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Ethnobotanical Traditions and Plant Species Richness: Insights from the Mudugar and Paniyar of Anakkal

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Abstract: ***The tribes have immense knowledge about the nature and natural products and their knowledge is sacred. Medicinal plants have vital role in their customs which are restricted in their specific communities. The current study is an investigation on the indigenous knowledge of medicinal plants used by the mudugar and paniyar community and species richness in anakkal hamlet, malampuzha grama panchayath of palakkad gap in Western Ghats, kerala. It is the first study on that area. About 55 species belongs to 32 family were collected. Among these lamiaceae is the prominent family with 5 species. Major ailment category treated is digestive system related. Most of the species are herbs (40%) and uses mostly leaves for the preparation of medicine. The quantitative analysis such as use value and informant consensus value are calculated. Ocimum sanctum L. has the highest UV, and plants used againstdigestive system related ailments have more FIC value. Among the collected plant species, Rauvolfia serpentina (L.) Benth. ex Kurz. is considered as endangered species. Cyclea peltata Hook.f.& Thoms. is a rare species. Various biodiversity conservation strategies are also discussed here.***
Keywords: Ethnomedicine, Quantitative Ethnobotany, Biodiversity conservation.

I. INTRODUCTION

The early man has a deep relationship with nature. They developed a culture in accordance with the nature and natural products. They all participated in these customs in order to satisfy their beliefs. This ancient culture also worked as the guards to the biodiversity. There are over 476 million tribes around the world which contribute 6% to the global population. Among these more than 100 tribal groups are uncontacted with people outside the forest even now. They were completely isolated from other people. The study of indigenous knowledge resulted in the development of a new branch called “Ethnobotany”. It was coined by Harshberger (1985). Ethnobotany is the relationship between plants and different people. Ethnobotany is important in knowledge of different branches like botany, taxonomy, biochemistry, geology and medicine (Fabricant and Farnsworth, 2001). Study of Ethnobotany is important in many ways. The main purpose of this branch is to record the indigenous knowledge and thereby conserving them. Focusing on medicinal plants used by the traditional healers is iconic study which can contribute a big share in drug development. Indeed, ethnomedicinal study had become a fundamental source for the discovery of natural and synthetic drugs (Fabricant and Farnsworth, 2001). Since the ancient times, people are using plants local to their villages for medicinal and other purposes (Heinrich and Bremner, 2006). According to a report from the World Health Organization (WHO) almost 80% of the current population in developing countries still depends on the usage of Indigenous plant knowledge. Ethnomedical studies have many contributions to the modern medicine by developing new crude drugs.

There is no exact record for some traditional knowledge. Notably, ethnomedicinal information is typically passed down from generation to generation via family members (Nadembega *et al.*, 2011), and the majority of this knowledge has not been systematically documented (Asase *et al.*, 2008). This knowledge is restricted to that specific community and they were generated, preserved and carried over by these ethnic groups and rural people generation to generation.

The decreasing or vanishing of ethnomedicinal plants by human intervention is gradually increasing. The chances of losing such sacred data need to be fixed. The principle threatening factors reported were deforestation, agricultural expansion and over gazing. The implementation of biological diversity act, 2002 and biological diversity rules, 2004 have played active role in the conservation of biodiversity. Biodiversity conservation also accounts for the protection of indigenous knowledge.

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Traditional knowledge Digital Library (TKDL) is developed by Government of India for the preservation of all type of traditional knowledge like Ayurveda, Unani, Siddha and Yoga and prevents the misuse of this ethical knowledge. The main object of this library is to preserve and protect the ethical knowledge of India from exploitation as bio piracy and unethical patents. Other initiatives like People's Biodiversity Register (PBR), National Innovation Fund and Farmer's right information are helpful in recording and protection of plants and the tribe.

