iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 7 **Issue:** IV **Month of publication:** April 2019

DOI: https://doi.org/10.22214/ijraset.2019.4206

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 6.887
Volume 7 Issue IV, Apr 2019- Available at www.ijraset.com

Comparative Study on the Medicinal Plant Use Data by Four Indigenous Tribes- Kattunaikkan, Mullakuruman, Adiyan and Kuruchiyar - of Wayanad District, Kerala

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Abstract: ***The present study was an attempt to record the quantitative data regarding medicinal plant use by four predominant tribes– Kattunaikkan, Mullakuruman, Adiyan and Kuruchiyar- of Wayanad District, Kerala, India. Mention of each use of a species with respect to a disease was treated as a separate event and considered as a user report. A total of 565 user reports were collected from the fifteen informants belonging to the four socio-cultural groups during the study period. User reports regarding 165 species from 63 different families were recorded. The data regarding the medicinal plant use were analysed.***
Keywords: Ethnobotany-Wayanad- tribals- medicinal plant use .

I. INTRODUCTION

Modern people are alienated from environment so that we consider it as a place to visit or hike trough, while most indigenous tribes treat environment as a natural extension of themselves [1]. Alcorn [2,3] has discussed how the human relationships with plant resources, *i.e*., the human, cultural, and material uses of plants are largely shaped by history, and by physical and social environments.

These relationships cover a very wide canvas, from wild foods, medicines, fibers, fodders, dyes, and body ornamentation, *etc*. to still more important, but less understood areas of the social and religious relationships, like beliefs, faith, taboos, worship and even protection and preservation.

The richness of plant diversity in any area is not evaluated by the number of species occurring there, but by the intensity of associations and dependence of the indigenous communities on that plant wealth and, respect for this knowledge helps in conservation [4].Wayanad is a hilly district within Kerala state towards the southernmost end of India, with the highest percentage of tribal population recorded so far within the state.

Documentation of data regarding edible plants [5, 6] used has been done in this area. Mere listing of medicinal plants used by some individual tribes has also been done [7, 8]. Wayanad, the green paradise, lies nestled among the misty mountains of Western Ghats at a height of 700-2100 m. above sea level on the northern part of the Kerala state. T

he name, *Wayanad*, is believed to have been derived from the word, *Vayal nadu*, meaning the land of paddy fields which comprises of about 2126 sq.kms. Evidences about New Stone Age civilization are obtained in plenty from the hills of Wayanad. The present study was an attempt to record the quantitative data regarding medicinal plant use by four predominant tribes– *Kattunaikkan, Mullakuruman, Adiyan* and *Kuruchiyar*- of Wayanad District, Kerala. When one considers the fast pace of modernisation and acculturation exposing these traditional communities to modern methods of medicine and lifestyles, this study is the urgent need of the hour.

II. MATERIAL AND METHODS

A. Study Area

Wayanad lies between North latitude 11^0 27' and 15^0 58' and East longitude 75^0 47 ' and 70^0 27'. It is bounded on the east by Nilgiris and Mysore districts of Tamil Nadu and Karnataka respectively, on the north by Coorg district of Karnataka, on the south by Malappuram districts and on the west by Kozhikode and Kannur districts of Kerala.

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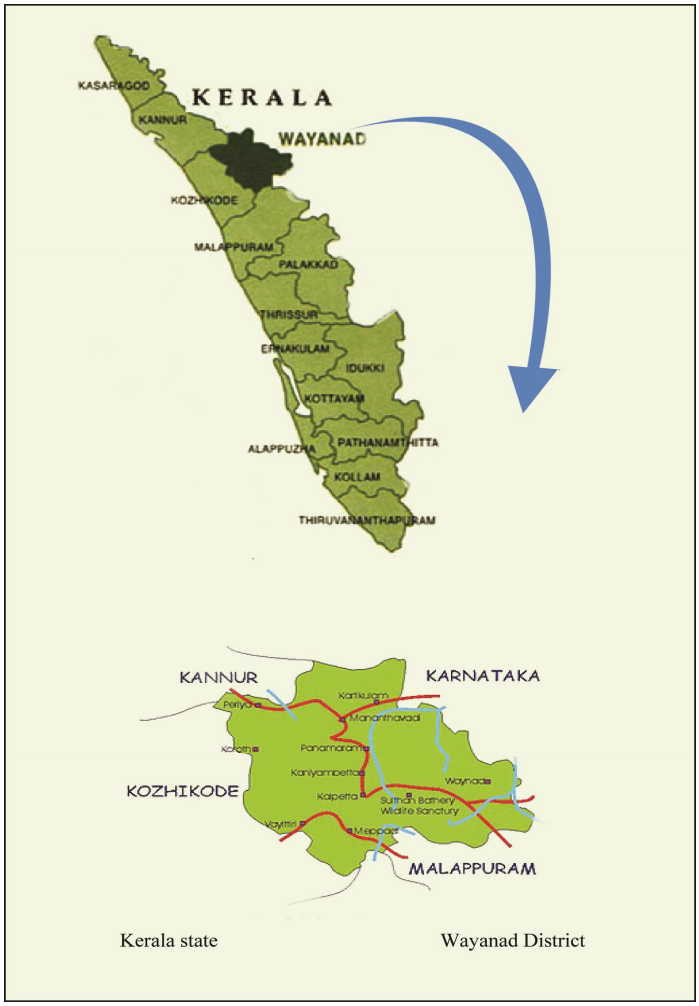


Figure 1. Study area.

