkai	Treating diseases like Diabetic, Doarrhea and digestive problem
62	<i>Madhuca longifolia</i> (Koenig)	Sapotaceae	Iluppai	Medicine for diabetes, Painkiller, Skin diseases
63	<i>Matricaria recutita</i> L.	Asteraceae	Chamomile	Cures the digestive problems and acts as an anti-inflammatory, anti-spasmodic.
64	<i>Momordica charantia</i> L.	Cucurbitaceae	Pakkrkai	Cure kidney stone.
65	<i>Moringa oleifera</i> L.	Moringaceae	Murungai	Stabilize blood pressure and make strengthen
66	<i>Nelumbo nucifera</i> Gaertn	Nymphaeaceae	Indian Lotus	Treatment of diarrhea, tissue inflammation and haemostasis
67	<i>Pachygone ovata</i> (Poir.) Diels	Menispermaceae	Perungkaattukodi	Seeds powder used for Snake bites
68	<i>Pergularia daemia</i> (Forsk) Chiv	Asclepiadaceae	Veliparuthi	Treating the diseases like malarial intermittent fevers, toothaches
69	<i>Phyllanthus niruri</i> L.	Phyllanthaceae	Keezhanelli	Brain tumor and Jaundice
70	<i>Piper longum</i> L.	Piperaceae	Long pepper	Therapeutic agent for Alzheimer disease, Anti-stress
71	<i>Psidium guajava</i> L.	Myrtaceae	Guava	Rich in antioxidant properties
72	<i>Punica granatum</i> L.	Puniaceae	Pomegranate,	Focusing on treatment of diabetics and prevention of cancer, cardiovascular disease
73	<i>Ricinus communis</i> L.	Euphorbiaceae	Castor	Protect liver damage from certain poisons
74	<i>Rivea hypocrateriformis</i> Choisy	Convolvulaceae	Mustae	Leaves paste used for diarrhea
75	<i>Scilla hyacinthina</i> (Roth) Macbr.	Liliaceae	Kattuvengayam	Paste made from bulb applied externally for body pain
76	<i>Scoparia dulcis</i> L.	Scrophulariaceae	Sarkaraivempu	Cure kidney stone.
77	<i>Solanum nigrum</i> L.	Solanaceae	Makoi	Having antiulcer properties cures stomach diseases
78	<i>Solanum rupestris</i> Dunal	Solanaceae	Toothuvalai	Leaf juice is taken orally for cough and fever

79	<i>Strychnos potatorum</i> L.f.	Loganiaceae	Sillakottai	The whole plants used for Urinary & Kidney
80	<i>Terminalia arjuna</i> W. & A.	Combretaceae	White Marudah	Protects the heart, strengthens circulation
81	<i>Terminalia chebula</i> Retz.	Combretaceae	Haritaki	Works as an Antioxidant, Antibacterial,
82	<i>Tribulus terrestris</i> L.	Zygophyllaceae	Nerunji	Protects the liver and kidney
83	<i>Withania somnifera</i> Dunal	Solanaceae	Winter cherry	Increases hemoglobin content in the blood
84	<i>Zingiber officinale</i> Roscoe.	Zingiberaceae	Ginger	Useful in fighting heart disease, cancer
85	<i>Zizyphus jujube</i> (L.)	Rhamnaceae	Ber	Increase physical stamina and cures the liver disorders

Table 2. List of families with number of species in study area.

