



Ethno-Botanical investigations of Medicinal Plants in Njaraneeli Tribal Settlement of Thiruvananthapuram District

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Abstract

An ethnobotanical study was administered to gather information on the utilization of ethnomedicinal plants in Njaraneeli tribal settlement of Peringamala Grama Panchayath, Southern Western Ghats of India (Thiruvananthapuram district, Kerala). Various interviews were administered with several elder and experienced men and ladies to urge information on medicinal plants employed by them. The informants interviewed were 10 among whom 7 were tribal practitioners. The fieldwork was conducted in several tribal settlements round the forest areas of Njaraneeli, Thiruvananthapuram district during August 2021 to December 2021 as a part of our study. A complete of 20 ethnomedicinal plant species, distributed and between 18 families are documented during this study. A total of 20 ethnomedicinal plant species, appropriated and between 18 families are recorded during this investigation. The therapeutic plants utilized by Kanis are recorded with botanical name, family, tribal name, parts utilized, method of arrangement and restorative employments. It had been seen that the recorded ethnomedicinal plants were generally wont to cure Jaundice, Piles, Skin defilements, Asthma, Poisonous bites, Leprosy, Stomachache, Diabetes, Cancer, Sexual inadequacy, Obesity, Eye wounds, Diarrhea, Urinary Problems, and so on. The eventual outcomes of this study demonstrated that these tribal people regardless of everything depend on restorative ethno plants from timberland locales for treating various sicknesses.

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Keywords: *Ethnobotany, Kani Tribe, Tribal specialists, Jaundice, Sexual inadequacy, Obesity*

Introduction

Ethnobotany is that the investigation of different employments of plants in everyday lifetime of the ethnic networks. The term ethnobotany was initially used by Dr. John Hartsberger in 1895. It was widely accepted and initially used by J. Walter Fewnes in 1896. The subject of ethno organic science is part into many sub disciplines reliable with sub gatherings of Plantae like ethnoalgology, ethnomycology, ethnobryology, ethnopteridology, ethnolichenology and so on and unique parts of herbal science like grouping frameworks, restorative uses, palaeobotany, biology and so on are named as ethnotaxonomy, ethnomedico plant science, palaeo ethno plant science and ethno environment individually (Jain, 1987).

Ethno plant science is that the reliable assessment of the affiliations that exists among individuals and plants. Since the start of human progression, individuals have utilized plants as medication. May be since Stone age, plants are recognized to have fixing powers on man. Antiquated Vedas returning between 3500

B.C and 800 B.C uncover different references on supportive plants (Venkataswamy et al., 2010). The writing from Rigveda, 1500-400 BC is giving the attestable proof of remedial utilized of these restorative plants (Hassan et al., 2018). In India around 9, 500 plant species have been found to have pharmaceutical criticalness (Chowti et al., 2018). Ethnobotany is that the investigation of the association among plants and individuals: From "ethno" - investigation of individuals and "plant science" - investigation of plants. Ethnobotany is considered a part of ethnobiology. Ethnobotany examines the unpredictable connections between (employments of) plants and human societies. Plants used for food, medicine, divination, cosmetics, coloring, building materials, tools, money, clothing, rituals, public events, and music are all included in ethnobotany, which illustrates how plants are used, monitored, and perceived in human social orders (Staff, 2007). According to Kanchan Bhardwaj et al. (2019), the examination is anticipated to review and highlight the ethnomedicinal plants that are present in Himachal Pradesh for the treatment of liver issues.

Ethnobotany assumes a urgent job in understanding the dynamic connections between organic decent variety, social and social frameworks (Schultes, 1962; Balic, 1996; Hussain et al., 2008; Mahmood et al., 2011). It offers an incentive to people groups in legend and comprehension of their societies, and furthermore the reasonable employments of plants. Ethnobotany additionally teams up to esteem information and network in conventional medication (Cotton, 1996). According to Martin (1995), in order to see more detailed and reliable information about plants and how they are used, ethnobotanical research requires the assistance of specialists from various fields, such as anthropologists, etymologists, monetary botanists, pharmacologists, plant taxonomists, plant environmentalists, and anthropologists.

