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ETHNOBOTANICAL RELEVANCE OF FLORA FOUND IN THE DISTRICTS OF KOLLAM AND THIRUVANANTHAPURAM, KERALA, INDIA

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Abstract
Ethnobotany is the study of interaction between human communities and the plant kingdom, that mainly focus on how indigenous people perceive, manage, and use the flora vegetation found in their habitat.Ethnobotanical documentation can be viewed as a model for preserving oral traditional knowledge and making it accessible to present and future generations. It can also be considered as a way to reflect the state of biodiversity protection in the ancestral environment. An estimate of 50,000 plant species are found in India of which more than 8000 species are medicinal plants. With the introduction of the modern era, the indigenous knowledge on ancient medicinal and cultural practices are now confined to tribal communities alone. In the current scenario many government-initiated programmes are being held across the nation to identify undiscovered plant species which could be a valuable bioresource for the development of new drugs to cure numerous diseases. Hence the proper documentation of tribal knowledge about different plant species is essential to conduct research programs in future.This research article aims to provide the list of ethnobotanical plant species commonly found in Varkala and Eravipuram region of Thiruvananthapuram and Kollam district respectively

Key words: Ethnobotanical plants, Varkala, Eravipuram, medicinal value.

Introduction

The Earth consists of vast and rich biodiversity that holds the existence of each and every organism in our planet. From evergreen forest to tundra region the abundance of plant species is unfathomable.Presently the researchers have described and accepted 3,74,000 plant species across the world, of which over 80,000 species are medicinal plants.As the pioneers of oldest healthcare system in the world,Indian sub continentharbours over 18,000 plant species including one-tenth of total medicinal plants across the globe.Our culture is intertwined with the ancient healing practices that led to the emergence of Ayurveda 2000 years ago.Atleast 20,000 drug formulations are listed in Ayurvedic pharmacopoeia.In addition, nearly 60,000 traditional and tribal practices are believed to be in practice.

Mostly medicinal plants are used in tribal traditions.India's tribal population is estimated to nu mber approximately 53 million people, divided i nto 550 ethic groupings. They live in either fore st settlements or on the move.

As each tribal community has a distinct cultural and social identity their way of life differs. Kerala is home to 40 tribal communities.Some are very primitive while most are highly advanced.Kani, Adiyar, Paniyar, Kurichiar, Korag ar, Kurumar, Kattunaykar, and others are the pro minent tribal communities of Kerala. (Panoor.K.1963).

The traditional practitioners who are dependent only on medicinal plants for their vocation and livelihood dependence are declining at present (Barik.*et.al.*2008).

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Hence there is only ample scope for livelihood enhancement through medicinal plant cultivation and sustained trade in the region. The rise in demand for medicinal plants especially in the pharmaceutical field have led to over exploitation of different species. Numerous endemic species are now under the threat of extinction due to the excess human activities in eco sensitive regions.Another major factor contributing to the threat of vulnerable plant species is the unavailability of properly assessed empirical data about their existence. Proper threat analysis of such species are important for planning conservation and restoration. Kanis are the major tribal communities found in the southernmost part of Western Ghats known as AgasthyarKoodam, located in Kerala-TamilNadu border. Theirin depth knowledge on folklore medicine has aided us to identify the medicinal properties of various common plant species found in our areas of study.

Materials and Methods

Study Area

Varkala is located in the southernmost district of Kerala,Thiruvananthapuram. It lies at an altitude 190 ft (58m) from sea level. Our study area spreads around 8° 44' 38N latitude and 76° 42' 6E longitude. The second study area Eravipuram is located in the Kollam district of Kerala. The study area spans around 8.86 N Latitude and 76.62 E Longitude. Both regions receive heavy rainfall mainly by southwest monsoon during the months of June- September. The wet climate throughout the year helps different plant species to thrive in these areas. The annual temperature falls between 25° C to 35° C. Since climatic conditions are so similar to the biodiversity hotspot Agasthyarkoodam, a wide range of endemic species can be found across these two districts. Survey was carried out mainly in the wetlands, river banks and rural regions of both study areas. During the field trips, interviews were conducted with elderly and experienced people and ayurvedic doctors for documenting herbal medicines and home remedies. Repeated questionnaires were made to get the data verified and confirmed. The study material consisted of medicinal plant samples, which were collected from the research areas specified.Specimens were identified and collected for the herbarium preparation. Herbariums were prepared and preserved according to Jain and Rao(1976). The herbarium collections are preserved and deposited at SNCW, Kollam.