S.No	Name of the Family	No. of species present in each family	S.No	Name of the Family	No. of species present in each family
1	Acanthaceae	2	25	Malvaceae	2
2	Acoraceae	1	26	Menispermaceae	2
3	Amaranthaceae	5	27	Moraceae	1
4	Aristolochiaceae	1	28	Moringaceae	1
5	Asclepiadaceae	4	29	Myrtaceae	1
6	Asteraceae	5	30	Nyctaginaceae	1
7	Basellaceae	1	31	Nymphaeaceae	1
8	Berberidaceae	1	32	Phyllanthaceae	1
9	Boraginaceae	1	33	Piperaceae	1
10	Burseraceae	1	34	Polypodiaceae	1
11	Caesalpiniaceae	1	35	Puniaceae	1
12	Capparaceae	1	36	Rhamnaceae	4
13	Caricaceae	1	37	Rosaceae	1
14	Combretaceae	2	38	Rubiaceae	2
15	Convolvulaceae	1	39	Rutaceae	2
16	Crassulaceae	2	40	Sapotaceae	1
17	Cucurbitaceae	4	41	Scitamineae	1
18	Dioscoreaceae	1	42	Scrophulariaceae	2
19	Euphorbiaceae	3	43	Solanaceae	5
20	Fabaceae	2	44	Theaceae	1
21	Iridaceae	1	45	Verbenaceae	1
22	Lamiaceae	2	46	Violaceae	1
23	Liliaceae	4	47	Zingiberaceae	2
24	Loganiaceae	1	48	Zygophyllaceae	1

Table 3. List of medicinal plants used by Irula tribal for the treatment of heart diseases.

S.No	Botanical Name	Common name	Name of the Family	Parts used	Chemical Constituents
1	<i>Allium ceba</i> L.	Onion	Liliaceae	Bulb & Leaves	Sulphur compounds(Ajoene, allyl sulfides, and vinylidithiins), quercetin& Allicin(diallyl disulphide oxide)
2	<i>Allium sativum</i> L.	Garlic	Liliaceae	Bulb	Sulphur compounds,(Ajoene, allyl sulfides, and vinylidithiins)&Allicin
3	<i>Berberis vulgaris</i> Linn.	Jaundice barberry	Berberidaceae	Bark & Root	Berberine
4	<i>Camellia sinensis</i> (L.) Kuntze	Tea plant	Theaceae	Leaves & Leaf buds	Epicatechin (EC),Epigallocatechin (EGC), Epicatechin-3-gallate (ECG), and Epigallocatechin-3-gallate (EGCG)
5	<i>Coleus forskohlii</i> (willd.)Briq	Marunthu koorkankizanku	Lamiaceae	Tuberous root	Forskohlin,Arjunic acid
6	<i>Commiphora mukul</i> (Jacq.)Eng.	Guggul	Burseraceae	Gum &Resin	Guggulsterones,Z-guggulsterone, Guggulipids
7	<i>Crataegus oxyacantha</i> Linn.	Hawthorn	Rosaceae	Berries, Leaves &Flowers	Oligomeric proanthocyanidins, Catechin, Quercetin,Epicatechin
8	<i>Crocus sativus</i> Linn.	Saffron	Iridaceae	Stigmas	Crocetin, Picrocrocin
9	<i>Curcuma longa</i> Linn.	Turmeric	Zingiberaceae	Rhizome	Curcumin(diferuloylmethane) C3
10	<i>Digitalis lanata</i> Linn.	Grecin foxglove	Scrophulariaceae	Leaves	Cardiac glycosides
11	<i>Emblica officinalis</i> Gaertn.	<i>Amalaki, amla</i>	Euphorbiaceae	Fruit	Vitamin C, Gallic acid, Emblicanin A,B
12	<i>Inularacemosa</i> HOOK. F	Indian elecampane	Asteraceae	Root& Rhizome	Alantolactone, isovalantolactone
13	<i>Nelumbo nucifera</i> Gaertn	Indian Lotus	Nymphaeaceae	Flowers &Rhizome	Quercetin,Luteolin
14	<i>Piper longum</i> L.	Long pepper,Thippali	Piperaceae	Fruit& Root	Piperlongumine
15	<i>Psidium guajava</i> L.	Guava	Myrtaceae	Fruit &Leaves	Quercetin, Lycopene,vitamin C
16	<i>Punica granatum</i> L.	Pomegranate	Puniaceae	Fruits& flowers	Hexahydroxydiphenic acid,Gallic acid, quercetin, Punicic acid.
17	<i>Terminaliaarjuna</i> W. & A.	Maruthamaram	Combretaceae	Bark	Arjunolic acid,Arjunic acid, Glycosides,
18	<i>Terminaliachebula</i> Retz.	Haritaki	Combretaceae	Fruit, Bark &seed	Gallic acid, oligomeric proanthocyanidins Pentacyclitriterpenes, vasicine & vasicinone,Ellagic acid,chebulic acid
19	<i>Withaniasomnifera</i> Dunal	Winter cherry, Ashwagandha	Solanaceae	Tuber &Root	Withaferin A
20	<i>Zingiberofficinale</i> Roscoe.	Ginger	Zingiberaceae	Root	Galanolactone

Table 4. List of medicinal plants used by Irula tribal for the treatment of stomach disorders.