II. METHODOLOGY

A. Study Area

Anakkal is tribal settlement area in Palakkad, situated in the Malampuzha block. The place is 24 km away from Palakkad town and 16 km away from Malampuzha dam. The latitude is 10.8609° N and the longitude is 76.6904° E. The average annual temperature is 25.9° C. Walayar forest range is nearest to Anakkal. The major source of income was collection and selling of forest products. Now most of them transformed to daily wage workers. Some of them were admitted as fishermen at Malampuzha dam. Literacy is comparatively low. The Tribal Welfare School is the only school in Anakkal. Kollankunnu colony and Anakkal colony are selected for the study. There are three tribal group in Anakkal namely, Irular, mudugar and paniyar. In this study Ethnomedicinal practices of mudugar and paniyar community are investigated.

B. Data Collection

Data collection is the main step in the study. It was done by mainly field visit and semi- structured interview and interaction with the tribes of Anakkal. Interview is done in local language Malayalam and collected data. Field visit was conducted in April 2022 and May 2022. In the survey we interviewed 13 people aged between 28 and 65. Among these people a few of them know many plants and traditional practices. Most of them were barely known to their traditional system. A man named Ayyappan (mudugar) who the traditional practitioner is called as 'Vaidhyan' was the major informer. Also a woman named Janu Kiliyakad (paniyar) was the major informer among women. The collected data from the tribe were recorded as a rough idea.

The secondary data about the geographical and other social details were collected with the help of government and private websites and government offices. Photographs and plants were collected at the time of interview. The scientific names of the plants were identified with the standard method and literatures.

C. Data Organization and Analysis

The collected data were organized in the form of table. Table contains the details such as, binomial, vernacular name of the plant, family, habit, part used etc. and they are arranged in the alphabetic order. Other data regarding the plants were also added in a separate descriptive text. Various analytical methods also used and they were also expressed as table. Other data representation methods such as bar diagram and pie charts also added. Plants with different habits of herb, shrub, tree, and climber also represented here. Calculated FIC values are represented in table and graphical method and also described them.

Data analysis is done quantitatively. Various quantitative methodssuch as informant consensus factor and use value are used here. The application of methodology to determine the medicinal usage of plants in a specific area is an essential aspect of quantitative ethnobotany surveys. Quantitative ethnobotany survey is the use of quantitative methodologies for direct examination of data on plant consumption (Phillips *et al.* 1994).

III. RESULT AND DISCUSSION

From the survey of ethnomedicinal plants used by paniyar and mudugar community of Anakkal, Palakkad, about 55 species belongs to 32 families were collected. Among these 32 families, the prominent one was lamiaceae with 5 species which were used by the people for casual illness such as cold, fever, cough and mouth ulcer. Apocynaceae, fabacece and malvaceae was the second prominent species with 4 species in each, followed by acanthaceae and menispermaceae (3), aristolochiaceae, asteraceae, meliaceae, solanaceae and zingiberaceae (2), amaranthaceae, bignoniaceae, calophyllaceae, caricaceae, cleomaceae, clusiaceae, combretaceae, dipterocarpaceae, euphorbiaceae, loganiaceae, lythraceae, musaceae, periplacaeae, phyllanthaceae, piperaceae, poaceae, ranunculaceae, rutaceae, tetramelaceae, urticaceae and verbanaceae (1). The each reported species were provided with its botanical name of the plant, local name, family, habit, ailment treated, useful part and mode of use (Table 4.1). There are mainly 13 ailment categories were reported on the basis of the primary data provided by the tribes. The major category of ailment is fever, cold, and cough related because it have reported by the most people with 10 plant species. The least category of ailment is kidney and urinary related, wound healing and pregnancy and related with 2 species for each.

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Table 1 - List of ethnomedicinal plants used by the Paniyar and Mudugar Community in Anakkal, Palakkad