B. Data Collection

Study sites, knowledgeable informants identification, work plan, data collection procedures and literature survey was completed before starting field work. Fifteen informants, mainly healers and elders belonging to the four prominent socio-cultural communities – *Mullakuruman, Kuruchiyar, Kattunaikkan, and Adiyan* who were full time professionals in this field and widely accepted in their areas as well as other too, representing all regions were put to semi-structured interviews with pre arranged appointments lasting 2-3 hour duration followed by a transect walk to their natural environment from where they gathered plants. Follow up interviews were made at regular intervals covering all seasons from November 2008 to December 2014. The age of the informants varied from 36 years to 84 years. Except two, all of them were males. Informants were asked to spell out the remedies for the diseases and how they used them. The information regarding the use a particular species for a specific disease was treated as one user report. For each species, its local name, part used, method of use and conservation strategies were recorded. Prior informant consent was collected from all individuals regarding knowledge sharing. Some informants restrained from disclosing the method of using as they believed that it may loose its effect if made public. Live specimens for scientific identification were also collected during these walks.

C. Informants Profile

Among the data obtained from the pilot study, fifteen informants were selected for the quantitative ethnobotanical study from the four regions –South, North, West and East of Wayanad District respectively. They represented four prominent sociocultural communities – *Mulla Kuruman, Kurichiyar, Kattunaikkan, and Adiya*. As has already been mentioned, these communities are the most prevalent ones in the district and are entirely different in their social and economical status and have a long tradition and culture of their own. The tribe and region wise distribution of informants is given (Table 1).

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Table 1. Tribe and region wise distribution of informants selected for the study

Tribe	South	North	West	East	No of informants
Kattunaikkan	+	+	-	-	2
Mulla Kuruman	++	+	-	++	5
Adiya	-	++	-		2
Kurichiyar	+	++	++	+	6

'+' represents each informant and '-' their absence.

III. RESULTS AND DISCUSSION

An inventory of fifteen knowledgeable tribal healers and helpers to healers from four socio-cultural groups were made and five hundred and sixty five user reports regarding 165 species were recorded from them. The four tribes studied had their own myths, beliefs and taboos regarding the causes for diseases and have magico- religious ritual healing methods for getting rid of them. All the four socio-cultural groups studied, believed that diseases are caused by supernatural influences of their own ancestral spirits or traditional deities as a curse for their own misdeeds, or due to sorcery from enemies. They had their own magico-religious rituals for getting rid of them and their own traditional healer entrusted with the power to do it for them. Herbal formulations are only a part of these rituals and they commonly believe that the magical power entrusted with the traditional healer is the major reason for cure. Most of the herbal prescriptions are made fresh from plants collected from their own wild premises and they seldom use stored pre-prepared formulations. Plants are collected judiciously from the abundant areas only and thus, these groups practice a sustainable use of herbal resources. Rules from Government officials restricting free entry into wild have changed their life style patterns and have alienated them from their natural habitat. Most of the healers now have to take long walks into the woods for collecting medicines and this has forced them to collect and store plants at least temporarily, for a week's use. Knowledge transmission is highly conservative among and across communities. Most of the individuals share some amount of knowledge related to general uses of herbals, but they seldom prescribe themselves, and always depend on the traditional healer of their own community for prescriptions, as they believe that formulations are inactive without his magical powers. Most of the herbalists are very conservative to disclose their formulations to others as they strongly believe that on disclosure, the formulations lose their power to heal. All these factors and exposure of the new generation to modern medicine have contributed to the decline of this valuable knowledge in to oblivion and it is high time that, whatever left should be scientifically documented.

The data regarding 165 species are presented in the following format below a(Table 2).- Sl. No., Family, Species name, No. of User reports, Quoted by which tribes, Part used, Disease/other uses, Method of use.

Regarding the data collected, 22 species were quoted by informants across the four tribes studied among which Briedelia stipularis (L.) Blume, Careya arborea Roxb. Coscinium fenestratum (Gaertn.) Colebr., Croton persimilis Muell., Curcuma longa L., Cyclea peltata (Lam.) Hook., Diploclisia glaucescens (Blume) Diels., Entada rheedi Spreng., Hydrocotyle javanica Thunb., Justicia gendarussa Brum., Naravelia zeylanica (L.) D., Naringi crenulata (Roxb.) Nicolson., Pittosporum neelgherrense Wight & Arn., Pterocarpus marsupium Roxb., Pterospermum rubiginosum Heyne ex Wight & Arn., Ruta chalepensis L., Selaginella lepidophylla (Hook. & Grev.) Spring and Thottea siliquosa (Lam.) Ding Hou. were the species which were quoted most. Twenty eight species were quoted by the Kuruchiyar tribe alone which were not quoted across other tribes. Adiyan and Kattunaikkan tribes quoted 7 and 8 species which were not quoted by others respectively and Mullakuruman quoted 39 plants unique to their identity. Mullakuruman and Kuruchiyar tribes shared plant use data much and had almost 32 species which were quoted by informants from both group. Kuruchiyar shared seven species with Kattunaikkan with respect to the knowledge of medicinal importance.