S.No.	Botanical name	Name of the family	Common name	Part used	chemical constitution
1	<i>Abrus precatorius</i> L.	Fabaceae	Kuntrymani	Seed	2,3-diphospho-d-glyceric Acid
2	<i>Achyranthes aspera</i> Linn.	Amaranthaceae	Chirchitta	whole plant	C-glycosides
3	<i>Aconitum heterophyllum</i> L.	Fabaceae	Athividayam	whole plant	Heterophylline, Hetisine
4	<i>Adina cordifolia</i> (Roxb.)	Rubiaceae	Kadami	leaf, flower	Rhamnopyranosyl
5	<i>Ageratum conyzoides</i> L	Asteraceae	Chick weed	whole plant	Leucoanthocyanins
6	<i>Caesalpinia pulcherrima</i> Linn.	Fabaceae	Peacock Flower	Leaf	Terpinene
7	<i>Carica papaya</i> Linn	Caricaceae	Papaya	fruit, seed	cardiac glycosides
8	<i>Cassia occidentalis</i> (L)	Fabaceae	Ponnavarai	roots, leaves and seeds	Chrysophanol 1
9	<i>Cocciniagrandis</i> (L.)J.Viogt	Cucurbitaceae	Koovai kodi	leaves	Cephaoandrins
10	<i>Datura stramonium</i> L.	Solanaceae	Unmatta	Seed	7-hydroxy apoatropine
11	<i>Dioscorea oppositifolia</i> L.	Dioscoreaceae	Chinese yam	tuber, flower, leaf	Cardiac glycoside
12	<i>Erigeron canadensis</i> L.	Asteraceae	Horseweed	aerial parts of plant	β -Caryophyllene
13	<i>Guizotia abyssinica</i> (L.f.) Cass.	Asteraceae	Malaiellu	seeds	Campesterol
14	<i>Jatropha multifida</i> L.	Euphorbiaceae	Churakkalli	Whole plant	Fraxidin
15	<i>Madhuca longifolia</i> (Koenig)	Sapotaceae	Iluppai	Flower, leaves, bark & seeds	Stigmasterol
16	<i>Matricaria recutita</i> L.	Asteraceae	wild chamomile.	Flowers	Chamazulene
17	<i>Pergularia daemia</i> (Forsk) Chiv	Asclepiadaceae	Veliparuthi	aerial parts	Hentriacontane
18	<i>Ricinus communis</i> L.	Euphorbiaceae	Castor	Seed	N-demethylricinine
19	<i>Solanum nigrum</i> L	Solanaceae	manathakkali	whole plant	gallic acid
20	<i>Zizphus jujuba</i> (L.)	Rhamnaceae	Ber	Fruit	Stigmasterol

Table 5. List of medicinal plants used by Irula tribal for the treatment of kidney disorders.

