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Ethnobotanical Survey of Medicinal Plants from Vaniyambalam, Malappuram District, Kerala

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Abstract: ***The present study surveyed 42 species of plants, which belongs to 40 genera and under 24 families possessing medicinal properties from Vaniyambalam, Malappuram district, Kerala. It included 20 herbs, 15 shrubs, 5 climbers and 3 trees. Different parts of plants like leaves, root, seeds, flowers etc are being used for curing different types of ailments. Medicinal plants belonging to different subfamilies of Fabaceae family predominantly exist in the study area than other families. The plants studied were found to be used to treat about many diseases/disorders/ailments including diarrhea and dysentery, cuts and wounds, snake and scorpion bite, ulcer, bronchitis, cough and cold, fever and headache, asthma etc. The survey was focused on detailed explorative studies on the medicinal plants identified.***
Keywords: Medicinal plants, Medicinal uses, Families, Habit, Plant part.

I. INTRODUCTION

Kingdom plantae contains about billion types of plant species including flowering plants and non-flowering plants. These plants are vital for everything existing as living in this earth. Mainly they are the source of food for almost all living organisms. Rather than providing just food, plants provide many more requirements like medicine, fragrances, clothing, fertilizers, oxygen, shelter, furniture and means of transportation throughout many ages. Plants are used for medicinal purpose long before recorded history. Medicinal plants are valuable gift of nature. From time immemorial plants have been used as source of medicine for treating and curing human ailment diseases (Roshni *et al*., 2019). Medicinal plants play a vital role in disease prevention also.

A medicinal plant is defined as any plant which has compounds which will be used for the therapeutic purpose or which contain precursors of chemo-pharmaceutical synthesis. Traditionally used medicinal plants produce a variety of known therapeutic properties (Chopra and Ananda 2003). Plants are used traditionally to treat many ailments, particularly infectious diseases, like diarrhea, fever, cold also as for contraception and dental hygiene. Also, many psychoactive substances utilized in traditional medicine are of plant origin. Traditionally used medicinal plants produce a spread of known therapeutic properties. Through ethno botanical surveys, indigenous knowledge from local people and practitioners is collected and documented so as to spot plants which will be a source of medicine against infectious diseases. People inhabiting the tribal localities and villages have used indigenous plants as medicines for generations because this data is predicated experience (Deepthy and Remashree, 2014). A considerable part of this indigenous knowledge was documented and passed into these organized systems of medicines. Besides, modern scientific medicines also depended on plants for some essential drugs. Man started to use plants for healthcare from ancient times. Being a center of rich biodiversity, Kerala is a treasure house of medicinal plants. It is learned that about 819 medicinal plants are reported from Kerala. Among them, 287 are herbs (Sasidharan, 2004). Ethnobotanical information plays a crucial role in scientific research developments, particularly when the literature and field work data are properly evaluated. The results of such assessment can provide variety of plants which may claim priority to be investigated for a specific biological activity or efficacy against a specific disorder or disease.

The traditional systems of drugs prescribe drug as single plant products or a mix of several plants counting on the disease, which are mainly administrated orally.

The ethanobotanical studies have great significance in the collection traditional knowledge, preparation of recorded data and in conservation of endangered medicinal plant species (Prakash *et al.,* 2008). There is an urgent ought to document such local and traditional knowledge on medicinal and aromatic plants since this data orally passes through generations and more susceptible to be exhausted (Mahmoud *et al.,* 2013).

This present study is to survey the medicinal plants in Vaniyambalam, a rural place of Wandoor Panchayath, Malappuram district Kerala and to conduct medicinal detailed explorative studies on the medicinal plants identified.

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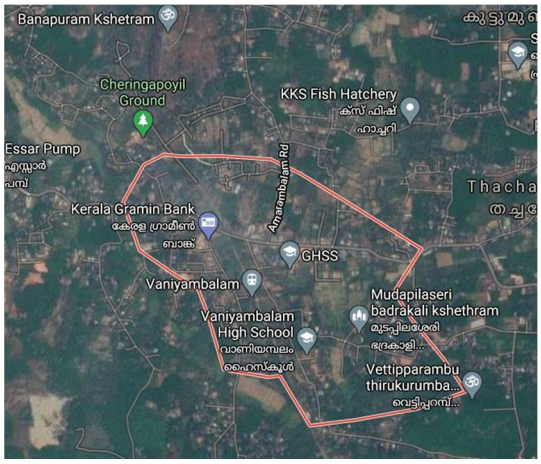
II. MATERIALS AND METHOD