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Table 2. Medicinal Plant Use Data by Four Indigenous Tribes - of Wayanad District Kerala.

Sl No	Family	Species name	No. of User reports	Quoted by	Part Used	DISEASE/other uses	METHOD
1	Amaranthaceae	Achyranthes aspera L.var. aspera	1	KU	Entire Plant	Inflammation	Decoction 1 ounce taken in thrice a day
2	Araceae	Acorus calamus L.	1	AD	Root	Chest congestion due to mucus accumulation	Powdered with pepper, dried ginger and 5 gm each chewed several times
3	Amaranthaceae	Aerva lanata (L.) Juss. ex Schult	2	MK	Entire Plant	Urinary problems	Decoction 1 ounce taken in thrice a day
4	Liliaceae	Aloe vera (L.) Burm.	2	MK	Leaf Pulp	Black marks on face	Scrubbed on face
5	Zingiberaceae	Alpinia calcarata Rosc.	1	KU	Rhizome	Muscle pain	One major ingredient for making pain relieving oil
6	Apocynaceae	Alstonia scholaris (L.) R. Br.	2	MK	Bark	Muscle pain	One major ingredient for making pain relieving oil
7	Apocynaceae	Alstonia venenata R.Br.	1	KU	Bark	Snake bite	Pasted and applied on wound
8	Amaranthaceae	Amaranthus spinosus L.	1	KU	Entire Plant	Arthritis	Pasted and applied on stin(joints)
9	Araceae	Amorphophallus paeoniifolius (Dennst.) Nicolson var paeoniifolius	2	KT,AD	Corm	Fistula	Corm cut with bamboo and dried, powdered and taken with butter milk
10	Vitaceae	Ampelocissus latifolia (Roxb.) Planch.	1	KU	Stem	Varicose vein	Method not disclosed
11	Anacardiaceae	Anacardium occidentale L.	2	KU,MK	Tender Leaves	Loose motion	Tender leaves pasted with jeera and taken in
12	Menispermaceae	Anamirta cocculus (L.) Wight & Arn.	2	KT,KU	Leaves	Rheumatism	Extracted with hot oil with other herbals and applied over joints
13	Euphorbiaceae	Antidesma acidum Retz.	3	MK,AD	Leaves	Inflammation in mammary gland (veterinary)	Leaves pasted with fresh turmeric tubers and applied on mammary glands
14	Euphorbiaceae	Aporosa acuminata Thw.	1	KU	Root Bark	Adding Body weight	Decoction taken in 1 ounce in the morning in empty stomach
15	Euphorbiaceae	Aporosa cardiosperma (Gaertn.) Merr.	1	KU	Bark	Back pain	Decoction taken in 1 ounce 3 times a day
16	Myrsinaceae	Ardisia solanaceae Roxb.	2	MK,KU	Leaves	Cultural use	Used during funeral
17	Aristolochiaceae	Aristolochia acuminata Lam.	2	KT	Root	Snake bite	Pasted and applied on skin after cleaning the wound
18	Aristolochiaceae	Aristolochia indica L.	1	KU	Root	Anti-poison treatment	Not disclosed
19	Asteraceae	Artemisia nilagarica (Clarke) Pamp	1	MK	Leaves	Mites of Chicken	Leaves made into decoction with water and sprayed
20	Asclepiadaceae	Asclepias curassavica L.	2	KT,KU	Stem Exudates	Arimpara skin galls	Exudates applied on skin
21	Liliaceae	Asparagus racemosus Willd.	8	MK,AD,KT	Root	Rheumatism	Decoction 1 ounce taken in empty stomach in the morning
22	Rutaceae	Atalantia monophylla (L.) DC.	1	KT	Leaves	Kaffa (bronchitis)	Leaves +Dried ginger + pepper +sugar powdered and given
23	Scrophulariaceae	Bacopa monnieri (L.) Pennell.	2	AD,KU	Leaves	Increasing brain power	Juice 1/2 ounce given for infants in the morning
24	Poaceae	Bambusa bambos (L.) Voss.	2	KU,MK	Powdery Coating Of Stem	For cuts in skin	Applied over the skin and bandaged
25	Cucurbitaceae	Benincasa hispida (Thunb.) Cogn.	2	KU,MK	Fruit	Enlarged prostrate	Fruit taken in free stomach in the morning
26	Oxalidaceae	Biophytum reinwardtii (Zucc) Klotzsch. var. reinwardtii	1	KT	Entire Plant	Kidney stone	Decoction in water