Sl. No	Botanical name	Local name	Family	Habit	Ailment treated	Useful part	Mode of use
1	*Acacia sinuata* (Lour.) Merr.	Cheenikka	Fabaceae	Climber	Hair tonic	Dry fruit	External use
2	*Achyranthus aspera* Linn.	Karladi	Amaranthaceae	Herb	Snake bite	Root	External use
3	*Aegle marmelos* L.	Koovalam	Rutaceae	Tree	Diarrhoea	Root, bark	Internal use
4	*Aristolochia indica* L.	Garudanelli	Aristolochiaceae	Creeper	Snake poison	Root	External use
5	*Aristolochia krisagathraL.*	Karlakam	Aristolochiaceae	Climber	Snake bite	Leaf, rhizome	External use
6	*Azadiracta indica* A. Juss.	Veppu	Meliaceae	Tree	Chikenpox, bacterial infection	Whole plant	External use
7	*Bambusa bambos* (L.) Voss.	Ottachooral	Poaceae	Shrub	Abortion	Tender stem	Internal use
8	*Calophyllum polyanthum* Wall. ex Choisy	Kattu punna	Calophyllaceae	Tree	Eye inflammation	Inner bark	External use
9	*Carica papaya* L.	Pappaya	Caricaceae	Herb	Chikungunya fever, worm infestation	Leaf	Internal/ External
10	*Ceiba pentandra* (L.) Gaertn.	Kaattu poolamaram	Malvaceae	Tree	Head ache	Spine	External use
11	*Cleome viscosa* L.	Kattu kaduk	Cleomaceae	Herb	Headache	Seed/fruit	External use
12	*Curcuma aromati* Salisb.	Kasthuri manjal	Zingiberaceae	Herb	Skin care	Rhizome	External use
13	*Cyclea peltata (Lamk.)* Hook f. & Thoms.	Padakkizhang	Menispermaceae	Herb	Skin diseases	Root	External use
14	*Delonix regia* (Hook). Raf	Poomaram	Fabaceae	Tree	Constipation	Leaves, seeds	Internal use
15	*Desmodium gangeticum (L.)DC.*	Orila	Fabaceae	Small shrub	Vomiting	Whole plant, root	Internal use
16	*Eclipta prostata. L*	Kanjunni	Asteraceae	Herb	Hair tonic	Whole plant	External use
17	*Emilia sonchifolia* L.	Muyal cheviyan	Asteraceae	Herb	Eye disorders	Whole plant	External use
18	*Ensete superbum* (Roxb.) Cheesman	Kalluvazha	Musaceae	Herb	Kidney stone	Fruits, seeds	Internal use
19	*Euphorbia hirta. L.*	Nilappala	Euphorbiaceae	Herb	Worm infestation	Leaf	Internal use
20	*Hemidesmus indicus* (L.) R. Br.	Nannari	Periplacaceae	Perinnial twiner	Urinary diseases	Whole plant	Internal use
21	*Hemigraphis alternata* (Burm. f.) T. Anderson	Murikootti	Acanthaceae	Herb	Cuts and wounds	Leaf	External use
22	*Hibiscus rosa- sinensis* L.	Chembarati	Malvaceae	Shrub	Hair tonic	Leaf, flowers	External use
23	*Holarrhena pubescens* (Buch-Ham.) Wall	Kudappala	Apocynaceae	Tree	Dysentry	Stem, bark	Internal use
24	*Hopea ponga* (Dennst.) *Mabb.*	Irumbakam	Dipterocarpaceae	Tree	Rheumatism	Bark	Internal use
25	*Justicia adhatoda* L.	Adalodakam	Acanthaceae	Shrub	Cough, cold	Leaf	Internal use
26	*Justicia gendarussa* Burm. F.	Vathakkolli	Acanthaceae	Shrub	Rheumatism	Whole plant	Internal use
27	*Laportea interrupta* (L.) Chew	Kattuthoova	Urticaceae	Herb	Head ache	Leaf, stem	External use
28	*Largerstroemia lanceolata* Wall.	Ven thekk	Lythraceae	Tree	Head ache	Latex	External use
29	*Leucas aspera* (Willd.) Spreng	Thumba	Lamiaceae	Herb	Cough	Leaf	Internal use
30	*Melia dubia* Cav.	Malaveppu	Meliaceae	Tree	Skin diseases	Green fruit	External use
31	*Mesua nagassarium* (Burm. F.)	Churuli	Clusiaceae	Tree	Fits, rheumatism	Flower, leaf	Internal use
32	*Naravelia zeylanica (L) DC.*	Vathakkodi	Ranunculaceae	Climber	Head ache, toothache	Leaf, stem	Internal / External use
33	*Ocimum americanum L.*	Kattu thulasi	Lamiaceae	Herb	Cough, mouth ulcer	Leaf	Internal use
34	*Ocimum sanctum* Linn.	Thulasi	Lamiaceae	Herb	Cough, cold	Leaf	Internal use
35	*Phyllanthus amarus*	Keezharnelli	Phyllanthaceae	Herb	Jaundice	Whole plant	Internal use