A. Study Area

The study was conducted at the Vaniyambalam situated in Nilambur taluk in the Malappuram district, Kerala. It is located about 40km north-east of Malappuram. Malappuram is the third largest district of Kerala which has a geographical area of 3,550 sq. km, which is 9.13 per cent of the total area Kerala and lies between 10° 41' 33" to 11° 30′ 32"N latitude and 75° 49' 25" to 76° 32' 40" E longitude. Vaniyambalam got its name from a temple which is known to be Goddess Vani's (Saraswathi) ambalam (temple). This place has an elevation or altitude of about 51 meter above sea level. Vaniyambalam has an 11°10'60N and longitude of 76°15'0E. The temperature range is about 33°C at day time and 25°C at night. The extreme values recorded are 42°C at day time.



B. Data Collection

The study was conducted in Vaniyambalam, Malappuram district in Kerala.A list of medicinal plants reported in Kerala was prepared and later sorted out the medicinal plants reported in the study area. Then carried out the verification of regional flora to identify the medicinal plants reported. Identification of plants was done on the basis of spot identification method. Extensive field survey was undertaken to gather data on medicinal plant species and their uses. More information was collected from randomly selected local people, educated persons and farmers of the study area. The field visit was conducted many times for collecting all the possible ethno botanical informations regarding traditional uses of medicinal plants such as part of plant used for the medicinal purposes, how is it utilized, ailment cured and other relevant matters.

Photographs of each medicinal plant and the study area were taken. The information about the medicinal use of plants was collected by interviewing both men and women of above 50 years of age. All the gathered informations were confirmed by comparing all the datas with the help of various books, journals, project report, research works such as dissertations and thesis published by different authors and relevant authentic websites. A comprehensive list of medicinal plants present and their descriptions in detail is prepared.

III. RESULTS

The survey has been carried out in Vaniyambalam, Malappuram district, Kerala. In this survey a total of 42 wild plants belonging to 24 different families were recorded. The study was focused on identifying medicinal plants, local name, family, habit,part used and detailed explorative studies on the medicinal uses of the plants identified.

Out of the 42 medicinal plants studied, seven of the species belong to Fabaceae family. Four species belong to Verbenaceae family and two species belong to Asteraceae family. Families Poaceae, Oxalidaceae, Lamiaceae represent two species in each. The least was observed in Apiaceae, Apocynaceae, Asclepiadaceae, Convolvulaceae, Euphorbiaceae, Hypoxidaceae, Menispermaceae, Mimosaceae, Oleaceae, Passifloraceae, Rhamnaceae, Rubiaceae, Rutaceae, Sapindaceae and Scrophulariaceae.

Out of the 42 medicinal plants studied, 20 species were herbs, 15 species were shrubs, 5 species Climbers and only 3 species were trees.

Almost all parts of a plant are medicinally important. Most of the medicinal plants are utilized as whole plant (21.6%). Leaves (37.3%) possess medicinal properties in majority of the plants. Root (19.2%), stem (6.02%), seeds (6%), fruits (6%) are also utilized (table 4).

The plants studied were found to be used to treat about 51 diseases/disorders/ailments including diarrhea and dysentery, cuts and wounds, snake and scorpion bite, ulcer, bronchitis, cough and cold, fever and headache, asthma, leprosy, liver disease, toothache, eye disease, leucorrhea, stomach ache and tuberculosis, burns, constipation and epilepsy etc.

Among the 42 medicinal plants two species are present in the IUCN Red List coming under the category of vulnerable (VU) of threatened species. The two plant species were *Cissampelos pareira* L. and *Pseudarthria viscida* (L.)Wight & Arn.

A total of 136 plants have been found to be used for medicinal purpose by the Mullu Kuruma tribe. Different parts of the plant like leaves, roots, rhizome, inflorescence, fruits, seeds, etc are being used for different purposes (Samitha *et al.*, 2008).

41medicinal plants belonging to 27 families used traditionally by the Kaadar tribes of Sholayar forest in Thrissur district of Kerala (Satheesh *et al.*, 2005).

Muthumperumal *et al.*, 2013 highlighted ethnobotanical knowledge of wild edible and medicinal plants used by Muthuvan and Kattunaikkan tribes of Palakkayam settlement in Akambadam village, Nilambur area of Malappuram district. The study documented the use of 53 plants belonging to 30 families. Out of which 30 plants are used for medicinal purposes.

