



ISSN (E): 2320-3862
ISSN (P): 2394-0530
NAAS Rating 2017: 3.53
JMPS 2017; 5(6): 30-38
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Received: 19-09-2017
Accepted: 20-10-2017

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Medicinal plants used by thoriya ethnic (Sub tribe of baduga) in Nilgiris, India

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Abstract

An ethnobotanical study was carried among the Thoriya ethnic (sub tribe of Baduga) in Nilgiri mountain of India. 200 plant species belonging to 75 families used in treatment of various ailment are described under this survey. Once these ethnic group were extensively using herbal medicine to treat illness like cough, cold, diarrhea, dysentery, asthma, jaundice, fever, infertility, eye infection, urinal infection, intestinal worms etc. now this traditional practice is being reduced due to various factors. According to this investigation the most dominant families used by them are Asteraceae, Euphorbiaceae, Solanaceae, Fabaceae and Poaceae. In most cases they use roots and leaves to treat ailment.

Keywords: *Thoriya, ethnobotany*, India, Nilgiri, Baduga, primary health care.

1. Introduction

Ethnobotany is the science that deals with relationship between people, plants and environment. Medicinal plants are the backbone of the traditional medicine, the World Health Organization (WHO) estimates that about 80% of the people of the world exclusively rely on traditional medicine for their primary health care needs. There are nearly 2000 ethnic group in the world and it is believed that almost every group has its own traditional medical knowledge and practices. It is estimated that about 50,000 plant species are believed to be used in Traditional and complementary medicine as per the data available more than 35% of entire plant species, at one time or other were used for medicinal purposes Gewali (2008) generated a general breakdown of the availability of higher plant species and medicinal plants for the selected countries shown in table 1.1. Countries like India, Indonesia, Malaysia have high number of higher plant species, their utilization as medicinal plants are low. (table 1.1) India accounts with 20% in the utilization as medicinal plants and China closely followed it with 18.9% countries like Thailand, Sri Lanka and Vietnam use about 15.5 – 17.1% of their floral biodiversity as medicinal plants.

Since ancient times man has relied on nature for their basic needs such as food, shelter, clothing, transport, medicine etc as a means of its survival (Cargg and newmann, 2005). They gathered wild fruits and tubers, hunted animals for food and utilized plants as a source of medicine to get rid of diseases. By trial and error, man learnt that certain plants were found useful as food while others being used for curing various infections or diseases. In this way man was able to distinguish between useful and harmful

2. Material and Method

2.1. Site Selection

The present work is the result of rigorous field studies carried in the hamlets settled by Thoriya ethnic in the Nilgiri, Tamil Nadu of India. Explorative field trips were regularly made twice in a month of the year 2015 and 2016 to all settlements, and obtained the general information on medicinal plants used in treatment of various ailments. This survey was carried in the villages based on the accessibility, availability of local informants or traditional practitioners and the willingness of the village community to extend the support to the present investigation. The present ethnobotanical study covers altogether 15 hamlets of Thoriya settlements that spread across the district. List of the hamlets surveyed, its location, and altitude is presented on the table (1) i

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Table 1: Showing hamlets of Thoriya ethnic with latitude.

Name of the hamlets	Location		Altitude
	North (latitude)	East (longitude)	
Ullathatti (melidhane region)	11.447°	76.873°	1938/m
sakkatha (aravenu region)	11.417°	76.843°	1853/m
Kaikatti (kotagiri region)	11.451°	76.770°	1979/m
kallatti (kattabettu region)	11.435°	76.817°	1985/m
Thuneri (kil kotagiri region)	11.454°	76.735°	1847/m
Kil kotagiri	11.448°	76.834°	1922/m
Ajoor (kagguchi region)	11.445°	76.794°	1836/m
Yedapalli (kattabettu region)	11.363°	76.844°	1815/m
Kookalthorai (kambatti)	11.423°	76.800°	1570/m
Kokal	11.477°	76.820°	1646/m
Kappatti (kotagiri region)	11.444°	76.840°	1671/m
Naragiri (kotagiri region)	11.463°	76.845°	1767/m
Bematti	11.408°	76.808°	1931/m
Ketchigitti (Kagguchi)	11.451°	76.802°	1871/m
Addasolai	11.396°	76.898°	1625/m

2.2 Data collection

The data on ethnomedicinal plants were collected according to the method adopted by Schltes (1960); Jain (1989) and Martin (1995). Extensive field trips were conducted to remote rural settlements. From each hamlet, three or more than three local herbal healers were interviewed to obtain information in respect of the plant products curing various infectious diseases. Here both men and women medicinal healers were asked to explore their view on utilization of medicinal plants. However women medicinal healers given more priority because they seemed to have more knowledge about the utility plants in curing various diseases. They know more about remedies for children, disease and ailments associated with delivery. Men new more about treatment of bone fracture, cuts, wounds, scorpion and snake bites. The traditional healers (informants) were taken to the field and record of medicinal plants are made. The informants were requested to explain the medicinal properties, vernacular name, preparation method and mode of administration. All the above said information was recorded. For analyzing ethno botanical data, information about 200 plants belonging to 75 families (shown in the table 2) which are used by Thoriya communities for their primary health care purposes were taken in to account.