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36	*Piper longum L.*	Thippali	Piperaceae	Herb	Improve digestion	Seed	Internal use
37	*Plectranthus ambonicus (Lour.) Spreng*	Panikkorkka	Lamiaceae	Herb	Cold, cough	Leaf	Internal use
38	*Pseudarthria viscida* (L.) Wight & Arn	Moovila	Fabaceae	Herb	Vomiting, food poisoning , diarrhea	Root	Internal use
39	*Rauvolfia serpentina* (Linn.) Benth.ex Kurz	Amalperi/ amalpuri	Apocynaceae	Shrub	Snake bite	Root	External use
40	*Sida acuta* Burm. f.	Kurunthotti	Malvaceae	Herb	Hair tonic	Whole plant	External use
41	*Sida cordifolia* Linn.	Vallikuruntho tti	Malvaceae	Herb	Head ache, cold	Root	External use
42	*Sida rombifolia* L.	Kurunthotti	Malvaceae	Herb	Hair tonic	Leaf	External use
43	*Solanum anguivi* Lam.	Puthirichunda	Solanaceae	Shrub	Toothache	Leaf	Internal use
44	*Solanum torvum* Sw.	Parachunda	Solanaceae	Shrub	Cold and cough, worms	Leaf	internal
45	*Stereospermum colais* Buch. - Ham.exDillwyn	Poopathira	Bignoniaceae	Tree	Eye infection, bacterial infection	Flower	External use
46	*Strychnos nux- vomica* Linn.	Kanjiram	Loganiaceae	Tree	Blood pressure	Dried fruit	Internal use
47	*Terminalia elliptica* Willd.	Karumaruth	Combretaceae	Tree	Diarrhea, skin diseases	Bark	Internal & external use
48	*Tetramelus nudiflora* R.Br.	Cheenimaram	Tetramelaceae	Tree	Wound	Latex	Internal use
49	*Tiliacora acuminata* (Lam.) Hook. f. & Thoms.	Vallikkanjira m	Merispermaceae	Climber	Post pregnancy care	Leaf	External use
50	*Tinospora cordifolia* (Willd.) Miers	Chittamruth	Merispermaceae	Climber	Fever	Stem	Internal use
51	*Tylophora indica* (Burm.f.) Merr.	Vallippala	Apocynaceae	Climber	Asthma	Leaf	
52	*Vitex altissima* L. f.	Mayilellumar am	Verbanaceae	Tree	Bruise, fracture	Leaves , roots	External use
53	*Vitex negundo* L.	Karinochi	Lamiaceae	Tree	Ulcer	Leaf	Internal use
54	*Wrightia tinctoria* (Roxb.) R. Br.	Neelappala	Apocynaceae	Tree	Mouth ulcer	Leaf	Internal use
55	*Zingiber officinale* Roscoe	Chukk	Zingiberaceae	Herb	Cough	Rhizome	Internal use

The habits of the plants were categorized into herb, shrub, trees and climber (climber, creeper and twiner). Among these, herbs constitute most number of species (22) which in turn gives 40% of the total plants species collected, followed by trees about 17 species (31%) and shrubs and climbers having same number of species (8) about 15%. From this data it is clear that, the tribes in Anakkal depend more on the herbs for medicine than other forms (Fig. 1). The indigenous communities' frequent use of herbs is due to the abundance of herbaceous plants in their surroundings (Ayyanar and Ignacimuthu, 2005; Uniyal *et al.*, 2006).