Floristic diversity study of Vallikkaattu Kaavu, a sacred grove of Kozhikode, Kerala, India recorded 245 flowering species belonging to 209 genera and 77 families with their botanical name, family, conservation status, endemic status, medicinal status and habit has been presented in detail (Sreeja and Unni 2016)

Table 1: List of medicinal plants from Vaniyambalam

Si. No	Scientific Name	Local Name	Family	Habit	Useful Part	Medicinal Uses
1.	*Abrus precatorius* L.	Kunni	Fabaceae	Climber	Leaves, roots, seeds	Anaemia, analgesic ,anti-bacterial, anti-diabetic, anti-fungal, anti-inflammatory, anti-tumor. Used to cure asthma, boils, bronchitis, wounds, diarrhea, fever, headache, hepatitis, jaundice rheumatism and snake bite, tuberculosis and ulcer.
2.	*Abutilon indicum* Linn. sweet	Oorakam	Malvaceae	Shrub	Leaves, roots	Anti-inflammatory. Used to cure boils, diarrhea, diuretic, expectorant, fever, gonorrhea, leprosy, piles, snake bite, toothache and ulcer.
3.	*Adhatoda vasica* L.	Adalotakam	Acanthaceae	Shrub	Leaves, roots, flower, fruit	Expectorant, abortifacient Used to cure asthma, bronchitis, and other respiratory conditions. ear infections and arrest bleeding rheumatic pain and urinary tract infections.
4.	*Aerva lanata* (Linn.)Juss. ex Schult	Cheroola	Amaranthaceae	Herb	Whole plant	Diuretic, antihelmintic, antidiabetic, anti-inflammatory, anti-malarial expectorant. Cure burns, head ache, dysentery, diarrhoea and bronchitis and rheumatism.
5.	*Bacopa monnieri* (L.)Pennell	Braahmi	Scrophulariaceae	Herb	Leaves	Improves memory and adds to mental ability. Used in nervous and urine disorders, convulsions, mental problems and asthma.
6.	*Biophytum sensitivum* (L.)DC.	Mukkutti	Oxalidaceae	Herb	Whole plant	Used in treating stomach ache, asthma, convulsions, cramps, chest complaints, inflammations, tumors, and remedying chronic skin diseases, asthma gonorrhea, lithiasis, diuretic and relieve strangury.
7.	*Cardiospermumhalicacabum* L.	Uzhinja	Sapindaceae	Climber	Whole plant	Anti-diarrheal, antioxidant, antibacterial Used against rheumatism, skeletal fractures, nervous diseases, haemorrhoids, diaphoretic, diuretic, stomachic, bronchitis and snake bite.
8.	*Centella asiatica* (L.) Urban	Kodangal	Apiaceae	Herb	Whole plant	Analgesic, anti-inflammatory, headache and toothache, anti-bacterial, diarrhea and dysentery, wounds, leprosy, and mental disorders.