An examination of the accessible writing uncovers that till date there's no far reaching review, documentation and list of untamed therapeutic plants utilized by the clan Kanis possessing the Njaraneelitribal settlement in Thiruvananthapuram District situated inside the South-Eastern slant of Western Ghats, Kerala. Henceforth, inside the current examination an exertion is framed for the overview, documentation and specification of untamed restorative plants inside the investigation zone. this investigation centers around the reliance of the Kanis on natural meds and endeavor at a thorough examination of the helpful estimations of therapeutic plants utilized by the Kanis.

Nature has upheld the Njaraneeli tribal settlement in Thiruvananthapuram District with a staggeringly rich plant and ethnomedicinal riches that has been mauled dependably by the tribals. Kanis are the basic occupants of this area. Since the Kanis have so far took the stand concerning their ethnic character and rehearsed the basic ethnomedicine. On the off chance that it's represented and scholastic rights are bound to them, the Kanis similarly as the whole country would profit.

Materials and Methods

Description of the study area

Njaraneeli tribal settlement in Nedumangadu taluk, Thiruvananthapuram backwoods division of Western Ghats, Kerala, India, is arranged between 8° 49' north scope and 77° 3' and 77° 8' east longitude. Njaraneeli is a vital ancestral settlement which is said with other innate settlements. The Kanikkars are untamed but harmless slope tribes. They lived inside the woodland and their reality was timberland. They gathered the backwoods merchandise and it provide for Travancore lords as blessing. The whole region of Njaraneeli tribal settlement (in. ha) is 38.70. The investigation territory involves a gaggle of little slopes and hillocks. This tribal settlement is arranged at around 50 Km from Thiruvananthapuram city.

Ethnomedicinal information assortment

So as to investigate the restorative information on Kani tribes, an ethnobotanical study was directed in the Njaraneeli tribal settlement which incorporate the southern tip of Western Ghats. The field study was completed during the long stretches of August 2021 to December 2021 among the Kanis living in the Njaraneeli tribal settlement. Information gathered included plant parts utilized, method of readiness of every prescription, method of use, the sickness each plant assists with restoring, tribal name and so on. Information gathered through direct meetings were legitimately recorded in field scratch pad as fundamental information.

Plant assortment and Identification

Plant tests were gathered by strolling in the woodland. A portion of the plants were recognized in the field itself. Photos were taken. During assortment the taxa were ordered steady with their propensity : herb, bush, tree and climber. The plant examples were related to the help of nearby and local verdures (Gamble and Fischer, 1956; Nair and Henry, 1983). The ethno herbal information incorporate binomial name, tribal name, family and tribal medicinal claims.

Results and Discussion

About the tribals-Kanis/Kanikkars

The Kanikkars, who are generally known as 'Kanıs' are one of the wilderness tribes; for the most part rely upon therapeutic plants developing in the backwoods, occupying the mountains of south-Travancore. The Kanıs are in Kerala principally picked the Western Ghats region especially Thiruvananthapuram and Kollam Districts. Larger part Kani settlements were situated in Thiruvananthapuram District. Kani or Kanikkars, a woods staying endemic clan live in the Njaraneeli innate settlement in Nedumangadu Taluk. They have a place with the Southern ancestral zone of India. The term Kani or Kanikkar additionally means the 'inheritor of land'.

Social structure

Moottkani : Kanıs live respectively in little gatherings in Kanikudi under a Moottukani or headman (Plate-1). Moottukani is liable for all the network issues. He deals with all the issues relating to the Kanikudi and gives equity and directs gatherings where answers for issues will be found.