Results and Discussion

Plant species name and local names of the plant, family, and their uses against various diseases are given below. The names of various disease has been enumerated alphabetically:

Abdominal colic (Vayaruvethana)

Hemidesmus indicus (*L.) R. Br.,* (*Periplocaceae*), Naruneendi

Given Instruction : *Hemidesmus indicus* tuber is washed, dried, powdered and mixed with coconut milk is taken after food.

*Acorus calamus L. (Araceae),*Vayambu

Given Instruction: The plant juice is administered orally.

Allopatia (Mudikozhichil)

Indigofera tinctoria L., (*Fabaceae*), Neelayamari

Given Instruction:

200 gm of *Indigofera tinctoria l*eaf paste is boiled with 500 ml coconut oil and applied on the head evenly.

Asthma (Iluppu),

Curculigo orchioides Gaertn., *(Hypoxidaceae*), Nilappana

Given Instruction: *Curculigo orchioides* tuber is washed, dried, powdered and about 5 gm powder is rolled to balls with coconut milk. This should be swallowed along with a glass of lukewarm water.

Diarrhoea

Acorus calamus L. *(Araceae),*Vayambu

Given Instruction: The plant juice is administered orally.

*Garcinia gummi gutta(L.)Robs.var gummi -gutta (Clusiaceae),*Kudampuli

Given instruction : The seed is fermented and the solution mixed with salt and garlic and applies 2 drops inside the throat.

Dysentery

Saraca asoka(Roxb.)deWilde.(Caesalpiniaceae) Ashokam

Given instruction : Bark was employed in the therapy.

*Garcinia gummi gutta(L.) Robs.var gummi - gutta, (Clusiaceae),*Kudampuli

Given instruction : The seed is fermented and the solution mixed with salt and garlic and applies 2 drops inside the throat.

Dyspnoea (Shwasam mutt)

Vitex negundo L., (*Verbenaceae*), Karinochi

Given Instruction: Juice extracted from 100 gm leaves is consumed.

Eye injuries

Emilia sonchifolia (L.) DC., (*Asteraceae*), Muyalchevi

Given Instruction: Juice of 5 gm leaves mixed with breast milk is used as eye drops.

Fever (Pani)

*Protasparagus racemosus (Willd.) Oberm., (Liliaceae),*Sathaveri

Given Instruction: A lukewarm extract of 250 gm *Protasparagusracemosus* fresh tuber cooked with 100 ml water is taken.

Headache (Thala vethana)

Plectranthus ambonicus (Lour.) Spreng., (Lamiaceae), Navarapacha

Given Instruction: *Plectranthus ambonicus* and *Naregamiaalata* are crushed to a pulp and cooked with 500 ml coconut oil. This medicated oil must be applied on head, half an hour before bath.

*Indigofera tinctoria L., (Fabaceae),*Neelayamari

Given Instruction: Leaf paste of Indigofera tinctoria boiled with coconut oil is applied over head.

Naregamia alata Wight &Arn., (Meliaceae), Nilanarakam

Given Instruction: Whole plants paste of *Naregamia alata* and Regularly apply *Plectranthus amboinicus* (both 250 mg) cooked with 500 ml coconut oil on the head.

Injuries

Clerodendrum viscosum Vent., (Verbenaceae), Peruvalam

Given Instruction: Tender leaves crushed to paste with little amount of lime is applied over wound. To make the blood clot, leaf juice is rubbed over head

Insect bite (Kadannalkuth)

Chlorophytum laxum R. Br. (Liliaceae), Neerootikizhangu

Given Instruction : The bulb of Chlorophytum laxum is crushed to paste and applied over the swellings.

Leucorrhoea (Vella poak, Asthisravam)

*Protasparagus racemosus (Willd.) Oberm. (Liliaceae),*Shatavari

Given Instruction :50 gm tuber of Protasparagusracemosus in either paste form or powdered form is taken in with cow/ coconut milk

Obesity (Ponnathadi)

Trichopus zeylanicus Gaertn. *(Trichopodaceae),*Arogyapacha

Given Instruction: Whole plant is shade dried, powdered, mixed with distilled water -

is consumed.

Ottalgia (Chevivethana)
Plectranthus amboinicus (Lour.) Spreng.
Naregami aalata Wight &Arn. (Lamiaceae), Navarapacha

Given Instruction: 250 gm plant material of each species is crushed to paste, boiled with 500 ml of coconut oil and the medicated oil should be applied on head, half an hour before bath.

Costus speciosus (Koenig) J. E. Smith, (Zingiberaceae), Mookanachenthi

Given Instruction: Costusspeciosus stem is heated to high temperature and lukewarm juice extract is used as ear drops.

Piles (Moolakkuru)
Aegle marmelos (L.) Correa. (Rutaceae), Koovalam

Given instruction : Fruit pulp is often consumed to prevent the growth of piles.