9.	*Cissampelos pareira* L.	Malatangi	Menispermaceae	Shrub	Leaves, roots, stem	Used against ulcer, wound, rheumatism, fever, asthma, cholera, diarrhea, inflammation, snakebite, malaria, rabies, and for blood purification.
10.	*Clerodendrum infortunatum* L.	Peruk	Verbenaceae	Roots, flower	Shrub	Treat scorpion sting and snake bite, tumors, inflammation, skin diseases, small pox, bronchitis, asthma, fever, burning sensation and epilepsy.
11.	*Clitoria ternatea* Linn.	Shankupushpam	Fabaceae	Whole plant	Twinning climber	Diuretic, Cure bronchitis, gastric acidity
12.	*Curculigo orchioides* Gaertn.	Nilappana	Hypoxidaceae	Leaves, roots, Whole plant	Herb	Used against deafness, cough, piles, skin diseases, jaundice, urinary disorders, menorrhagia, asthma, bronchitis, diarrhea, wounds, vomiting, burning and fatigue.
13.	*Cyathula prostrata* (Linn.) Blume	Cherukataladi	Amaranthaceae	Leaves, stem	Herb	Anti-inflammatory, analgesic, , anti-hypertensive.
14.	*Cynodon dactylon* (L.) Pers.	Karuka	Poaceae	Roots, seeds, flower, fruit	Herb	Cure cancer, convulsions, cough, diarrhea, epilepsy, headache, hemorrhage, bronchitis, asthma, tumors, snakebite.
15.	*Desmodium gangeticum* (Linn.)DC.	Orila	Fabaceae	Roots, Whole plant	Herb	Antipyretic, Diuretic, anthelmintic, astringent. Cure dysentery, chronic fever, cough, vomiting, cardic disorders, tuberculosis, urinary disorders and gout.
16.	*Desmodium triflorum* (L.)DC.	Nilamparanda	Fabaceae	Leaves, root, whole plant	Herb	Carminative, diuretic, antiseptic antidiarrhoeal, expectorant.
17.	*Eclipta prostrata* L.	Kanjunni	Asteraceae	Leaves, roots, seeds, Whole plant, stem	Herb	Diuretic. Cure jaundice and skin diseases hepatitis, increase memory
18.	*Emilia sonchifolia* (L.)DC.	Muyalcheviyan	Asteraceae	Leaves, Whole plant	Herb	night blindness, epilepsy, fever inflammatory diseases, malaria, asthma, liver diseases, burns, antioxidant, anticancer, antidiabetic
19.	*Glycosmis pentaphylla* (Retz.)DC.	Paanal	Rutaceae	Leaves	Shrub	Used against inflammation, rheumatism, jaundice, anaemia, fever and abdominal pain.
20.	*Hemidesmus indicus* (L.) R. Br. ex Schult.	Nannari	Asclepiadaceae	Leaves ,roots	Climber	Diuretic and aphrodisiac. Cure fever, skin diseases, syphilis, rheumatism, eczema, leucorrhoea, diabetes and anaemia,.
21.	*Hibiscus sabdariffa* L.	Pulivenda	Malvaceae	Leaves	Shrub	Anti oxidant Used against cardiovascular disorders, cancer, obesity management.
22.	*Ipomoea obscura* (L.)Ker Gawl.	Thiruthaali	Convolvulaceae	Leaves, seeds	Climber	Snake bite and dysentery, breathing, relive pain and improve vision.
23.	*Ixora coccinea* L.	Thechi	Rubiaceae	Leaves, roots, flower	Shrub	Cure dysentery, menstrual irregularities, bronchitis fever, ulcers, and skin diseases.
24.	*Jasminum grandiflorum* L.	Pichakam	Oleaceae	Leaves, roots, flower, Whole plant	Shrub	Aphrodisiac, antiseptic, anthelmintic. Cure leprosy, skin diseases and wounds.