The tribal people of the study area mainly use leaf for the preparation of medicine from the plants. The leaves were taken from total 22 plants among the 55 plants followed by stem/bark, whole plant, root from 9 plants, seed/fruit from 7 plants, rhizome and flowers from 3 plants each, latex of 2 plants and spine from one plant. These data are represented in (Fig.*2.).* Most of the indigenous people in the various regions also use mainly leaves for the preparation of traditional medicine (Ayyanar and Ignacimuthu, 2011). The primary reason for the excessive use of leaves is they are easy to collect than other parts such as undergroung parts, flowers and fruits (Giday *et al.*, 2009; Sukumaran *et al.*, 2020).

There are about 13 informants who were interviewed from the study area of mudugar and paniyar communities. Among them 5 persons were from the paniyar community and rest 8 people were from the mudugar community. In total about 61.54% of the informers are men and the 38.46% are women. Most of them were above 50 years old and the youngest generation was represented by one woman under 30 years old. Most of the people in the mudugar community collect forest products for sale as medicinal and other commercial products than the people in paniyar community. The people were included in the jobs like fishing, forest product collection and selling and other daily wage works. One person from the informers is retired government employee. There is one traditional healer (vaidhyan) from the mudugar community who practices the traditional medicine given by his older generation.

They are traditional healers from the oldest generation and they are famous in the treatment of snake bite. The women mainly depend on daily wage works. The highest educational qualification among the informants was high school education. Most of them were illiterate.

The study records the Ethnomedicinal plants to treat 13 ailment categories. Of these, the most commonly used medicinal plants are for respiratory related (includes cough and cold) and digestive system related ailments (10 species), followed by pains (7 species), microbial infestation (6 species), hair care (5 species), snake bite, skin disease and rheumatism and fits (4 species), eye disease and general diseases (3 species), kidney and urinary related, wounds and pregnancy related (2 species) (Table 4.2). The FIC values are given in the Table 4.2. From the analysis it is evident that the FIC values are ranging from 0.5 to 0.87. Wound healing have the most FIC value (0.87) with 9 use reports for 2 species followed by the FIC value for the respiratory related ailment treatment with 0.84 and so on (Table 4.2). The least FIC value is for the plants used to treat eye disease and rheumatism (includes fits and fractures) with 0.5. A study by Limcy and Sripati (2013) has concluded almost similar data for the category of ailment treated. The plants collected from Attappady also use mostly to treat digestive related ailments with fever, skin problems and rheumatism.

IV. SUMMARY AND CONCLUSION

The study explains the use of medicinal plants by the tribes of Anakkal, Palakkad district. It can explain the medicinally important plants in that traditional pocket, which may help in the future drug development as most of them were wild species. From the collected data it's clear that trees are also having important role in traditional healing as herbs. But as the case of medicinally important parts most of them uses leaves. It has comparatively higher usage than other parts. Some herbs were more special because they are used as the whole plant. The major ailment category treated in this area is digestive system related and respiratory related ailments (10 plants for each). Among the whole species collected from there *Ocimum sanctum* Linn. have the highest use value (1) and it locally used by almost all the people in that area. The traditional practices are also highlighted here with the use of "irumbakam" plant (*Hopea ponga* (Dennst.) Mabb.). *Bambusa bambos* (L.) Voss., (Mula- tender stem) is used as an abortion drug which is already in use for abortion in the traditional Chinese medicine.

Rauvolfia serpentina (L.) Benth. ex Kurz. is considered as endangered species (IUCN). The plant aegle marmelose is observed in the present study and it is considered Near Threatened/Vulnerable in the IUCN Status.

In this study it is evident that due to modernization the indigenous knowledge is decreasing from the generations. The people of two different communities are different in sharing knowledge between the generations. In paniya community of Anakkal, they are not bothered about to losing the knowledge and hence they are not involving in passing that knowledge. And they are involving in other jobs as a part of developmental projects by the Government. But in mudugar community the indigenous knowledge is somehow involving in this sharing but they were getting involved in to other jobs. Mudugar community is close to the forest areas so most of them goes to forest and collects medicinal and other forest products. The people who are going to forests are now less in paniyar community. This will promote the loss of indigenous knowledge of the tribal community from Anakkal.

These records can be utilized in the future for spotting the place in which endangered/Vulnerable/Near Threatened species are found. This will help to reduce the risk of extinction of many plant species which can add richness to the entire biodiversity. The conservation of these species is an important step to reduce the risk of extinction.