Residence

The Kani lead a straightforward lifestyle. They live in the backwoods, cut off from the outside world. Their residences are differently named as Kanikudi (Plate-1). The settlements of the clan are called Kadu, Pottakuzhi and Para. These settlements are arranged in profound woodland, soak zones of slopes, close to water assets. In days of yore these clans lived in tree top houses, gives in and tree gaps. Kani fabricate their own homes. After the timberland has been cleared, the house is constructed. "Madam" is another name for their house. They live in square-shaped cottages with mud floors and smoothed bamboo stems that are divided by leaves of *Ochlandra travancorica* (Eera, Eetta) and *Arenga wightii* (Alathengu, Kattuthengu, Aazhuthumpana). They build "Erumadam" or "Thattumadam" (Plate 1) watch towers on top of trees to keep wild animals off their horticultural land in the evening. To keep wild animals away from farming areas, they build "Kaaval madam" watch sheds close by during the day.

Livelihood

Kanıs are locked in as coolies on grower, domains or in felling timber and cutting bamboos for contractual workers. Others are occupied with assembling of aruvatti (Plate-1), bin, muram. The Kanıs are utilized by the administration to gather nectar, wax, ginger, cardamom and so on. The Kanıs meander everywhere throughout the slopes looking for nectar and is brought available to be purchased in empty bamboo joints.

Restorative Plant knowledge

Kanıs have extremely wide information on restorative medicinal plants to fulfill their essential human services. They utilize natural medication to treat cough, cold, fever and poisonous bites. The abundance of information on restorative plants of the clans depends on many years convictions and perceptions. This information has been transmitted from age to age.

Ethnobotanical observations

During the current study a complete number of 20 ethnomedicinal plants were gathered from Kanitribal zones of Njaraneeli tribal settlement. It was seen that the inborn populaces are completely subject to natural prescriptions. The use might be in various structures like concentrate, decoction, glue, imbue, blend, powder and vapor. Binomial name of the ethnomedicinal plant, family, tribal name and ancestral restorative uses for different illnesses was portrayed in detail (Appendix-I).

Plate-I



Simple Kani house (Kanikudi)



A typical Kani family



Moottukani (Head man)



Kani man making an aruvatti



Animal trap



Poultry cage



Ana madam/ Erumadam



APPENDIX-I

Binomial name : *Acacia catechu (L.f.) Willd.*

Tribal name : **Karungali**

Family : **Leguminosae**

Tribal medicinal claims/uses : Equal share (20 grams each) of heartwood and bark is boiled with 200 ml of water and it is decreased to 50 ml. About 10-15 ml of this decoction is taken two times a day for seven days to remedy urinary problems.

Binomial name : *Aeglemarmelos (L.) Correa*

Tribal name : **Koovalam**

Family : **Rutaceae**

Tribal medicinal claims/uses : Leaf juice mixed with black pepper is taken orally once in 5 days to get relief from piles.

Binomial name : *Alstonia venenata R.Br.*

Tribal name : **Analivegom**

Family : **Apocynaceae**

Tribal medicinal claims/uses : Fresh bark paste will be applied on the wounds as soon as after snake bite. Paste is also given orally two times a day for one week as an antidote.

Binomial name : *Aristolochia indica L.*

Tribal name : **Garudakkodi**

Family : **Aristolochiaceae**

Tribal medicinal claims/uses : Fresh root juice (50 grams) is given orally two instances with a gap of two hours and the paste of leaves is utilized on affected portion for snake-bite

Binomial name : *Baliospermum montanum (Willd.) MullArg*

Tribal name : **Nagadanthi**

Family : **Euphorbiaceae**

Plate-II



Aegle marmelos (L.) Correa



Acacia catechu (L.f.) Willd



Aristolochia indica L



Baliospermum montanum (Willd.) Mull.Arg



Alstonia venenata R.Br



Cassia alata L

Tribal medicinal claims/uses : Tribal medicinal claims/uses : Whole plant paste (5 grams) is applied two instances a day without delay on the affected areas of toxic bites.

Binomial name : *Cassia alata* L.

Tribal name : Anathakara

Family : Caesalpiniaceae

Tribal medicinal claims/uses : Root powder is combined with lime juice and applied on the affected component to deal with skin illnesses

Binomial name : *Catharanthus roseus* (L.) G.Don

Tribal name : Nithyakalyani/Savamnari

Family : Apocynaceae

Tribal medicinal claims/uses : About 10 ml of juice from leaves is consumed two times a day to control diabetes. leaf and root decoction (5 ml) is fed on two times a day for three days to remedy cancer, coronary heart problems and leprosy.