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27	Brassicaceae	Brassica juncea (L.) Czern. & Coss.	2	MK	Bark	Stomach ache	Decoction taken in 1 ounce 3 times a day
28	Euphorbiaceae	Briedelia retusa (L.) A. Juss.	2	MK	Leaves	Scabies	Pasted and applied on skin
29	Euphorbiaceae	Briedelia stipularis (L.) Blume	14	MK,KT,KU, AD	Bark	Aphrodisiac for men	Decoction in water (used as a substitute for drinking water)
30	Fabaceae	Butea monosperma (Lam.)Taub.	2	MK,KU	Bark	Stomach ache	Decoction in water
31	Caesalpiniaceae	Caesalpinia bonduc (L.) Roxb.	8	KU	Bark	Stomach ache	Decoction taken in 1 ounce 3 times a day
32	Asclepiadaceae	Calotropis gigantea (L.) R. Br.	2	MK	Leaves	Scabies	Pasted and applied on skin
33	Verbenaceae	Calycopteris floribunda Lam.	3	MK, KU	Water From Stem Cut	Urinary problem	Water exuding from cut portion of stems given twice a day
34	Burseraceae	Canarium strictum Roxb.	2	KT,KU	Resin	Fumigater	Fumigate in the evening for mosquito
35	Solanaceae	Capsicum frutescens L.	4	MK,KU	Fruit	Pressure	Two fruits taken in daily
36	Sapindaceae	Cardiospermum halicacabum L.	5	MK,KU	Shoot	Inflammation	Bark used in anti inflammatory oil preparation
37	Lecthidiaceae	Careya arborea Roxb.	8	MK,KT,KU, AD	Bark	Wound	Bark ground into paste and applied on the wound
38	Caesalpiniaceae	Cassia fistula L.	1	KT	Bark	Stomach ache	Powdered in water and taken in
39	Celastraceae	Celastrus paniculatus Willd.	1	AD	Bark	Inflammation	Bark used in anti inflammatory oil preparation
40	Apiaceae	Centella asiatica (L.) Urban.	5	MK,KU,AD	Entire Plant	Internal inflammation	Pasted and given in
41	Chenopodiaceae	Chenopodium ambrosiodes L.	3	KU,AD	Leaves	Excessive crying of infants	Pasted in water and given in
42	Vitaceae	Cissus quadrangularis L.	1	AD	Stem	Bone breakage Healing	Pasted and bandaged over skin
43	Vitaceae	Cissus repens Lam.	1	KU	Leaves	Bone fracture	Leaves + Pterospermum bark pasted and applied on skin
44	Rutaceae	Clausena anisata (Willd.) Hook.	1	KT	Leaves	Heel skin soar	Pasted and applied on heels
45	Rananculaceae	Clematis gouriana Roxb.ex DC.	3	KT, AD	Stem	Head ache	Stem is squeezed and covered by cloth and inhaled deep
46	Verbenaceae	Clerodendrum infortunatum L.	3	MK,KU	Root	Stomach pain	Decoction taken in 1 ounce 3 times a day
47	Fabaceae	Clitoria ternatea L. var. ternatea	2	MK	Shoot	Inflammation	Bark used in anti inflammatory oil preparation
48	Menispermaceae	Coscinium fenestratum (Gaertn.) Colebr.	14	MK,KT,KU, AD	Stem	Hyper pressure	Pieces of stem put in 1 glass water overnight and water taken in the morning
49	Euphorbiaceae	Croton persimilis Muell.	11	MK,KT,KU, AD	Root Bark	Inflammation	Decoction 1 ounce taken in daily in the morning
50	Periplocaceae	Cryptolepis buchananii Roem.&Schult.	2	MK,KU	Stem	For increasing milk in lactating mothers	Stem kept under her pillow while sleeping
51	Zingeberaceae	Curcuma longa L.	16	MK,KT,KU, AD	Rhizome	Stomach worms	Pasted in buttermilk and taken in
52	Zingeberaceae	Curcuma neilgherrensis Wight	1	KU	Powder	Vaginal discharge	Rhizome powder 5 gm taken in with milk in empty stomach in morning
53	Amaranthaceae	Cyathula prostrata (L.) Blume	4	MK,KU	Entire Plant	Inflammation	Decoction 1 ounce taken in thrice a day
54	Menispermaceae	Cyclea peltata (Lam.) Hook.	11	MK,KT,KU,	Leaves	Swellings	Leaves pasted and applied on skin