The plant *Cyclea peltata* is pollinated by a particular green butterfly, which is inter-related. So the conservation of this species will also help to conserve those particular butterflies. And the species *Rauvolfia serpentina* also called snake root plant, which is an endangered species in the IUCN red list. They may be at risk if there is no special action taken to protect them. The over exploitation or ignoring the threat may be result in losing these precious species from the earth.

REFERENCES

[1] Asase, A., Kokubun, T., Grayer, R. J., Kite, G., Simmonds, M. S., Oteng-Yeboah, A. A., et al. (2008). Chemical constituents and antimicrobial activity of medicinal plants from Ghana: Cassia sieberiana, Haematostaphis barteri, Mitragyna inermis and Pseudocedrela kotschyi. Phytotherapy Research. 22, 1013–1016

[2] Ayyanar, M., & Ignacimuthu, S. (2005). Traditional knowledge of kani tribals in Kouthalai of Tirunelveli hills, Tamil Nadu, India. Journal of ethnopharmacology, 102(2), 246-255.

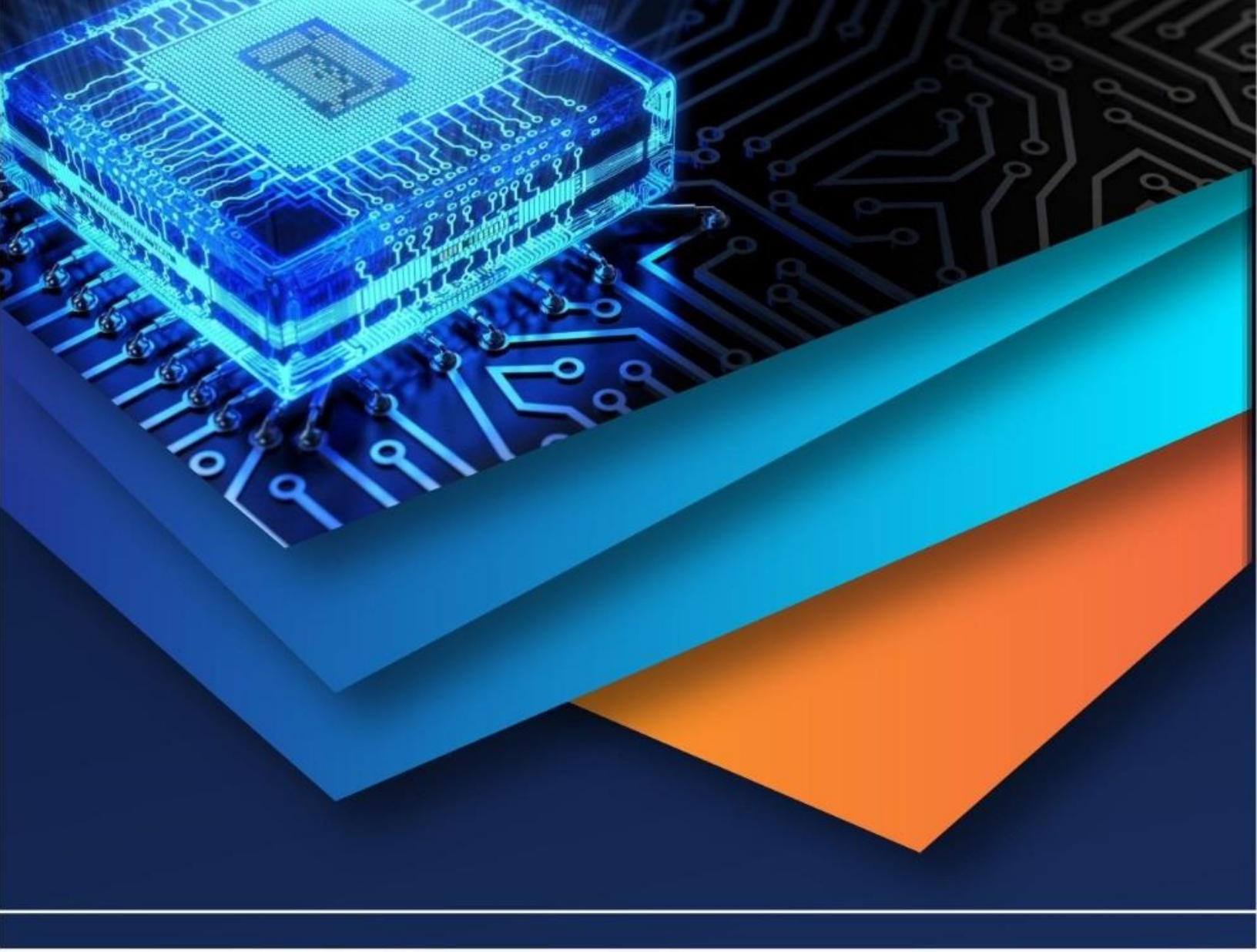
[3] Ayyanar, M., & Ignacimuthu, S. (2011). Ethnobotanical survey of medicinal plants commonly used by Kani tribals in Tirunelveli hills of Western Ghats, India. Journal of ethnopharmacology, 134(3), 851-864.