2.3 Plant collection and identification

This research is based on field surveys carried out on them during month January-June 2015 and march -june 2016. There are 15 settlements of Thoriya which includes, Ullathatti, Sakkatha, Kllatti, Thuneri, Kil kotagiri, Ajoor, Yedapalli, Kambatti, Kookal and Kappatti were selected for the present study. Voucher specimens were collected during field survey and were preserved with 10% formalin and pressed for future identification. GARMIN GPS 76 was used for taking the reading of the latitudes, longitude and altitudes of all villages where the study was carried out. The Collected plants were identified by different botanist working at various botanical regional centers at Nilgiri district which includes Department of Botany Government Arts College Ooty, Medicinal Plant Development Area (M.P.D.A) Doddabetta, Nilgir and Department of Horticulture Government Botanical Garden Ooty, Nilgiri. The identified and pressed herbarium voucher specimens are listed alphabetically by their generic names, family name and Thoriya names. A short description of plants is also provided. The voucher specimens of plants have been deposited in the herbarium at Govt Arts College Ooty for the future reference.



Fig 1: Kappatti (one of the Thoriya village)

3. Result

Outcome result of present study, 200 plant species belonging to 75 families are recorded. Of these 55 plant species fall under families like Asteraceae, Euphorbiaceae, Fabaceae, Solanaceae and Poaceae, which include 16, 10, 9, 11 and 8 respectively which are listed in the table 1 and 2. Of these plants, most of them are herbs and shrubs, and only few of them are trees, creepers, climbers trees and ferns. The active medicinal compounds from these plants are mainly used in treating major illness like cancer, fever, asthma, cuts and wound, indigestion, diarrhea rheumatism, fracture, menstrual problem, headache, body pain, allergy, dysentery, cough and cold. In most of the cases fresh plant parts are used than dried one.

For treating illness, Plants parts like leaf, stem, bark, root, fruits, and rhizomes are being used. But in most cases leaves are extensively used than other plant parts. Of 200 plant species, flowers are used from only family like Malvaceae.

Knowledge in the near future. Hence, it is necessary to gain and preserve this traditional system of healing practice through different scientific investigation.

Tables and figures

Table 2: List of medicinal plants used by Thoriya ethnic (sub tribe of Baduga) in Nilgiri, India