25.	*Justicia gendarussa* Burm.f.	Vathamkolli	Acanthaceae	Leaves, Whole plant	Shrub	Diaphoretic. Used against inflammation, bronchitis, vaginal discharges, eye diseases, fever, rheumatism and eczema.
26.	*Lantana camara* Linn.	Aripoov	Verbenaceae	Leaves, roots, flower	Shrub	Cure rheumatism, ulcers, malaria, cancer, chicken pox, asthma, eczema, tumour, and high blood pressure
27.	*Leucas aspera* (Willd.)Linn.	Thumba	Lamiaceae	Leaves, roots, Whole plant	Herb	Antipyretic, insecticide, expectorant, diaphoretic, insecticide. Cure rheumatism, psoriasis and snake bite.
28.	*Mimosa pudica* L.	Thottavadi	Mimosaceae	Leaves, Whole plant	Herb	Used to treat leprosy, dysentery, uterine complaints, inflammations, burning sensation and asthma, leucoderma, fatigue and blood diseases.
29.	*Mucuna pruriens* (Linn.) DC.	Naikorana	Fabaceae	Leaves, seeds	Climber	Antidiabetic, antifungal, anthelmintic, aphrodisiac. Cure abortion, cancer, immunomodulator, cough, dysentery, dysmenorrhea, sterility, tuberculosis.
30.	*Oxalis corniculata* Linn.	Puliyarila	Oxalidaceae	Leaves, Whole plant	Herb	Used against itch, burns, sores, insect stings, swellings, intestinal complaints.
31.	*Passiflora foetida* Linn.	Mookattapazham	Passifloraceae	Leaves, fruit	Climbing herb	Asthma, headache.
32.	*Phyllanthus amarus* Schum.&Thonn.	Keezharnelli	Keezharnelli	Whole plant	Herb	Astringent, stomachic, diuretic, antiseptic, Cure gonorrhea, menorrhagia, diarrhoea, intermittent fevers, ulcers and wounds.
33.	*Plectranthus amboinicus* (Lour.) Spreng.	Panikoorka	Lamiaceae	Leaves	Herb	Carminative, stomachic, anthelmintic, expectorant, diuretic and liver tonic.
34.	*Premna serratifolia* L.	Munja	Verbenaceae	Leaves, Whole plant	Shrub	Cure inflammation, immune-related diseases, stomach disorders, wounds, and skin diseases.
35.	*Pseudarthria viscida* (L.) Wight &Arn.	Moovila	Fabaceae	Leaves, roots, fruit	Shrub	Used against diarrhea, vomiting and piles.
36.	*Rauvolfia tetraphylla* Linn.	Pambumkolli	Apocynaceae	Leaves, roots, Whole plant	Shrub	Used to cure snake bite, diabetes, piles, malaria, wounds, vomiting, skin diseases and fever.
37.	*Sida acuta* Burm. f.	Cheruparuva	Malvaceae	Leaves, roots, Whole plant	Shrub	Diuretic, anthelmintic and wound healing
38.	*Sida rhombifolia* Linn.	Kurunthotti	Malvaceae	Leaves, roots	Shrub	Used against stomach disorders, malaria, headache, toothaches, fever, wounds and swelling.
39.	*Tephrosia purpurea* (L.) Pers.	Kozhinjil	Fabaceae	seeds, flower, Whole plant	Herb	Asthma, diarrhoea, gonorrhoea, rheumatism, ulcer and urinary disorders
40.	*Vernonia cinerea* (L.) Less.	Puvankurunal	Asteraceae	Leaves, Whole plant	Herb	Astringent, anthelmintic, Cure bronchitis and asthma.
41.	*Vitex negundo* L.	Karinochi	Verbenaceae	Roots, fruit	Herb	Astringent, anthelmintic, Cure leucoderma bronchitis and asthma
42.	*Ziziphus oenoplia* (Linn.) Mill.	Mullanpazaham	Rhamnaceae	Leaves	Shrub	Cure digestive disorders, urinary troubles, diabetes, skin infections, diarrhea, fever, bronchitis, and anaemia.