[4] Balick, M. J. (1990). Ethnobotany and the identification of therapeutic agents from the rainforest. Bioactive compounds from plants, 154, 22-39.

[5] Fabricant, D. S., & Farnsworth, N. R. (2001). The value of plants used in traditional medicine for drug discovery. Environmental health perspectives, 109(suppl 1), 69-75.

[6] Giday, M., Asfaw, Z., & Woldu, Z. (2009). Medicinal plants of the Meinit ethnic group of Ethiopia: an ethnobotanical study. Journal of ethnopharmacology, 124(3), 513-521.
[7] Heinrich, M., & Bremner, P. (2006). Ethnobotany and ethnopharmacy-their role for anti-cancer drug development. Current Drug Targets, 7(3), 239-245.
[8] Heinrich, M., Ankli, A., Frei, B., Weimann, C., & Sticher, O. (1998). Medicinal plants in Mexico: Healers' consensus and cultural importance. Social science & medicine, 47(11), 1859-1871.
[9] Limcy, T.J. & Shubashini, Sripathi. (2012). Ethno Medicinal Practices of Tribal Inhabitants of Attappady and Vakkodan Hill Regions of Kerala. International Journal of Scientific Research. 2(3) . 33-36.
[10] Nadembega, P., Boussim, J. I., Nikiema, J. B., Poli, F., & Antognoni, F. (2011). Medicinal plants in Baskoure, Kourittenga province, Burkina Faso: an ethnobotanical study. Journal of ethnopharmacology, 133(2), 378-395.
[11] Phillips, O., Gentry, A. H., Reynel, C., Wilkin, P., and Galvez-Durand, B. C. (1994). Quantitative ethnobotany and amazonian conservation. Conservation Biology. 8, 225–248.
[12] Prance, G. T. (1991). What is ethnobotany today?. Journal of ethnopharmacology, 32(1-3), 209-216.
[13] Pushpangadan, P., & Atal, C. K. (1984). Ethno-Medico-Botanical investigations in Kerala I. Some primitive tribals of Western Ghats and their herbal medicine. Journal of ethnopharmacology, 11(1), 59-77.
[14] Sukumaran, S., Sujin, R. M., Geetha, V. S., & Jeeva, S. (2021). Ethnobotanical study of medicinal plants used by the Kani tribes of Pechiparai Hills, Western Ghats, India. Acta Ecologica Sinica, 41(5), 365-376.
[15] Trotter, I. I. RT, and MH Logan. (1986). Informant Consensus: a new approach for identifying potentially effective medicinal plants. Plants in Indigenous Medicine & Diet: Biobehavioral Approaches. Redgrave Publishing Company, Bedford Hills, NY. 91–112.
[16] Uniyal, S. K., Singh, K. N., Jamwal, P., & Lal, B. (2006). Traditional use of medicinal plants among the tribal communities of Chhota Bhangal, Western Himalaya. Journal of ethnobiology and ethnomedicine, 2(1), 1-8.

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