S-no	Name of the plant	Family	Local (baduga name)	Morphological parts used	Mode of administratin	Therapatic uses
1	<i>Strobilanthus lawsoni</i>	Acanthaceae	Kadu kattai	leaf and bark	Heat, mastgatorr	Internal
2	<i>Strobilanthus kunthianus</i>	Acanthaceae	Kattai (neela kurungi)	stem and bark	Mastigatory	Internal
3	<i>Agava americana</i>	Agavaceae	Kathalai	laves and roots	Rhematism	External
4	<i>Achyranthus aspera</i>	Amaranthaceae	Utharani	root,leaves	Asthma	Internal
5	<i>Amaranthus paniculata</i>	Amaranthaceae	Keerai	leaves, seeds	Digestion	Internal
6	<i>Amaranthus spinosus</i>	Amaranthaceae	Mullu Keerai	Roots,leaves	Used for allergy	Internal
7	<i>Annona reticulata</i>	Anonaceae	Seetha annu	Fruit	Reduces heat,	Internal
8	<i>Annona squamosa</i>	Anonaceae	Kunna setha annu	Fruit	Dysentery	Internal
9	<i>Milusa nilagirica</i> *	Anonaceae	Kongannu	leaves, bark	Rheumatism	Both external and internal
10	<i>Brassica nigra</i>	Apiaceae	Thotta kadugu	Seeds and leaves	Indigestion and cold	Both external and internal
11	<i>Brassica juncea</i>	Apiaceae)	Kunna kadugu	Seeds and leaves	Eye disease	External
12	<i>Centella asiatica</i>	Apiaceae	kuthirai kokku	whole plant	Menstrual pain	Internal
13	<i>Coriandrum sativum</i>	Apiaceae	kothumalli	aerial part, seed	Digestion, Anthelmintic	Internal
14	<i>Heracleum spengelium</i>	Apiaceae	nari gidu	root	Dysentery	Internal
15	<i>Carissa paucanervia</i>	Apocynaceae	kavilannu	Fruit	Edible, digestion	Internal
16	<i>Vinca rosea</i>	Apocynaceae	nithya kalyani	leaf	Cancer treatment, sarcoma	Internal
17	<i>Acorus calmas</i>	Araceae	Basumbu	rhizome	Diarrhoea	Internal
18	<i>Arisaema leschnaultii</i>	Araceae	Avemarigidu	whole plant	Skin diseases	External
19	<i>Areca catechu</i>	Arecaceae	addeka	Fruit	Mastigatory	Internal
20	<i>Caryota urens</i>	Arecaceae	mandemora	tender leaves	Health tonic	Internal
21	<i>Ristolochia elegans</i>	Aristolochaceae	pipe	leaf past	used for snake bite	External
22	<i>Calotropis gigantea</i>	Asclepiaceae	kalli mora	root,leaves	Skin infection, snake bite,	External
23	<i>Cerpogia accuminata</i>	Asclepiaceae	Kadigisi	Leaves, Roots	Wounds	External
24	<i>Gymnemahirsutum</i>	Asclepiaceae	nore	Leaves and Bark	Diabetes, jaundice, inflammation	Both external and internal
25	<i>Gymnema sylvestris</i>	Asclepiaceae	kadu nore	leaves	paralysis, diabetes, fertility	Both external and internal
26	<i>Hemidemus indicus</i>	Asclepiaceae	nannarai	whole plant	blood purification	Internal
27	<i>Nephrolepis smithii</i>	Aspidieae	mora thavi	leaves	asthma, cough, viral infection	Internal
28	<i>Nephrolepis tuberosa</i>	Aspidieae	thavi	leaves	lung infection, cough	Internal
29	<i>polystichm angulare</i>	Aspidieae	thavi	leves and root	muscle pain	External
30	<i>achilla millefolium</i>	Asteraceae	arra gidu	laves and roots	Rhematism, fever and urinary infection	Internal
31	<i>Anaphalis neelgiryana</i>	Asteraceae	Thitti gidu	Leaves	Stomach ach and fertility	Internal
32	<i>Anaphalis elliptica</i> *	Asteraceae	kunna thiti	whole plant	fever, indigestion	Internal
33	<i>bidens pilosa</i>	Asteraceae	kothimullu	leaves	menstrual problems	Internal
34	<i>chromolaena odorata</i>	Asteraceae	nadagisi	leaves	eye infectin	External
35	<i>conoclinium coelestinum</i>	Asteraceae	neela manju gidu	leaves	blood purification	Internal
36	<i>Dichrocephala integrifolia</i>	Asteraceae	gaigidu	leaves, aerial parts	Menstrual pain	Internal
37	<i>Erigeron karvnskiana</i>	Asteraceae	kothi gidu	leaves	Cuts and wounds	Both external and internal
38	<i>Eupatorium glandulosum</i>	Asteraceae	oogidu	leaves	Cuts and wounds	External
39	<i>Galinsoga parviflorus</i>	Asteraceae	kothakasa	leaves	cuts and wounds	Both external and internal
40	<i>Galinsoga quadriradiata</i>	Asteraceae	kothakasa	leaves	Cuts and wounds, stomach trouble	Both external and internal
41	<i>Helichrysum buddleoids</i>	Asteraceae	kadu vada malli	leaves	cuts and wounds	External
42	<i>scehium edulis</i>	Asteraceae	kurigidu	leaf	Eye disease, jaundice	Both external and internal
43	<i>sida acuta</i>	Asteraceae	nasarikke	leaves	skin allergy, fertlity	Internal
44	<i>Adenostema laevenia</i>	Astraceae	Eurugidu	whole plant	fertility	Internal
45	<i>Agreeratum conyzoids</i>	Astraceae	magathi	leaves	Cuts and wounds	External
46	<i>Begonia malabarica</i>	Begoniaceae	neerumulli	aerial part	Fever	Internal
47	<i>Berberis tinctoria</i>	Berberdiae	jakka annu	Roots, leaves	Jaundice, ulcer and stomach ache	Internal
48	<i>berberis vulgaris</i>	Berberdiae	barberi	bark and leaves, root	malaria, cough, fever, back pain, arthritis	Both external and internal
49	<i>cynoglossum zylanicum</i>	Boraginaceae	Jathakai	Leaves	Vomiting, digestion	Internal
50	<i>Coronopus didynamous</i>	Brassicaceae	Naregidu	Aerial parts	Cuts and wounds	Internal
51	<i>Canna indica</i>	Cannaceae	kadvalli elai	Root, flower	Paralysis	Both external and internal
52	<i>dianthus barbatus</i>	Caryophyllaceae	sakarae willium	seed	edible, digestion	Internal
53	<i>Drymarra cordata</i>	Caryophyllaceae	kasagidu	Leaves	Cuts and wounds	External
54	<i>siegesbeckia orientalis</i>	Caryophyllaceae	kaau gidu	leaves	head ache	Internal