Table 2: Representation of families and number of species present

SL.No	Family	Number of species
1	Acanthaceae	2
2	Amaranthaceae	2
3	Apiaceae	1
4	Apocynaceae	1
5	Asclepiadaceae	1
6	Asteraceae	3
7	Convolvulaceae	1
8	Euphorbiaceae	1
9	Fabaceae	7
10	Hypoxidaceae	1
11	Lamiaceae	2
12	Malvaceae	4
13	Menispermaceae	1
14	Mimosaceae	1
15	Oleaceae	1
16	Oxalidaceae	2
17	Passifloraceae	1
18	Poaceae	2
19	Rhamnaceae	1
20	Rubiaceae	1
21	Rutaceae	1
22	Sapindaceae	1
23	Scrophulariaceae	1
24	Verbenaceae	4

Graph 1: Representation of families and number of species

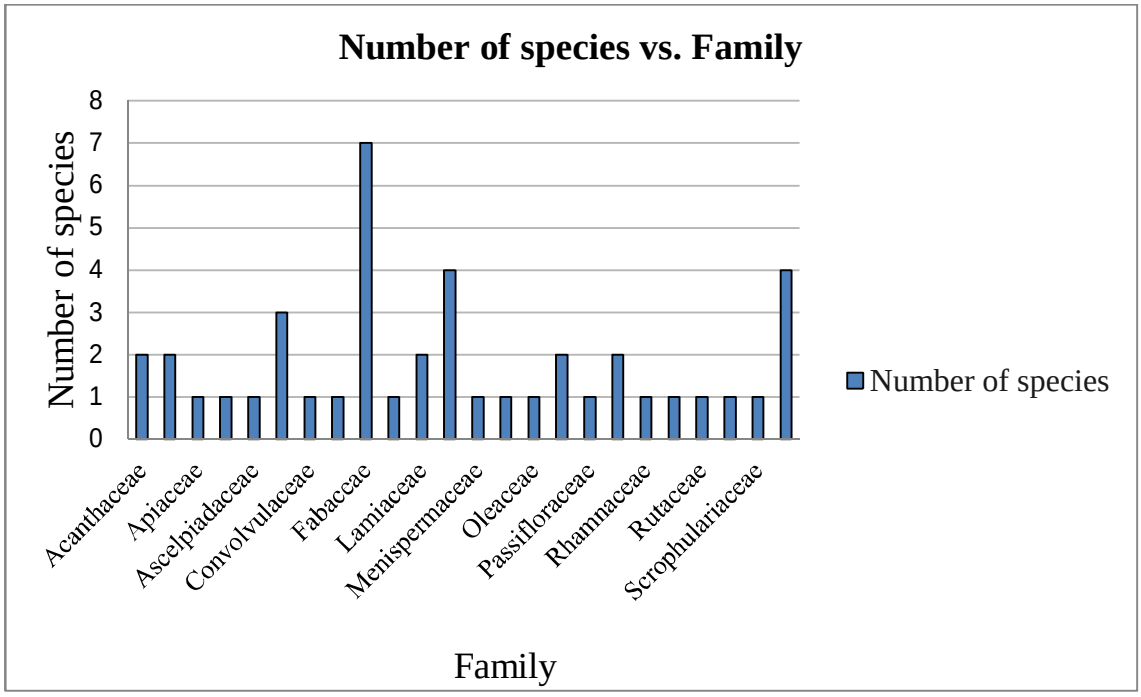


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Table 3: Representation of Plant habit

Habit	Number of species
Herb	20
Shrub	15
Climber	5
Tree	3

Graph 2: Representation of habit

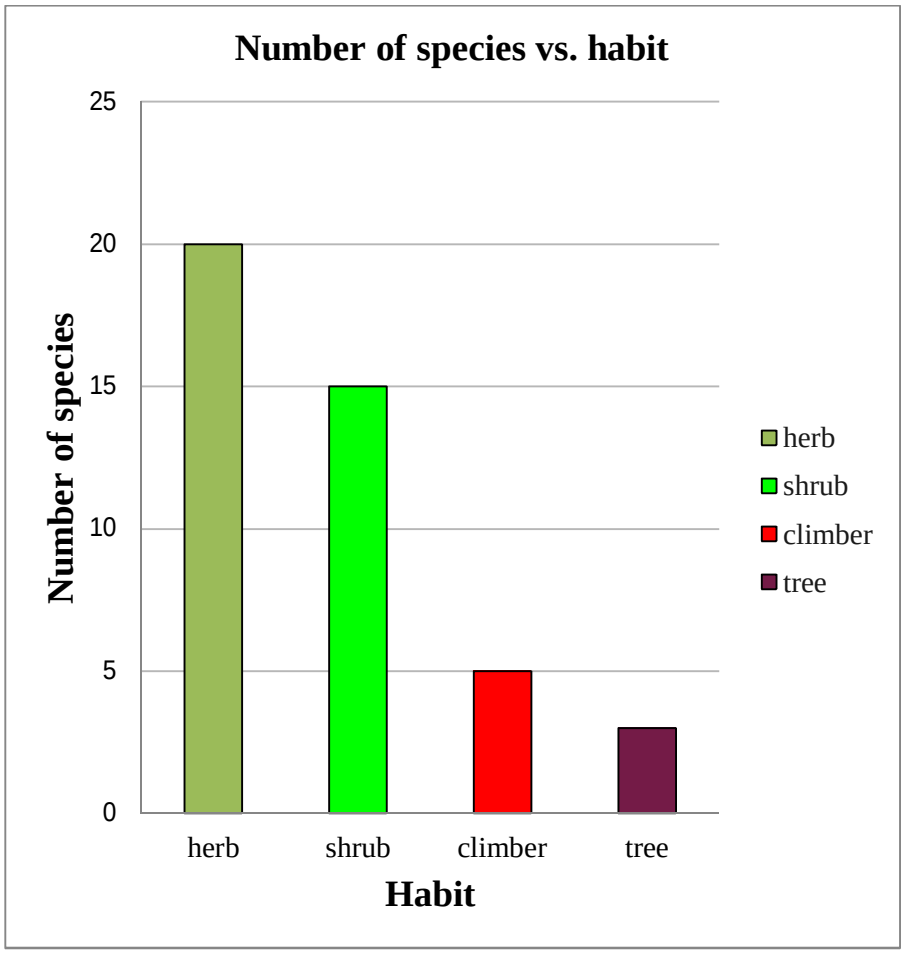


Table 4: Representation of plant part used

Plant part used	Number of species	Percentage
Bark	2	2.4
Root	16	19.2
Stem	5	6.02
Leaves	31	37.3
Seeds	6	7.2
Fruit	5	6.02
Whole plant	18	21.6