S.No	Botanical Name	Family	Common Name	Parts used	Chemical constitution
1	<i>Abutilon indicum</i> Linn.	Malvaceae	Thuthi	Leaf	Ethylacetate, Chloroform, Methanolic, Aphrodisiac, Laxative, Mucilage
2	<i>Aervalanata</i> L.	Amarandhaceae	Kanpulai	Root, leaf	β -Sitosterol, α -amyrin, betulin, Hentriacontane, Sitosteryl palmitate, D-glucoside, Glycosides, Rhamnogalactoside
3	<i>Abelmoschus esculandus</i> L.	Malvaceae	Vendai	Fruit	Saponins, Glycosides, linoleic, linolenic, oleic acid, squalene
4	<i>Amarandhus caudatus</i> L.	Amarandhaceae	Cirukeerai	Root.	β -carotene. Triterpenoids, Saponins, Glycosides, linoleic, linolenic, oleic acid, squalene
5	<i>Boerhaavia diffusa</i> L.	Nyctaginaceae	Mukkurttai koti	Root	phlobaphenes and ursolic acid
6	<i>Bryophyllum pinnatum</i> (Lam.) Joken	Crassulaceae	Malaikali	Leaves	β -D-glucopyranoside, nundecanyl, flavanoids, flavones, falvans, flavanones, isoflavonoids, chalcones,
7	<i>Coleus aromaticus</i> Benth	Lamiaceae	Karpuravalli	Leaves	Oleanolic acid, 2,3- dihydroxyoleanolic acid, Crategolic acid, Ursolic acid, Pomolic acid, ssEuscaphic acid,
8	<i>Celosia argentea</i> L.	Verbenaceae	Kozhikontai	Seed, root	, 6-methoxygenkwanin, quercetin, Chrysoeriol, Luteolin, Apigenin, Flavanoneeriodyctol, Flavanol
9	<i>Cissampelos pareira</i> L.	Menispermaceae	Ponmusutai.	Leaf, root	7, 12-dimethylbenz(a)anthracene (DMBA), polycyclic aromatic hydrocarbon (PAH), peroxides,
10	<i>Clerodendrum serratum</i> L.	Lamiaceae	Thalunarai	Leaf	calcium, magnesium, uric acid, carbohydrates
11	<i>Dolichos biflorus</i> L.	Fabaceae	Kollu	Root	petroleum ether, Alcohol, Calcium chloride dehydrate, Sodium oxalate, Disodium hydrogen phosphate
12	<i>Gompherna serrate</i> L.	Amarandhaceae	Arasan con todo	Whole plant	sulphur, chlorine, potassium, calcium, chromium, manganese, cobalt, Nickel, copper, Zinc
13	<i>Hemidesmus indicus</i> L.	Asclepiadaceae	Nanari	Root	4-hydroxy-3-methoxy-cinnamic acid, 4-hydroxybenzoic acid, p-hydroxycinnamic
14	<i>Lagenaria siceraria</i> (L.)	Cucurbitaceae	Surakkai	Fruit	α - and β -amyrins, calcium albumin and alanin transaminase, β -D-glucopyranoside
15	<i>Moringa oleifera</i> L.	Moringaceae	Murungai	Root	alkaloids, moriginine, bacteriocide, spirochin, vitamins
16	<i>Momordica charantia</i> L.	Cucurbitaceae	Pakarkai	Leaves	Alkaloid, glycosides, reducing sugar, saponin
17	<i>Phyllanthus niruri</i> (L.)	Phyllanthaceae	Keezhanelli	Root	Alkaloid, glycosides, reducing sugar, saponin phosphatase
18	<i>Scoparia dulcis</i> (L.)	Scrophulariaceae	Sarkaraivempu	Root, shoot	Calcium chloride, sodium oxalate, calcium chloride.
19	<i>Tribulus terrestris</i> L.	Zygophyllaceae	Nerunii	Whole plant	Peroxide, malondialdehyde, ethanolic, protein, carboxinyl, catalase, glutathione, dithiobis, nitrobenzoic acid

4. CONCLUSION

In the present investigation, a total of 85 species of medicinal plants distributed among 80 genera belonging to 48 families were identified at Konbanur village, Anaikatti hills, the Western Ghats, Coimbatore district. In this survey Amarandaceae, Asteraceae and Solanaceae family species served as a food and Asclepiadaceae, Combretaceae, Rhamnaceae and Liliaceae, Euphorbiaceae and etc., families are utilized for various ailments. It is clearly indicates that there is wide usage of local flora by the Irulars community in study area.

This rural area is an important source of traditional medicines. More information may be explored from the peoples residing in the remote villages in this district. The traditional healers are the main source of knowledge on medicinal plants. This knowledge has been transmitted orally from generation to generation; however it seems that it is vanishing from the modern society since younger people are not interested to carry on this tradition. It is also observed that some traditional plants in that area are fast eroding. The conservation efforts are needed by plantation and protection of these plants with maximum participation of local people.

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