55	<i>spergularia arvensis</i>	Caryophyllaceae	mosuru gidu	aerial part	digestive	Internal
56	<i>Cassia occidentalis</i>	Ceasalpinaceae	thangra gidu	Root, leaves	Pain during Deliveries, fever	Internal
57	<i>Cassia pumila</i>	Ceasalpinaceae	agorai	Leaves	Veterinary	Both external and internal
58	<i>Chenopodium album</i>	Chenapodiaceae	Pruppusoppu	leaves, seeds	Digestion	Internal
59	<i>Chenopodium ambrosoides</i>	Chenapodiaceae	Kadu soppu	Leaves	stomach disorder	Internal
60	<i>Calophyllum inophyllum</i>	Clusiaceae	kad annu	leaves, seeds	Rhematism, purgative	Both external and internal
61	<i>Commelina coelestes</i>	Commelinaceae	kunna Kannai	Stem	skin diseases	Internal
62	<i>Cynotis tubarosa</i>	Commelinaceae	kannai	leaves	eye irritation	External
63	<i>Cynotis pilosa</i>	Commelinaceae	kanne ullu	Stem	Eye disease	External
64	<i>Argyreia pomacea</i>	Convolvulaceae	Mandeminiki	Leaves	Cooling effect	External
65	<i>Ipomeia nil</i>	Convolvulaceae	bellae oo gidu	leaves	digestion, allergy	Both external and internal
66	<i>Ipomeia terbinata</i>	Convolvulaceae	Kadu gidu	Leaves	Skin allergy	External
67	<i>Monardica charanitia</i>	Cucurbitaceae	pavakke	leaves and fruits	asthma, wheezing and diabetes	Internal
68	<i>Ruta graveolens</i>	Cucurbitaceae	marakai	fruits	digestion	Internal
69	<i>Cupressus macrocarpa</i>	cupressaceae	thada sambrani	leaves	Rheumatism muscular pain	Both external and internal
70	<i>Eleacarpus serrata</i>	Elacocarpiaceae	bikka annu	Leaves, fruit	Skin allergy edible	Both external and internal
71	<i>Eleaganus latifolia</i>	Eleangiaceae	thotta kolanga	fruit and root	Fever	internal
72	<i>Eleaganus kologa</i>	Eleangiaceae	kolanga annu	Root, leaf, fruit	heart pain, fever	Both external and internal
73	<i>Gaultheria fragrantissima</i>	Ericaceae	ennai gidu	root, leaves	skin nourishment	External
74	<i>Acalypha indica</i>	Euphorbiaceae	kasa soppu	young shoot, leaf paste	skin burns, ring worm, scabies	External
75	<i>Breynia vitisidaea</i>	Euphorbiaceae	kadu keera	Leaves	Cuts and wounds	External
76	<i>Euphorbia elioscopia</i>	Euphorbiaceae	allu gidu	Latex	Cuts and wounds	External
77	<i>Euphorbia hirta</i>	Euphorbiaceae	kaadu assiakki	whole plant	stomach ache	Internal
78	<i>Flugyea leucorpyros</i>	Euphorbiaceae	ooli gidu	leaf	Cuts and wounds	External
79	<i>Givotia rottlariformis</i>	Euphorbiaceae	bethelai mora	leaves, bark	mouth ulcer, body heat, dysentery, vomiting	Internal
80	<i>Glochidion neilgherrense</i>	Euphorbiaceae	mori gidu	leaf and young shoot	fever, cooling effect	Internal
81	<i>Jatropha gossypifolia</i>	Euphorbiaceae	kottamuthu	leaves	lepresy, snake bite	External
82	<i>Jatropha curcus</i>	Euphorbiaceae	kunna kotamuthu	seed	purgative, skin nourishment	
83	<i>Ricinus communis</i>	Euphorbiaceae	arulu gidu	seeds	purgative	external
84	<i>Crotolaria buxifolia</i>	Fabaceae	kaadu mora	bark and leaves	head ache sore eyes	Internal
85	<i>Crotolaria semper florens</i>	Fabaceae	kattatavarai	leaves	eye infection	External
86	<i>Clitoria ternatea</i>	Fabaceae	Sanghoo	Root Seed	body swelling	Both external and internal
87	<i>Crotolaria juncea</i>	Fabaceae	Sanapai	Flower	Antifertility	Both external and internal
88	<i>Cytisus scoparius</i>	Fabaceae	kothikeerai	Leaves	Diuretic	Internal
89	<i>Dolichos lignosus</i>	Fabaceae	avarai	seeds	essential protein, antibody production	Internal
90	<i>Indigofera tinctoria</i>	Fabaceae	Manali	Leaves	Stomach pain	Internal
91	<i>Pongamia pinnata</i>	Fabaceae	pungamura	leaves	cuts and wounds	Internal
92	<i>Sophora glauca</i>	Fabaceae	ubbai soppu	leaves	Cooling effect	External
93	<i>Quercus infectiria</i>	Fagaceae	massikai	leaf	fever	Internal
94	<i>Didymocarpus tomentosa</i>	Genseriaceae	kadu gidu	Leaf	Skin allergy	External
95	<i>Impatiens nilgirica*</i>	Geraniaceae	kunna anni	leaves	diarrhoea dysentery	Internal
96	<i>Impatiens chinensis</i>	Geraniaceae	anni gidu	leaves	Dysentery	Internal
97	<i>Pelargonium graveolens</i>	Geraniaceae	geranium	leaf oil	nourish the dry skin	External
98	<i>Hydrangea macrophylla</i>	hydrangeaceae	nasi gidu	laves and roots	kidney disorder	Internal
99	<i>Artemisia aborta</i>	Labiata	kunna benigidu	leaf	cooling effect	External
100	<i>Artemisia nilagirica</i>	Labiata	Benigidu	leaf, root	Insecticide, Fever	Both external and internal
101	<i>Asparagus fysoni *</i>	Labiata	perumula	whole plant	digestion	Internal
102	<i>Leucas aspera</i>	Lamiaceae	Thumbai gidu	Leaves, fruits and root	skin allergy, tooth ache, small pox	Both external and internal
103	<i>Micromera biflora</i>	Lamiaceae	Bathigidu	whole plant	post- natal treatment	External
104	<i>Plectranthes malbarica</i>	Lamiaceae	yellambai	aerial part	fever	Internal
105	<i>Rosmarinus officinalis*</i>	Lamiaceae	centu gidu	laves	muscle pain back ache, sunburn,	External
106	<i>Salvia officinalis</i>	Lamiaceae	sage	leaves	throat infection	Internal
107	<i>Thymus vulgaris</i>	Lamiaceae	thyme	leaf oil	respiratory prblem, body pain	External
108	<i>Cassythafiliformis</i>	Lauraceae	Kadugidu	Stem	Rheumatism	External
109	<i>Iaurus nonilis</i>	Lauraceae	bay	leaves	arthrititis, rheumatism	internal
110	<i>Allium sativam</i>	Liliaceae	Eerabenguvai	bulb,young leaves	Body heat	Internal
111	<i>Allium cepa</i>	Liliaceae	Bellai benguvai	bulb,young leaves	controls blood pressurs, digestion and gastric trouble	Internal
112	<i>Aloe vera</i>	Liliaceae	kunna kalli	plant sap or past	skin pigmentation, digestion	Both external and internal