Graph 3: Representation of plant part used

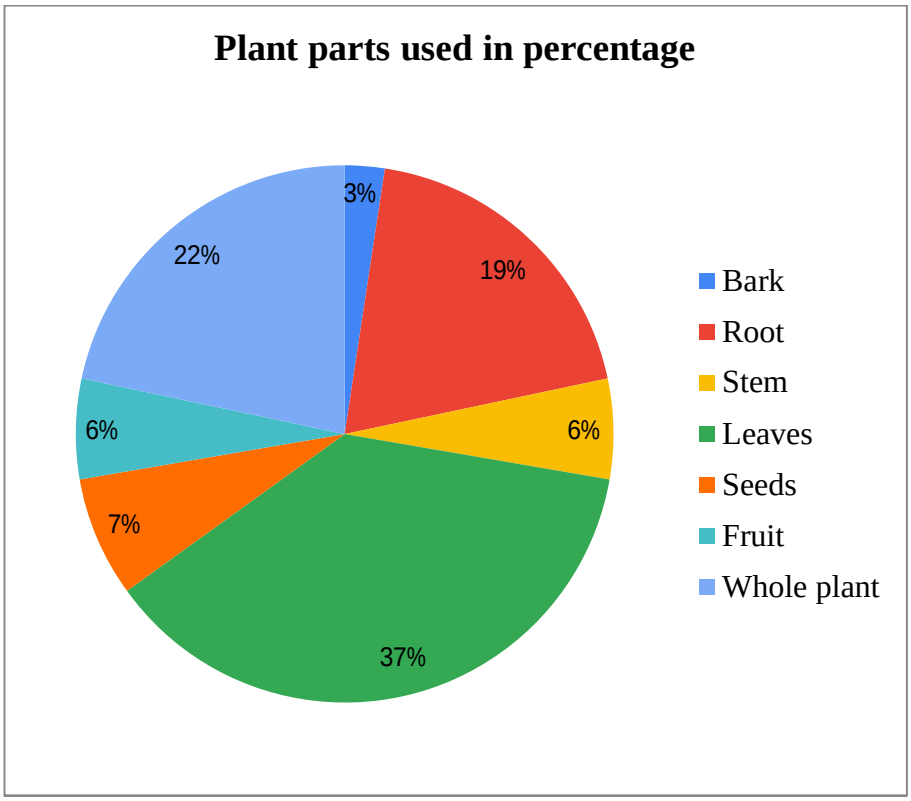


Table 5: Red Listed Plants In The Study Area

SPECIES	FAMILY	STATUS
Cissampelos pareira L.	Menispermaceae	Vulnerable(VU)
Pseudarthria viscida (L.) Wight & Arn.	Fabaceae	Vulnerable(VU)

IV. SUMMARY

The present study showed a total of 42 wild plants belonging to 24 different families were recorded. The study focused on identifying medicinal plants, local name, family, habit, part used and studies on the medicinal uses of the plants identified. It included 20 herbs, 15 shrubs, 5 climbers and 3 trees. Different parts of plants like leaves, root, seeds, flowers etc are being used for curing different types of ailments. The knowledge acquired through this study can be used to generate perception to conserve the medicinal plants in the region. The corroboration of this traditional knowledge of older generation is obligatory for the sustainable development of younger generation on natural resources available in their surroundings.