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				AD			
55	Boraginaceae	Cynoglossum zeylanicum (Vahl. ex Hornem.)Thunb.	1	MK	Leaves	Migraine	Leaves pasted and applied on fore head
56	Solanaceae	Datura metel L.	1	MK	Leaves	Arthritis	Leaves extracted in oil and applied
57	Solanaceae	Datura stramonium L.	1	MK	Leaves	Asthma	Fry the leaves raw ,powder and take after meals daily+
58	Ebenaceae	Diospyros peregrina (Gaertn.) Gurke.	1	MK	Fruit	Treating conceiving problems	Dried with croton persimilis Leaf and taken in as powder 5 gms in mornings
59	Menispermaceae	Diploclisia glaucescens (Blume) Diels.	12	MK,KT,KU, AD	Root Bark	For back pain	Decoction 1 ounce taken in 3 times a day
60	Dracenaceae	Dracena terniflora Roxb.	1	MK	Leaves	Arthritis	Leaves extracted in oil and applied
61	Caryophyllaceae	Drymaria cordata ssp. diandra (Blume) Duke.	4	MK,KT,KU	Leaves	Arthritis	Leaves extracted in oil and applied
62	Asteraceae	Eclipta prostrata (L.) L.	3	MK	Leaves	Hair oil	Extracted hot in oil and applied on hair for hair growth
63	Asteraceae	Elephantopus scaber L.	2	MK,AD	Entire Plant	Ulcer	Decoction in water I ounce taken in thrice a day
64	Myrsinaceae	Embelia ribes Burm.	1	KU	Seeds	Diarrhoea	Decoction 1 ounce taken in
65	Myrsinaceae	Embelia tsjeriam-cottam (Roem. & Schult.) DC.	1	KT	Seeds	Diarrhoea	Decoction 1 ounce taken in
66	Asteraceae	Emilia sonchifolia (L.) DC.	1	KU	Entire Plant	Pressure	Entire plant with raw turmeric pasted and taken in
67	Musaceae	Ensete superbum (Roxb.) Cheesman	2	AD	Seeds	Kidney stone	Pasted in milk and taken in in empty stomach in morning.
68	Mimosaceae	Entada rheedi Spreng.	11	MK,KT,KU, AD	Seed	Back pain	Decoction of cotyledons in water given twice a day
69	Fabaceae	Erythrina variegata L.	1	KU	Bark	Diabetes	Powder 5 gms taken in with hot water in empty stomach in morning
70	Moraceae	Ficus exasperata Vahl.	3	MK.KU	Root Exudate	Cholera	Watery exudate from cut root taken in
71	Rutaceae	Glycosmis pentaphylla (Retz.) DC.	5	MK,KU,AD	Root	Stomach ache	Pasted in water and taken in
72	Tiliaceae	Grewia tiliifolia Vahl.	2	MK,KU	Bark	To burst skin lesions	Pasted in water and applied around the mouth of the lesion
73	Asclepiadaceae	Gymnema sylvestre (Retz.) R. Br. ex Schult.	2	MK,KU	Leaves	Diabetes	Leaves taken raw
74	Rubiaceae	Oldenlandia auricularia (L.) K. Schum.	1	MK	Leaves	Rheumatism	Extracted with hot oil and applied over joints
75	Sterculiaceae	Helicteres isora L.	6	MK,KU,KT	Seed	Rheumatism	Extracted with hot oil and applied over joints
76	Periplocaceae	Hemidesmus indicus (L.) R. Br.	1	MK	Root Tuber	Skin swellings	Ground into paste with rice and applied
77	Malvaceae	Hibiscus hispidissimus Griff.	3	MK,KU	Root	Fatigue	Decoction in water taken in
78	Euphorbiaceae	Homonia riparia Lour.	10	MK,KU,AD	Root	Urinary problem	Decoction in water taken twice a day
79	Flacourtiaceae	Hydnocarpus pentandra (Buch.-Ham.) Oken.	1	MK	Seed Oil	Burning sensation on skin	Seed oil with Ricinus seed oil and Neem oil applied on skin hot
80	Apiaceae	Hydrocotyle javanica Thunb.	13	MK,KT,KU, AD	Leaves	Polio	Juice of leaves given in
81	Acanthaceae	Hygrophila schulli (Buch.-Ham.) M. R. & S. M.	3	KU	Leaf	Scabies	Extracted with hot oil and applied over infected area externally
82	Euphorbiaceae	Jatropha curcas L.	2	MK,KU	Leaves	Rheumatism	Used in making fermented decoction (kashayam)
83	Acanthacea	Justicia adhatoda L.	2	MK	Leaves	Cough	Juice taken in

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84	Acanthaceae	Justicia betonica L.var. betonica	1	MK	Leaves	Pressure	Leaves, garlic and jeera pasted and taken in (avoid salt in dishes)
85	Acanthaceae	Justicia gendarussa Brum.	4	MK,KT,KU, AD	Leaves	Arthritis	Leaves extracted with oil and applied on joints before bath
86	Anacardiaceae	Lannea coromandelica (Houtt.) Merr.	10	MK,KU,KT, AD	Bark	Wound healing	Fresh bark pasted and applied as bandage over wounds
87	Verbenaceae	Lantana camara L. var. camara	1	MK	Leaves	Mumps	Leaves with Turmeric pasted and applied on skin
88	Piperaceae	Lepianthes umbellata (L.) Rafin.	12	MK,KU,KT, AD	Infloroscense	Asthma	Powder taken in with sugar candy
89	Lamiaceae	Leucas aspera (Willd) Link.	4	MK,KU	Leaves	Migrain	Two drops of leaf juice applied in the nose (heavy pain for some time)
90	Lauraceae	Litsea coriacea (Heyne ex Meisner) Hook.	1	KU	Bark	Rheumatism	Extracted with hot oil with other herbals and applied over joints
91	Lobeliaceae	Lobelia nicotianifolia Roth ex Roem. & Schult.	5	MK,KU	Leaves	Karappan	Leaves fried in coconut oil, pasted and applied on the skin
92	Anacardiaceae	Mangifera indica L.	1	KU	Bark	Diarrhoea	Bark covered with banana leaf sheath and put in fire then juice taken in
93	Rutaceae	Melicope lunu-ankenda (Gaertn.) Hartley	1	MK	Tender Leaves	Stomach ache	Paste 5 gm eaten raw
94	Mimosaceae	Mimosa pudica L.	2	MK	Tender Leaves	Stomach ache	Paste 5 gm eaten raw
95	Moringaceae	Moringa pterygosperma Gaertn.	2	MK	Flowers	Aphrodisiac	Taken in as vegetable
96	Fabaceae	Mucuna atropurpurea DC.	3	KT,KU	Seeds	Aphrodisiac	Seeds powdered and taken in before bed in milk
97	Ploygonaceae	Muehlenbeckia platyclados Meissn.	1	MK	Leaves	Arthritis	Pasted and applied on joints
98	Musaceae	Musa acuminata Colla.	12	MK,KU,KT, AD	Seeds	Kidney stone	Pasted in milk and taken in
99	Musaceae	Musa paradisiaca L.	13	MK,KU,KT, AD	Fruit	Stomach ache	Decoction taken in
100	Rubiaceae	Mussaenda frondosa L.	4	KU,AD	Leaves	Burns	Roasted in coconut oil and the oil is applied over burns
101	Myristicaceae	Myristica fragrans Houtt.	2	MK	Aril	Stomach pain	Powdered and taken in
102	Rananculaceae	Naravelia zeylanica (L.) DC.	6	MK,KT,KU, AD	Stem	Head ache	Stem is squeezed and covered by cloth and inhaled deep
103	Rutaceae	Naringi crenulata (Roxb.) Nicolson	11	MK,KT,KU, AD	Bark	Stomach ache	Bark decoction in water and taken in
104	Nellumbonaceae	Nelumbo nucifera Gaertn.	1	KU	Petals	Skin vitalizer	Leaf powdered and made into paste with honey and applied on face
105	Icacinaceae	Nothapodytes nimmoniana (Graham) Mabb.	5	MK,KU	Bark	Fitz (apasmaram)	Bark used for preparing medicinal bath water
106	Lamiaceae	Ocimum gratissimum L.	2	KT,KU	Leaves	Dandruff	Extracted with hot oil and massaged before daily bathing
107	Lamiaceae	Ocimum tenuiiflorum L.	4	MK	Leaves	Black spots on face	Hot extraction in oil and applied on face
108	Poaceae	Oryza sativa L. (demographic var. navara).	2	MK	Seeds	Neural rejuvenation	Pasted and applied over skin
109	Melastromaceae	Osbeckia virgata D. Don ex Wight & Arn.	2	KT,KU	Leaves	Scabies	Extracted in oil and applied on skin