113	<i>Asparagus racemosus</i>	Liliaceae	Kothigidu	tuber	Fever	Both external and internal
114	<i>Aspargagus plumosus</i>	Liliaceae	mari thavi	plant sap or past	eczema, ulcer, inflamated wound	Both external and internal
115	<i>Buddleia davidii</i>	loganiaceae	pattapuchi oovu	leaves	wound healing	External
116	<i>taxillus cuniatus</i>	loranthaceae	sippiti	leaves	skin allergy	External
117	<i>Abutilon vitifolium</i>	Malvaceae	seena gidu	leaves	laxative, diuretic, sedative	Internal
118	<i>Hibiscus rosa-sinansis</i>	Malvaceae	Semerthi	Flower	Diabetes	Internal
119	<i>Setaria italica</i>	Malvaceae	kalligidu	root, leaves	Menstrual pain, heat, labour pain	Internal
120	<i>Azadiracta indica</i>	Meliaceae	Bevusoppu	whole plant	Chickenpox, smallpox, fever	Both external and internal
121	<i>Cissampelos perira</i>	Menispermaceae	Padavalli	Root	postponing menopause	Both external and internal
122	<i>Acacia delbeta</i>	Mimosaceae	Seegai	bark	Cuts and wounds	External
123	<i>Acacia armata</i>	Mimosaceae	kangaroo mullu	leaves	skin nourishment	External
124	<i>Ficus sapertima</i>	Moraceae	peetahi	Fruit	blood purification	Internal
125	<i>Ficus exasperta</i>	Moraceae	atthi	Fruit	fertility	Internal
126	<i>Ficusglamerata</i>	Moraceae	kadatthi	Fruit	Veterinary	External
127	<i>Embilica officinalis</i>	Myrsiniaceae	nellikai	fruit	sources of vitamin C, Mouth ulcer	Both external and internal
128	<i>Melaeuca alternifolia</i>	myritaceae	teamora	leaf oil	Wounds insect bite, skin allergy	
129	<i>Eucaliptus longifolia</i>	Myrtaceae	kappuramora	leaf oil	head ache, pain, cough, running nose	External
130	<i>Eucaliptus globulus</i>	Myrtaceae	kappura elai	leaves	joint pain, body pain, head ache	External
131	<i>Psidium guajava</i>	Myrtaceae	koinnanu	leaves	Diarrhoea, dysentry	Both external and internal
132	<i>Rhodomyrtis tomentosa</i>	Myrtaceae	thavatai annu	fruit	digestion	Internal
133	<i>Boerhaavia diffusa</i>	Nyctaginaceae	Saranai	Leaves	Cuts and wounds	External
134	<i>Oxalis carniculata</i>	Oxalidaceae	Kunna ulla majigai	Leaves	Dysentry, headache	Internal
135	<i>Oxalis latifolia</i>	Oxalidaceae	ulla majjigai	whole plant	Paralysis	Internal
136	<i>Corydalis dubia</i>	Papavaraceae	basaka	leaves	blood purification	Internal
137	<i>Corydalis crispa</i>	Papavaraceae	basaka	leaves and root	liver disorder	Internal
138	<i>Argemone mexicana</i>	Papavaraceae	Mullmothakka	Flower	Eye disease	External
139	<i>Passiflora edulis</i>	Passifloraceae	odeyannu	Flower	head ache	External
140	<i>Passiflora caerulea</i>	Passifloraceae	gudi soppu	leaf and root	pain, insomnia and and promotes sleep	
141	<i>Papaver somniferam</i>	Pepavraceae	madhu pattae soppu	leaf, dry fruit, latex	sedative, body pain and promotes sleep	internal
142	<i>Plumbago zeylanica</i>	Plumbaginaceae	kodaibelli	root	skin allergy	External
143	<i>Plantago erosa</i>	Plantaginaceae	neelavarikai	leaves	muscle pain	Both external and internal
144	<i>Bambusa arundinacea</i>	Poaceae	bidul	tender shoot	Bone fracture	External
145	<i>Cyanodon dactylon</i>	Poaceae	Garikkai	Roots, leaves	urinogenital troubles, asthma	External
146	<i>Cymbopogon nardus</i>	Poaceae	kunna bamullu	leaves	indigestion and cold	Internal
147	<i>Cymbopogon confetiflorus</i>	Poaceae	Bambe ullu	Leaves	Skin allergy	External
148	<i>Embalia basal</i>	Poaceae	Oongal beru	leaves, root	Jaundice	Both external and internal
149	<i>Eleusine corocana</i>	Poaceae	Erigi	Grains	Cooling effect	Internal
150	<i>Panicum vulgare</i>	Poaceae	Samai	Seed flour	Strength	Internal
151	<i>Senecio candicans</i>	Poaceae	thenai	whole plant	rhematism, cooling effect	Internal
152	<i>Polygonum molli</i>	Polygonaceae	gongu	root	Vomiting, digestion	Both external and internal
153	<i>Polygonum chinensis</i>	Polygonaceae	kappu annu gidu	whole plant	paralysis, giddiness	Both external and internal
154	<i>Polygonum glabrum</i>	Polygonaceae	paregudi	root, young shoot	piles, jaundice and constipation	Internal
155	<i>Rubus racemosus</i>	Polygonaceae	gongu	root, leaves	jaundice	Internal
156	<i>Portulaca quadrifida</i>	Portulacaceae	kannai	leaves	Cooling effect	Internal
157	<i>Portulaca pilosa</i>	Portulacaceae	pasai kannai	leaves	digestion, cooling effect	Both external and internal
158	<i>Angagalis arvensis</i>	Primulaceae	Kadu gidu	Leaves	fertility	Internal
159	<i>Punica granatum</i>	Punicaceae	thalliannu	Leaves, fruits, bark, outer cover of fruit and root	Diarrhoea, dysentry, bronchitis	Internal
160	<i>Aconitum laciniatum</i>	Ranunculaceae	keppuoo	leves and root	Bone fracture, asthma, diarrhoea and oedema	Both external and internal
161	<i>Colletia ferox</i>	Rhamanaceae	thong mora	leaves	antiseptic for wound	External
162	<i>Cotoneaster buxifolia</i>	Rosaceae	kallu mora	petals and leaves	fungal infection,	Both external and internal
163	<i>Cotoneaster bacillaris</i>	Rosaceae	roja oov	leaves and bark	respiratory prblem,	Internal
164	<i>Prunus persica</i>	Rosaceae	peach	leaf	stomach	Internal
165	<i>Pyrus communis</i>	Rosaceae	plums	leaves	dysentry	Internal