REFERENCES

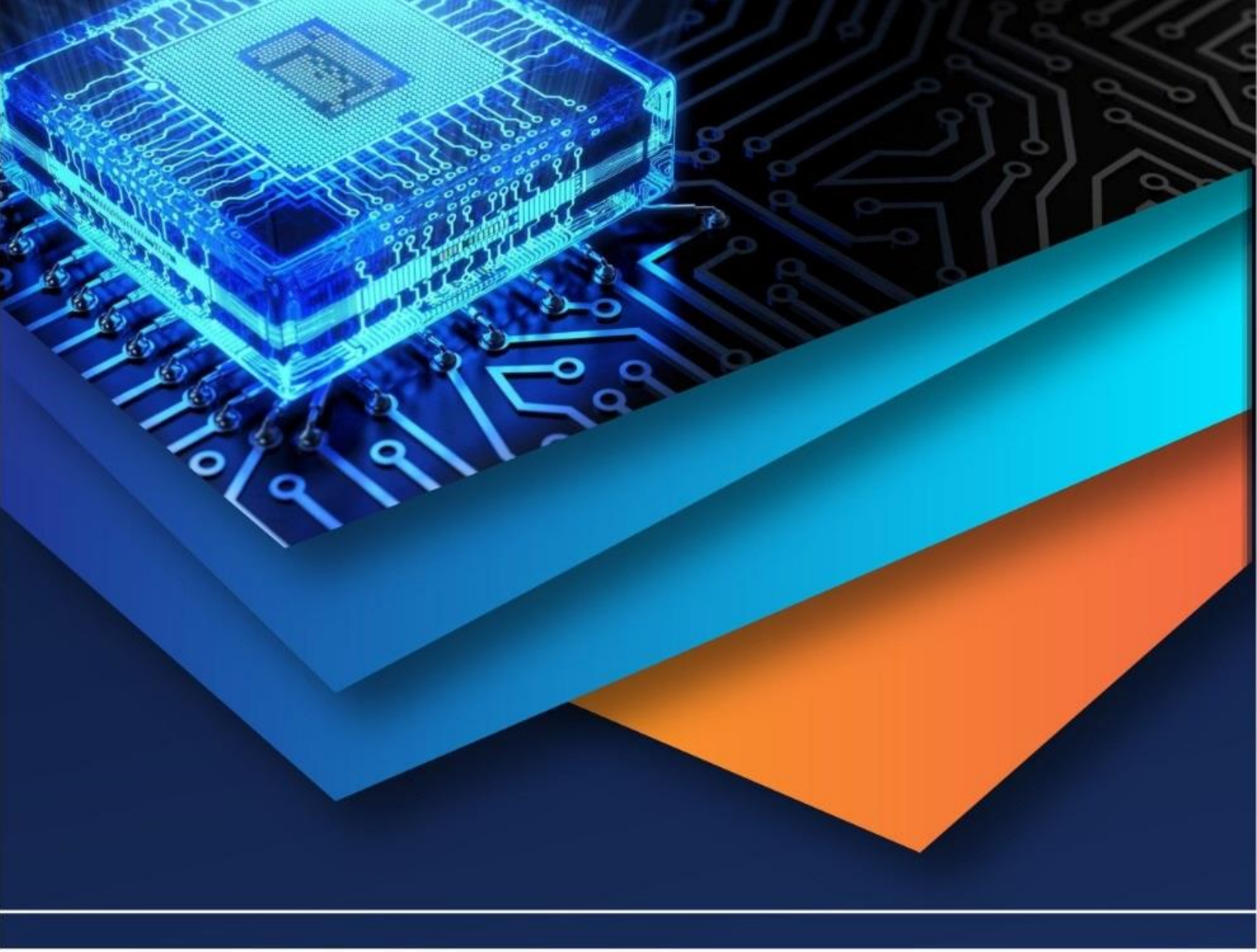
[1] Roshni Thampi, Mercykutty MJ, Jalaja Menon S (2019).Traditional knowledge on use of medicinal plants grown in homesteads as home remedies. J Med Plants Stud 7(2):01-04.
[2] Chopra, Ananda S (2003). Āyurveda in Selin, Helaine. Medicine across cultures: history and practice of medicine in non-western cultures. Norwell, A: Kluwer Academic Publishers; 75-83.
[3] Deepthy R, Remashree AB (2014). "Ethno botanical studies on medicinal plants used for skin diseases in Malabar region of Kerala." International Journal of Herbal Medicine 2: 92-99.
[4] Sasidharan N (2004). Biodiversity documentation for Kerala part 6.Flowering plants. KFRI handbook No. 17. Kerala Forest Research Institute, Peechi.
[5] Prakash JW, Anpin Raja RD, Asbin Anderson N, Christhudhas Williams, Regini GS, Bensar K (2008). Ethnomedicinal plants used by Kani tribes of Agasthiyarmalai biosphere reserve southern Western Ghats .Indian J. Trad. Know 7(3): 410-413.
[6] Mahmoud T, Gairola S (2013). Traditional knowledge and use of medicinal plants in the Eastern Desert of Egypt: a case study from Wadi El-Gemal. National Park. J. med. plants stud 1(6):10-17.

[7] Samitha Varma K, Silja VP, Mohanan KV (2008). Ethnomedicinal plant knowledge of the Mullu kuruma tribe of Wayanad district, Kerala. Indian Journal of Traditional Knowledge 7: 604-612.

[8] Muthumperumal C Das Arun N, Stalin, Swamy PS (2013). Wild plants used by Muthuvan and Kattunaikkan tribal communities of Palakkayam settlement in Nilambur of Malappuram district, Kerala. Medicinal Plants International Journal of Phytomedicines and Related Industries.5: 82.

[9] Satheesh George, Udayan PS, KV Tushar and Indira Balachandran (2005). Medicinal plants used by the tribes of Sholayar forest Thrissur district, Kerala. Indian journal of Traditional Knowledge 4(2): 159-163

[10] Sreeja K, Unni P (2016). Floristic diversity of Vallikkaattu Kaavu, a sacred grove of Kozhikode, Kerala, India Journal of Ecology and The Natural Environment 8: 175-183.



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