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110	Oxalidaceae	Oxalis corniculata L.	3	MK,KU,AD	Leaves	Diarrhoea	Juice given along with butter milk I ounce thrice a day
111	Rutaceae	Paramignya monophylla Wight.	2	MK	Leaves	Arthritis	Extracted in oil and applied on joints
112	Poaceae	Pennisetum hohenackeri Hochst.ex.Steut.	2	MK,KU	Young Stem	Urinary problem	Young stem taken in
113	Ploygonaceae	Persicaria chinensis (L.) Gross.	2	MK,KU	Leaves	Stomach clean after labour	Taken in as vegetable after labour for removing dirt from stomach
114	Euphorbiaceae	Phyllanthus emblica L.	4	MK,KU	Entire Plant	Fatigue	Decoction in water and taken in daily
115	Euphorbiaceae	Phyllanthus urinaria L.	3	MK,KU	Leaves	Jaundice	Leaves and jeera pasted and given in (only rice soup and papad allowed)
116	Piperaceae	Pipper longum L.	1	KT	Flower	Corn	Inflorescence with Ficus fruit is heated and fumes applied on the sole
117	Piperaceae	Piper nigrum L.var. nigrum	1	KU	Seeds	Rheumatism	Extracted with hot oil with other herbals and applied over joints
118	Pittosporaceae	Pittosporum neelgherrense Wight & Arn.	11	MK,KT,KU,AD	Bark	Snake bite	Method not disclosed
119	Lamiaceae	Plectranthus amboinicus (Lour.) Spreng.	2	MK	Leaves	Fever	Juice taken in
120	Lamiaceae	Plectranthus hadiensis var. tomentosus (Benth. ex E.Mey.) Codd.	1	KU	Leaves	Wound healing	Leaf juice applied externally over small wounds
121	Fabaceae	Pongamia pinnata (L.) Pierre.	2	MK,KU	Bark	Fungal infection on skin	Powdered and applied on skin instead of soap while bathing
122	Araceae	Pothos scandens L.	1	KU	Leaf	Rheumatism	Decoction taken in 1 ounce 3 times a day
123	Myrtaceae	Psidium guajava L.	3	MK	Leaves	Stomach ache	Made into curry with buttermilk and taken in
124	Fabaceae	Pterocarpus marsupium Roxb.	4	MK,KT,KU,AD	Bark	Fatigue	Juice of fresh bark taken raw 1 ounce in the morning
125	Sterculiaceae	Pterospermum rubiginosum Heyne ex Wight & Arn.	22	MK,KT,KU,AD	Bark	Bone breakage	Powder pasted with rice soup as a bandage over broken areas (15 days)
126	Apocyanaceae	Rauvolfia serpentina (L.) Benth ex Kurz.	2	KU	Root	Stomach ache	Pasted and given in
127	Araceae	Rhaphidophora pertusa (Roxb.) Schott.	2	AD	Bark	Thyphoid	Bark is pasted in water and given in thrice a day (5 gm)
128	Acanthaceae	Rhinacanthus nasutus (L.) Kurz.	1	MK	Root	Arthritis	Made into decoction and taken thrice a day
129	Orchidaceae	Rhyncostylis retusa (L.) Bl.	1	AD	Leaves	Ear pain	Leaves are heated and squeezed and two drops of juice applied in ear
130	Euphorbiaceae	Ricinus communis L.	5	MK,KU,AD	Root	Rheumatism	Decoction 1 ounce taken thrice a day
131	Verbenaceae	Rotheca serrata (L.) Steane & Mabb.	1	KU	Root	Inflammation	Decoction 1 ounce taken in daily in the morning
132	Boraginaceae	Rotula aquatica Lour.	2	KU,AD	Shoot	Kidney stone	Decoction in water taken in
133	Rubiaceae	Rubia cordifolia L.	1	AD	Root	Dermatological	Roasted in coconut oil and oil applied over infections
134	Rutaceae	Ruta chalepensis L.	4	MK,KT,KU,AD	Leaves	Children Fever	Juice 1/2 ounce given in
135	Sapindaceae	Sapindus trifoliatus L.	2	KT AD	Fruit	Soap	Make a paste in water and dilute
136	Caesalpiniaceae	Saraca asoca (Roxb.) de Wilde.	1	KT,AD	Flower	Menstrual disorders	Method not disclosed
13	Araliaceae	Schefflera rostrata (Wight)	1	MK	Leaves	Arthritis	Decoction 1 ounce taken thrice a