Binomial name : *Couroupita guianensis* Aubl.

Tribal name : Nagalingam

Family : Lecythidaceae

Tribal medicinal claims/uses : Bark paste is applied externally as an anti-dote for snake venom and applied it for 3 times a day on the affected part

Binomial name : *Cycas circinalis* L.

Tribal name : Chalai

Family : Cycadaceae

Tribal medicinal claims/uses : The bark and the seeds are ground into paste with oil and used as a poultice on sores, cuts, wounds, ulcers and swellings

Binomial name : *Elephantopus scaber mollis* Kunth

Tribal name : Anachuvadi

Family : Compositae

Plate-III



Couroupita guianensis Aubl



Cycas circinalis L



Elephantopus scaber mollis Kunth



Garcinia gummi-gutta (L.) Roxb



Ensete superbum (Roxb.) Cheesman



Kaempferia galanga L

Tribal medicinal claims/uses : (a) Fresh leaf and rhizome paste are applied externally to treat the eczema. (b) Fresh leaf juice is given for snake and spider bite. (c) Leaves are made into paste and given to control diarrhea for cattle. About one teaspoon of the root paste is prescribed 3 times a day for 2-3 days orally to cure fever

Binomial name : *Ensete superbum (Roxb.) Cheesman*

Tribal name : **Kalluvazha**

Family : **Musaceae**

Tribal medicinal claims/uses : 100 ml of filtered juice is prepared through grinding by means of the peduncle is taken on an empty stomach once in a week for three or four months to dispose of the kidney stones

Binomial name : *Garcinia gummi-gutta (L.) Roxb*

Tribal name : **Kudampuli**

Family : **Clusiaceae**

Tribal medicinal claims/uses : Fruit wall (20 grams) is crushed into paste and fed on one time a day for 10 days after meals to promote digestion. Fresh fruits are eaten to cure piles.

Botanical name : *Geodorum densiflorum, Schlechter.*

Tribal name : **Chilanthippacha**

Family : **Orchidaceae**

Tribal medicinal claims / uses : Rhizome paste (60g) is rubbed on the bitten area as an antidote towards the spider poison

Binomial name : *Kaempferia galanga L.*

Tribal name : **Kacholum**

Family : **Zingiberaceae**

Tribal medicinal claims/uses : Paste of the rhizome is applied locally in Scabies

Binomial name : *Maranta arundinacea L.*

Tribal name : **Koova**

Family : **Marantaceae**

Tribal medicinal claims/uses : (a) Dried rhizome is boiled and taken for diarrhoea, dysentery, and belly ulcers. (b) Rhizome powder along with milk is used in the treatment of urinary complaints.

Binomial name : *Phyllanthus amarus Schum and Thonn.*

Tribal name : **Keezharnelli**

Family : **Euphorbiaceae**

Tribal medicinal claims/uses : Set up a juice by utilizing ten grams of the new perfect aeronautical pieces of the plant and twenty five ml of water. The separated juice is taken orally or alongside hundred ml of bovine's milk two times every day for seven to ten days to treat jaundice.

Binomial name : *Plumbago zeylanica L.*

Tribal name : **Vellakoduveli**

Family : **Plumbaginaceae**

Tribal medicinal claims/uses : One or two teaspoon juice of the plant is given orally twice a day for one week to cure sexual disability.

Binomial name : *Syzygium cumini (L.) Skeels*

Tribal name : **Njaval**

Family : **Myrtaceae**

Tribal medicinal claims/uses : Stem bark and seeds are mixed with water make into juice then filtered and taken orally to cure diabetes.

Binomial name : *Tabernaemontana divaricata (L.) R.Br.*

Tribal name : **Nandhiarvattam**

Family : **Apocynaceae**

Tribal medicinal claims/uses : Two drops of pure filtered aqueous extract prepared from the flower petal are applied to the eyes for a period of seven days to improve vision.