Pneumonia
Justicia adhatoda L., (Acanthaceae), Adalodakam

Given Instruction: 100 gm Justicia adhatoda fresh leaves are minced, crushed and tied in a clean cloth (kizhi). It is placed over a hot mud utensil at a mild temperature to make it warmer.

Then, for relief, it's draped across the chest. It is common to ingest
50 grammes minced leaves cooked in 1L water.

After-natal care
Capsicum frutescens L.,
(Solanaceae),Kantharimulaku

Given Instruction: Sun dried coconut, 100 gm dried Capsicum frutescens fruits, 1 gramme Curcuma longa, and 5 gm Allium sativum are ground to a paste with water and boiled in an earthen pot, according to the instructions.24 hrsafter delivery women consumes this preparation three times a day, for the next nine consecutive days. It helps women to regain their health and induce a higher level of immunity in baby against polio, jaundice, etc.

Pyrosis (Nenjerichil)
Hemidesmus indicus (L.) R. Br., (Periplocaceae),Naruneendi

Given Instruction: Hemidesmus indicus tuber is washed, crushed and the extract is consumed.

Snakebite (Pambu kadi)

Anaphyllum wightii Schott., (Araceae),Keerikizhangu

GivenInstruction: Sansevieria trifasciata, Humboldtia unijuga (root gall), and Plamanja were supplied as instructions, along with 5 gm each of Anaphyllum wightii and Aristolochia indica (Polyporous sp.) (200 mg each) and 20 mg of Strychnosnux-vomica seed paste is taken in along with water. If the patient is unconscious, 500 mg of Campferia galanga is added to the above mixture and applied on forehead to regain consciousness.

Chlorophytum laxum R. Br., (Liliaceae),Neerootikizhangu

Given Instruction: Chlorophytum laxum tuber paste is applied on the affected area.

Strychnosnux-vomicaL., (Loganiaceae), Kanjiram

Given Instruction: 300 mg Strychnosnux-vomica seeds are made into a paste along with self urine and consumed.

Thottea siliquosa (Lam.) Ding Hou, (Aristolochiaceae), Kuttilavayana

Given Instruction: 10 gm Thottea siliquosa tuber paste with self urine is taken.

*Rauvolfia serpentina (L.) Benth. ex Kurz (Apocynaceae),*Sarpagandhi
Given instruction : A leaf of sarpagandhi and nagam is a good medicine for snake poisons.

Splinter in throat

Ipomea quamoclit L., (*Convolvulaceae*), Mullurukki

Given Instruction: Leaf paste is applied over the throat.

Stomachache

Zingiber officinale Rose, *(Zingiberaceae),*Inchi

Given Instruction: 100 gm *Zingiber officinale* and 10 gm *Allium sativum* arecrushed and mixed together and later consumed with lukewarm.

Acorus calamus L. Araceae, Vayambu

Given Instruction: The plant juice is administered orally

Artocarpus hirsutus Lam.,(Moraceae) ,Anjili

Given instruction: Leaf Burn the leaves of Artocarpus hirsutus, the ash is taken internally
to treat abdominal problems.

Tinea-pedis (Eran kalukadi)

*Begonia malabarica Lam., (Begoniaceae),*Enamkolli

Given Instruction: Leaf paste is applied gently covering entire foot.

Tuberculosis

*Glycyrrhiza glabra L., (Fabaceae),*Athimathuram

Given Instruction: 5 gm Glycyrrhiza glabra paste is consumed with milk.

Vitex negundo L., (Verbenaceae), Karinochi

Given Instruction: 100 gm fresh leaf extract of *Vitex negundo* is consumed.

Discussion

The tribal medicines are prepared from various plant parts such as seeds, flowers, bark, leaves, roots and stem. The content and quality of drug is determined by various factors such as locality, time of collection, stage of growth, seasons, etc. The exact season is extremely crucial and one should avoid picking plants during dry and rainy seasons. The fresh herbs are rich in its nutritive and therapeutic constituents such as volatile oils, tannins, terpenoids, saponins, flavonoids, alkaloids and anthraquinones. Usually, these medical formulations have lesser side effects if taken with appropriate precaution. One has to follow special diets while consuming the medicine and should follow the instruction thoroughly. Folklore traditions are always bounded with superstitious beliefs regarding various plants and diseases. Hence most people nowadays tend to avoid the herbal formulations made by the tribal community. Meanwhile in our survey we have found out that the rural people especially older generation is keen on following these traditional medicines and passing on to their coming generations. Since Agasthyarkoodam comprises of Kani tribal community most of these formulations are devised by them and are passed on to nearby villages for a long time. If we closely analyse the tribal superstitions it will become more clearer that it's a way of conservation and protection of vulnerable and endemic plant species.

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