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7		Harms.					day
138	Sapindaceae	Schleichera oleosa (Lour) Oken	2	MK,KU	Seed	Athritis	Pasted in oil and applied on joints
139	Santalaceae	Scleropyrum pentandrum (Dennst.) Mabb.	1	KU	Root Bark	Con tops in sole	Pasted and applied over cones
140	Scrophulariaceae	Scoparia dulcis L.	7	MK,KU	Entire Plant	Kidney stone	Decoction in water taken in
141	Selaginellaceae	Selaginella lepidophylla (Hook. & Grev.) Spring	13	MK,KT,KU,AD	Entire Plant	Vaginal discharge	Powder taken in with milk
142	Anacardiaceae	Semecarpus travancorica Bedd.	1	KU	Root Bark	Athritis	Pasted in oil and applied on joints
143	Caesalpiniaceae	Senna tora (L.) Roxb.	4	KT,KU,MK	Seeds	Body pain	Decoction in water taken in
144	Malvaceae	Sida rhomboidea Roxb. ex Fleming	3	MK	Entire Plant	Hair oil	Plant boiled in oil and applied .
145	Fabaceae	Smithia conferta Smith in Rees.	1	KU	Leaves	Shampoo	Pasted in water and applied on hair
146	Solanaceae	Solanum americanum Mill.	1	KU	Leaves	Urinary problem	Decoction in water taken in
147	Asteraceae	Sphaeranthus indicus L.	2	MK,KU	Leaves	Sleeping problem	Pasted and taken in
148	Rubiaceae	Spermacoce latifolia Aubl.	1	MK	Leaves	Wound	Made in to paste and applied on wounds
149	Anacardiaceae	Spondias pinnata (L.) Kurz.	1	MK	Bark	Loose motion	Juice is mixed with butter milk and taken raw twice a day
150	Verbenaceae	Stachytarpheta jamaicensis (L.) Vahl.	1	MK	Leaves	Muscular Misalignment	Paste applied externally over affected area for few hours
151	Myrtaceae	Syzygium caryophyllatum (L.) Alston.	1	KU	Leaf	Jaundice	Decoction taken in 1 ounce in the morning in empty stomach
152	Combretaceae	Terminalia bellirica (Gaertn.) Roxb.	2	MK	Bark	Small pox	Decoction taken in I ounce 3 times a day
153	Combretaceae	Terminalia paniculata Roth.	2	MK	Bark	Hyper pressure	Decoction taken in I ounce 3 times a day
154	Aristilochiaceae	Thottea siliquosa (Lam.) Ding Hou.	17	MK,KT,KU,AD	Seeds	Stomach ache	Seeds pasted and given in
155	Menispermaceae	Tinospora cordifolia (Willd.) Miers.	2	KT,KU	Stem	Arthritis	Stem juice given
156	Rutaceae	Toddalia asiatica (L.) Lam.	9	MK,KU	Root	Vaginal discharge	Root bark is ground and given with milk
157	Zygophyllaceae	Tribulus terrestris L.	3	MK,KU	Seed	Migraine	Decoction in water
158	Asclepiadaceae	Tylophora indica var. glabra (Decne.) Huber	3	MK,KU	Leaves	Bronchitis	Powdered and taken in with jaggery
159	Rhamnaceae	Ventilago maderaspatana Gaertn.	1	AD	Bark	Skin diseases	Method not disclosed
160	Asteraceae	Vernonia cinerea (L.) Less.	1	MK	Leaves	Conjunctivitis	Juice applied raw in eyes
161	Verbenaceae	Vitex leucoxylon L.	3	MK,KU	Root	Hyper pressure	Decoction in water thrice a day
162	Verbenaceae	Vitex negundu L.	2	MK,KU	Leaves	Diabetes	Prepare decoction in water and drink daily
163	Apocyanaceae	Wrightia tinctoria (Roxb.) R. Br.	3	MK,KU,AD	Leaves	Psoriasis	Roasted in coconut oil and the oil is applied over burns
164	Zingeberaceae	Zingiber officinale Rosc.	2	MK	Rhizome	Stomach ache	A piece chewed with salt
165	Rhamnaceae	Zizipus rugosa Lam.	1	KU	Bark	Stomach ache	Pasted and given in