166	<i>Rubus ellipticus</i>	Rosaceae	mulli	leaves, fruits	digestion, paralysis and edible	Internal
167	<i>Cinchona officinalis</i>	Rubiaceae	cincon	leaf and bark	fever, malarial fever	Internal
168	<i>Coffea arabica</i>	Rubiaceae	kappe annu	Seeds	body pain	Internal
169	<i>Hedyotis corymbosa</i>	Rubiaceae	kasagidu	whole plant	fertility	Internal
170	<i>Pavetta indica</i>	Rubiaceae	kurigidu	leaves	skin allergy	Both external and internal
171	<i>Richardia scabra</i>	Rubiaceae	molamathi	leaves and root	fever	Internal
172	<i>Aegle marmelos</i>	Rutaceae	vilva mora	leaf and fruit	indigestion, diarrhoea and dysentery	Internal
173	<i>Glycomis cochinchinensis</i>	Rutaceae	papparatte	Root	Tumor	External
174	<i>Rumex nepalensis</i>	Rutaceae	aravathu gidu	leaves	fever, antiseptic	Internal
175	<i>Toddalia asiatica</i>	Rutaceae	masigae	root	skin diseases	External
176	<i>Micromera biflora</i>	Sabiaceae	sembappu	wood and leaf	skin allergy	External
177	<i>Dodonea viscosa</i>	Sapindaceae	marantha	leaves, stem	Bone fracture	External
178	<i>Digitalis purpurea</i>	Scrophularaceae	narimora	Leaves, fruits and root	heart disorder	Internal
179	<i>Saline gallica</i>	Smilacaceae	nasura	root, fruit	skin allergy, swelling	External
180	<i>Capasicum annum</i>	Solanaceae	masu	fruit	dyspepsia	Internal
181	<i>Datura metal</i>	Solanaceae	umatha	Leaves	Asthma, cough	External
182	<i>Nicandra physaloides</i>	Solanaceae	Ummathakkai	Leaves	Cuts and wounds	Internal
183	<i>Physalis peruviana</i>	Solanaceae	pitlannu	fruit and root	antioxidant, vomiting	Both external and internal
184	<i>Smilax zeylanica</i>	Solanaceae	kaadu badanekai	root, fruit	asthma, cough, viral infection	Internal
185	<i>Solanumsurrattense</i>	Solanaceae	sundakkai	fruit, root	cough, skin cracks, liver disorder	Internal
186	<i>Solanum tarvum</i>	Solanaceae	kaadu sundai	fruit	Antifertility	Internal
187	<i>Solanum sisymbriifolium</i>	Solanaceae	mullu sundai	fruit, seed	toothach	Internal
188	<i>Solanum xanthocarpum</i>	Solanaceae	gulleki	fruit	Dysentery, headache	Internal
189	<i>Solanum anguvi</i>	Solanaceae	kunna sundai	leaves	swelling, dysentery	Internal
190	<i>Solanum nigrum</i>	Solanaceae	gakkee soppu	leaves	diabetes, cough and aneamea	Internal
191	<i>Camellia sinensis</i>	Theaceae	tea gidu	root,leaves	Diabetes, Dysentery	Internal
192	<i>Celtis cinnamomea</i>	Ulmaceae	Aduva	leaf, root	Cuts and wounds	External
193	<i>Debregesia longifolia</i>	Urticaceae	kadugidu	Leaves	Skin allergy	External
194	<i>Pousolzia bennettiana</i>	Urticaceae	tuoraikolu	stem bark	Cooling effect	External
195	<i>Clerodendrum phlomidis</i>	Verbinaceae	Kunna modakai	leaf	Cuts and wounds	External
196	<i>Clerodendrum serratum</i>	Verbinaceae	Modathakai	leaf	Asthma, m Wheezing	Both external and internal
197	<i>Lantana camera</i>	Verbinaceae	juthaka	leaves	internal worm, cuts and wound	Both external and internal
198	<i>Cissus quadrangularis</i>	Vitaceae	paraday	root and stem powder	bone fracture, asthma, diarrhoea, piles	Both external and internal
199	<i>Hedycheum flavescense</i>	Zingiberaceae	sulle	rhizome	fertility	Internal
200	<i>Zingiber officinalis</i>	Zingiberaceae	ingi	rhizome	gastric cough and internal parasite	Internal