Binomial name : *Trichopus zeylanicus Gaertn.*

Tribal name : **Arogyapacha**

Family : **Trichopodiaceae**

Tribal medicinal claims/uses : Take handful of leaves and dried then powdered. Now leafpowder is mixed with water and consumed it to reduce the obesity and promote digestion.

Plate-IV



Maranta arundinacea L



Plumbago zeylanica L



Phyllanthu samaras Schum and Thonn



Syzygium cumini (L.) Skeels



Tabernaemontana divaricata (L.) R.Br



Trichopus zeylanicus Gaertn

Summary

The current investigation is for the most part centered around the accompanying four significant angles; review, documentation and specification of the therapeutic plants utilized by Kani tribes occupying the Njaraneeli ancestral settlement in Nedumangadu Taluk, of the Western Ghats, Kerala.

i) As a result of the current study 20 ethnomedicinal plants of therapeutic use have been distinguished and reported. The archived plants have a place with 20 genera and 18 groups of the plant realm.

ii) The specified 20 ethnomedicinal plants used to fix upwards of 14 distinct sorts of human ailments. Plants are utilized by the Kanis for treating to Jaundice, Piles, Skin contaminations, Asthma, Poisonous eats, Leprosy, Stomachache, Diabetes, Cancer, Sexual incapacity, Obesity, Eye wounds, Diarrhea, Urinary Problems, etc.

Conclusion

The present investigation is fundamentally centered around the therapeutic parts of different ethnomedicinal plants utilized by the Kanis of Njaraneeli ancestral settlement in Nedumangadu Taluk and alongside the plant name, propensity and morphology of helpful parts. In the current investigation 20 ethnomedicinal plants having a place with 20 genera were assembled from the investigation zone, which goes under 18 angiosperm families.

The tribes have a very much evolved arrangement of customary medication. They think about number of uncommon restorative plants and their applications. In any case, this information is bit by bit lost by some superstitious convictions of these ethnic gatherings. They don't uncover the information to others due to the dread that, on the off chance that they did as such, the mending intensity of the plants might be lost. Despite the fact that these convictions have certain points of interest, a great deal of significant information has been lost by along these lines. Another issue with ancestral medication is the nonappearance of recorded information. Various antiquated information has been lost by the nonattendance of strong writing. A significant explanation behind this is the absence of education of the tribes. Further, an enormous number of therapeutic plants are being compromised because of deforestation and urbanization. In these conditions, ethnobotanical studies have extraordinary hugeness in the assortment of conventional information, arrangement of recorded information and in the preservation of jeopardized therapeutic plant species. With the help of new progressions, the data could be deductively illustrated, so the sensible world will recognize the standard structures. Nature is giving what we need and our task is to save nature for descendants.

The present investigation makes us understand the plant data on the tribals, who are solidly associated with nature. They have phenomenal data about the helpful plants and systems for treatment for the typical ailments that impact them. They have keen idea in security of helpful plants and contravention of soil breaking down. The traditional preservationist methodologies like consecrated timberlands, creating star plants etc were introduced by our predecessors in order to apportion some critical plants. Such standard methodologies are not followed now by the normal residents of the Njaraneeli tribal settlement in Nedumangadu Taluk. In any case even now tribes follow the standard conventionalist methods. The ethno-remedial information made from the present assessment with respect to the traditional helpful plants used by the Kanikkars need a cautious phytochemical and antimicrobial assessment including alkaloid extraction and isolation close by two or three clinical fundamentals in future course of time. This could help in making mass care concerning the requirement for insurance of such critical therapeutic plants and moreover inside the headway of ethnobotanical data inside the district, other than adding to the shielding and improvement of value bank of such fiscally noteworthy species before they are lost until the finish of time. Considering seeing the abuse of the biodiversity, traditional data in making countries like India is dissolving at a faster rate. Right now, is felt as a desperate need to inventories and record all ethno-remedial information available in various ethnic systems before the ordinary practice in restorative administrations is completely lost.

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