MK= *Mullakuruman*, KT= *Kattunaikkan*, KU= *Kuruchiyar*, AD= *Adiyan*

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IV. CONCLUSION

A checklist of plants can be made for each disease category. Depending on the number of user reports, a species wise priority list can be made for each disease category so that activity guided phytochemical fractionation can be done on these species as future work which may result in lead molecules for novel drug discovery. Preparation of a digital online inventory regarding the data collected can be made as future work. The data presented here was an attempt to document the fast eroding indigenous knowledge which has an evolutionary history of several generations through trial and error methods and has been traditionally transferred orally. In this age of modernaisation where these traditional communities are put in pressure to adapt modern systems of medicine it is high time to preserve them before it is lost forever.

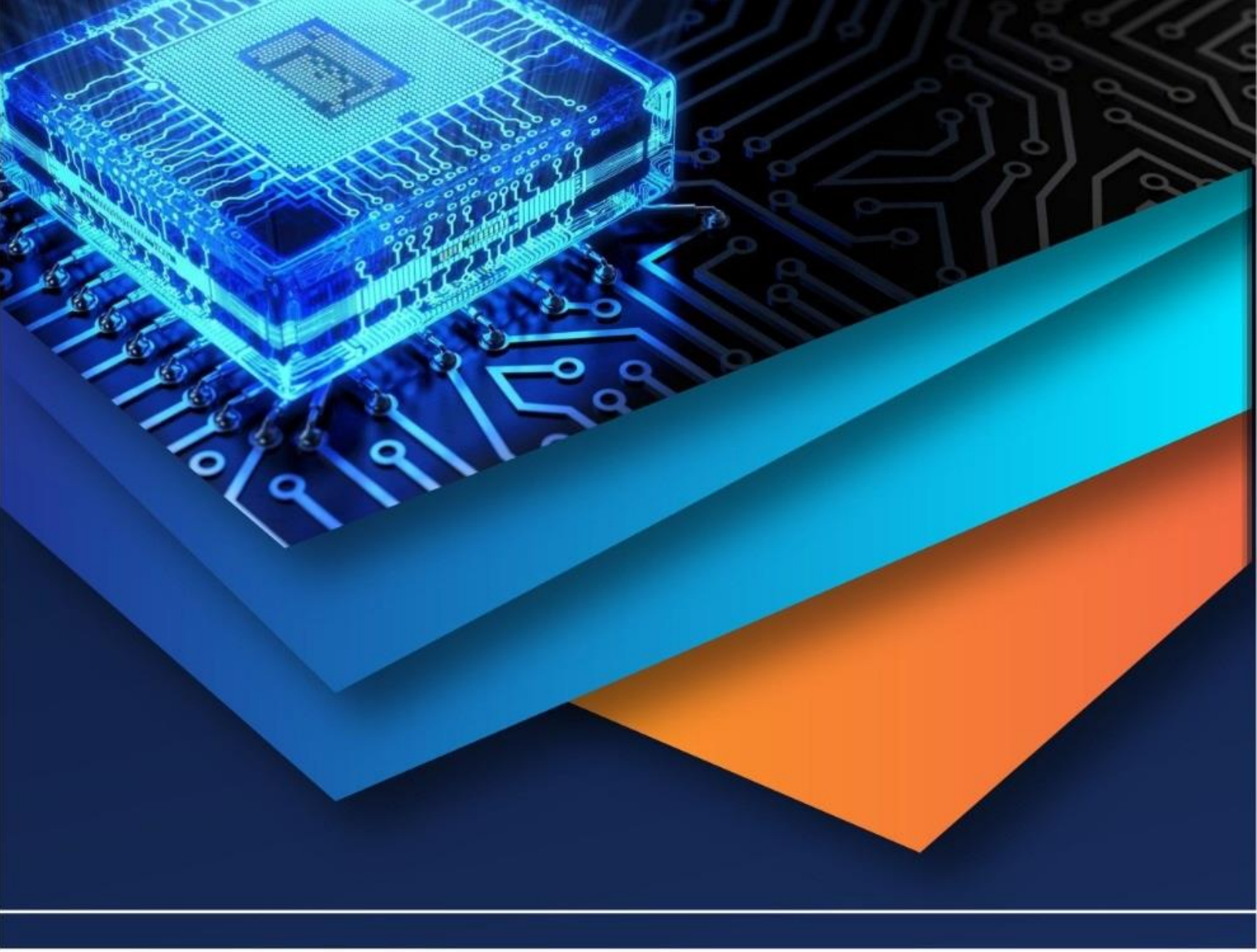
V. ACKNOWLEDGMENT

I am grateful to all the tribal informants belonging to the four socio-cultural groups- *Mullakuruman, Kuruchiyar, Kattunaikkan, and Adiyan*- of Wayanad district who generously contributed their priceless knowledge and materials for this publication**.** I express my deep gratitude to the Chief Wild Life Warden, Kerala Forest Department for kindly permitting me to collect plants from forest areas during this study. I also deeply pay gratitude to Mr Salim Pichan of MSSRF Wayanad who helped me in plant collection. I greatly acknowledge UGC for the financial support and DST-FIST for technical help.

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