Table 3: Family viz distribution of Ethnomedicinal plants

Serial number	Name of the family	Number of species distributed in each family	%
1	Acanthaceae	2	1
2	Agavaceae	1	0.5
3	Amaranthaceae	3	1.5
4	Anonaceae	3	1.5
5	Apiaceae	5	2.5
6	Apocynaceae	2	2
7	Arecaceae	4	2
8	Aristolochaceae	1	0.5
9	Asclepiaceae	5	2.5
10	Aspidieae	3	1.5
11	Asteraceae	16	8
12	Begoniaceae	1	0.5
13	Berberdiae	2	1
14	Boraginaceae	1	0.5
15	Brassicaceae	1	0.5
16	Cannaceae	1	0.5
17	Caryophyllaceae	4	2
18	Cesalpiniaceae	2	1
19	Chenopodiaceae	2	1
20	Clusiaceae	1	0.5
21	Commelinaceae	3	1.5
22	Convolvulaceae	3	1.5
23	Cucurbitaceae	2	1

24	cupressaceae	1	0.5
25	Elacocarpiaceae	1	0.5
26	Eleangiaceae	2	1
27	Ericaceae	1	0.5
28	Euphorbiaceae	10	5
29	Fabaceae	9	4.5
30	Fagaceae	1	0.5
31	Geransiaceae	3	1.5
32	hydrangeaceae	1	0.5
33	Labiata	3	1.5
34	Lamiaceae	6	3
35	Lauraceae	2	1
36	Liliaceae	5	2.5
37	loganiaceae	1	0.5
38	loranthaceae	1	0.5
39	Malvaceae	3	1.5
40	Meliaceae	1	0.5
41	Menispermaceae	1	0.5
42	Mimosaceae	2	1
43	Moraceae	3	1.5
46	Myrsiniaceae	1	0.5
47	myritaceae	5	2.5
48	Nyctaginaceae	1	0.5
49	Oxalidaceae	2	1
50	Papavaraceae	1	0.5
51	Passifloraceae	2	1
52	Plambaginaceae	1	0.5
53	Plantaginaceae	1	0.5
54	Poaceae	8	4
55	Polygonaceae	4	2
56	Portulacaceae	2	1
57	Portulacaceae	1	0.5
58	Primulaceae	1	0.5
59	Punicaceae	5	2.5
60	Ranunculaceae	1	0.5
61	Rhamanaceae	1	0.5
62	Rosaceae	5	2.5
63	Rubiaceae	5	2.5
64	Rutaceae	4	2
65	Sabiaceae	1	0.5
66	Sapindaceae	1	0.5
67	Scrophularaceae	1	0.5
68	Smilaceae	1	0.5
69	Solanaceae	11	5.5
70	Theaceae	1	0.5
71	Ulamaceae	1	0.5
72	Urticaceae	2	1
73	Verbinaceae	3	1.5
74	Vitaceae	1	0.5
75	Zingiberaceae	2	1

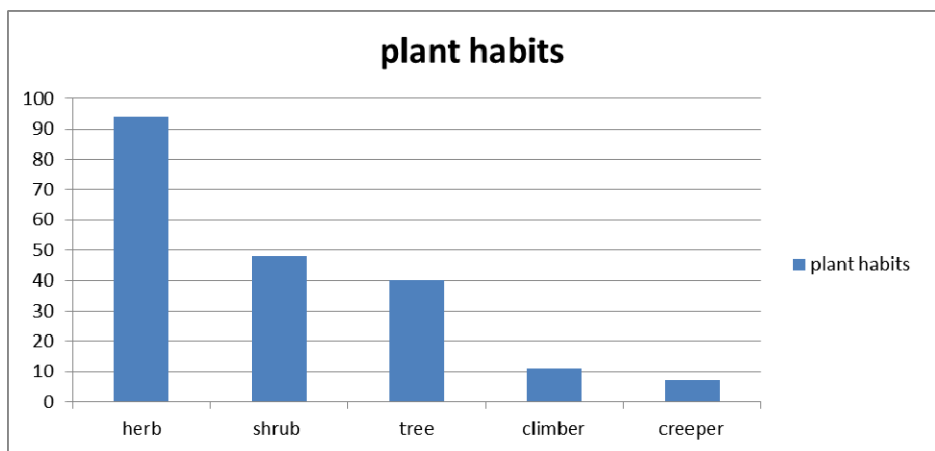


Fig 2: (bar diagram). Showing number of species distributed in terms of habits

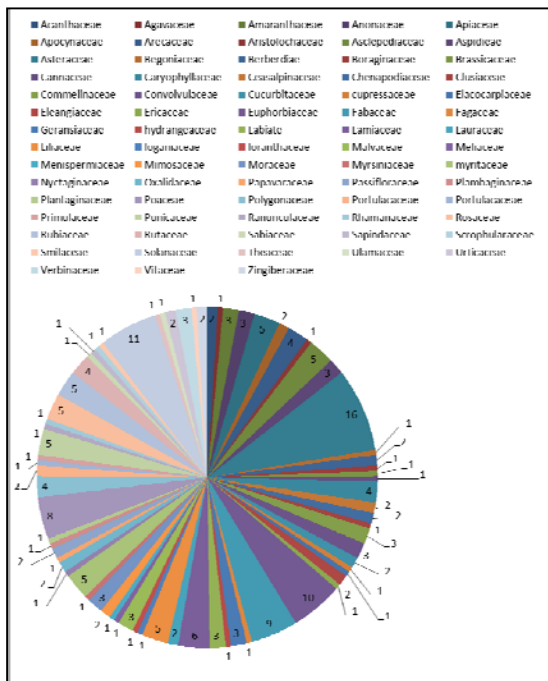


Fig 3: Pie diagram showing family wise distribution of ethnobotanical plants

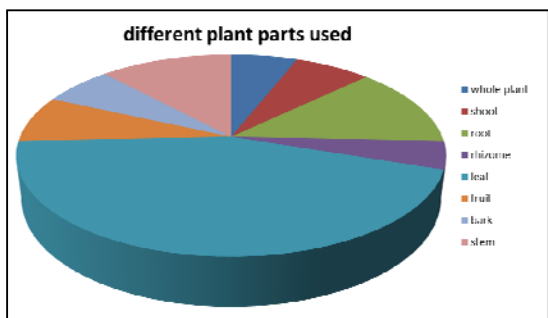


Fig 4: Showing different plant parts used for therapeutic drug.

Discussion

Nilgiri which is well known for its plant biodiversity with many endemic plants with high medicinal value, require massive effort for more ethnobotanical field exploration, micro propagation and phytochemical analysis. Huge numbers of plant species used in local traditional medicine in the Nilgiri district lack phyto-therapeutic evidence. Hence steps must be taken to perform phytochemical and pharmacological investigation to explore and validate the potential of local plants used in treating various illness. The present study also revealed a rich heritage of medicinal knowledge and high diversity of ethno medicinal plants from study area.

These local ethnic to treat various illness uses different plant parts. Among the plant parts, leaves are exclusively used in treatment of diseases followed by whole plant, root, stem, fruit, stem bark, seed, latex and root bark and rarely they use flower (Table 3 figure 2) the method of plant preparation fall in to four categories, viz; applied as paste (35%) fresh plant juice mixed with any liquid (28 %) powder made from dried plant (25%) raw plant parts like ripen and un ripen fruits (5%) latex of plant parts (2%)

Photos of some notable medicinal plants



Viola odorata



Adathoda vasica



Thymus vulgaris



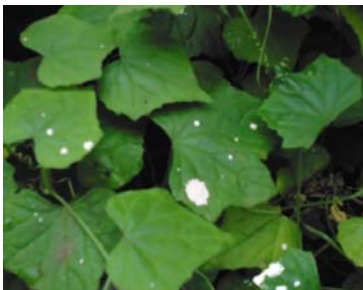
Rosemarium sps



Solanum viarum



Brassica nigra



Melonthera medaraspata



Taraxacum officinalis



Coglearia armorus



Melaleuca alternifolia

plant biodiversity, still people use western medicine for their simple ailments due to lack of knowledge about use of medicinal plants among them. Traditional medicinal practices among these Thoriya ethnic is being declined due to following reasons, present day traditional healers are very old, lack of interest among younger generation, migration towards cities for seeking job and higher education, present generation do not show interest in consuming plant medicine for their ailments. There is possibility of losing this wealth of

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Conclusion

According to this investigation and earlier investigation, the study area has enriched medicinal plants to treat extensive range of human ailments. Though this study area is known for