International Journal of Applied and Natural Sciences (IJANS)
ISSN (P): 2319–4014; ISSN (E): 2319–4022
Vol. 11, Issue 2, Jul–Dec 2022; 71–74

International Academy of Science, Engineering and Technology
Connecting Researchers; Nurturing Innovations

ETHNOBOTANICAL SURVEY OF MEDICINAL PLANTS USED BY INDIGENOUS COMMUNITIES IN THE WESTERN GHATS OF INDIA

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ABSTRACT

The Western Ghats, a UNESCO World Heritage site and one of the world's eight "hottest hotspots" of biological diversity, is home to numerous indigenous communities whose traditional knowledge plays a crucial role in sustainable resource use. This ethnobotanical study explores the medicinal plant knowledge of tribes such as the Kurichiyas, Paniyas, and Irulas, highlighting species used, methods of preparation, and ailments treated. A combination of field surveys, semi-structured interviews, and participatory observation methods was employed. The findings document 78 medicinal plant species used to treat over 40 different ailments, with a significant focus on leaves, roots, and bark. The study emphasizes the urgent need to preserve traditional knowledge and promote biocultural diversity.

***KEYWORDS**: Ethnobotany, Western Ghats, Indigenous Communities, Medicinal Plants, Traditional Knowledge, Biocultural Diversity, Sustainable Use etc.*

Article History

***Received:** 20 Nov 2022 | **Revised:** 24 Nov 2022 | **Accepted:** 31 Nov 2022*

INTRODUCTION

India’s Western Ghats span six states and support one of the richest ecosystems globally, both in biodiversity and cultural heritage. Indigenous communities residing in these areas possess deep-rooted knowledge systems concerning the medicinal use of local flora. Ethnobotany, the study of the relationship between people and plants, provides crucial insights into how this traditional knowledge can contribute to contemporary medicine, conservation efforts, and sustainable development.

The aim of this research is to document and analyze the ethnobotanical knowledge of medicinal plants among selected tribes of the Western Ghats, with emphasis on plant parts used, diseases treated, and methods of preparation.

METHODOLOGY

The fieldwork for this ethnobotanical survey was conducted across selected districts in the Western Ghats, specifically in Kerala (Wayanad), Tamil Nadu (Nilgiris), and Karnataka (Coorg), regions known for their rich biodiversity and significant tribal populations. The study focused on four major indigenous communities: the Kurichiyas, Paniyas, Irulas, and Soligas. Data collection involved a combination of qualitative and participatory methods. Semi-structured interviews were conducted with traditional healers and elderly members of the communities to document their medicinal plant knowledge. Additionally, transect walks were organized with local guides to locate and identify medicinal plants in their natural habitats. Field identification was followed by herbarium specimen collection to support botanical classification. To ensure

the reliability and accuracy of the information gathered, the findings were cross-validated using secondary sources and consultations with professional botanists.

DISCUSSION AND ANALYSIS

Commonly Used Medicinal Plants

Table 1

Botanical Name	Local Name	Family	Ailments Treated	Part Used
Azadirachta indica	Veppu	Meliaceae	Skin infections, fever	Leaves, bark
Tinospora cordifolia	Amruthu	Menispermaceae	Diabetes, immunity	Stem
Adhatoda vasica	Adalodakam	Acanthaceae	Cough, asthma	Leaves
Phyllanthus amarus	Keezhanelli	Phyllanthaceae	Jaundice	Whole plant
Centella asiatica	Kodangal	Apiaceae	Memory enhancer, wounds	Leaves

Categories of Diseases Treated

Table 2

Respiratory disorders	(23%)
Digestive problems	(20%)
Skin diseases	(18%)
Musculoskeletal issues	(14%)
Fever and infections	(13%)
Other	(12%)

Preparation Methods

Table 3

Decoction	(45%)
Paste	(20%)
Juice	(15%)
Powder	(10%)
Infusion	(10%)

Parts of Plants Used

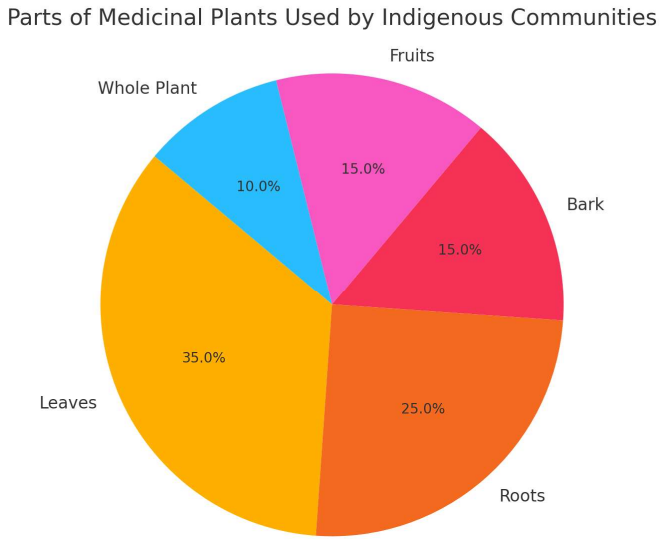

Figure 1

FINDINGS

A total of 78 medicinal plant species belonging to 48 families were recorded. Most frequently used families: Fabaceae, Asteraceae, Lamiaceae, Euphorbiaceae. The Kurichiyas and Irulas had the most extensive knowledge base, often tied to their practices in agriculture and spiritual healing. Traditional knowledge is transmitted orally and is at risk of erosion due to modernization and younger generations' disinterest.

RESULTS

The study provides a comprehensive inventory of indigenous medicinal knowledge that serves multiple important functions. Firstly, it supports conservation initiatives by identifying ecologically significant plants that are essential to both the ecosystem and traditional healing practices. Secondly, the documented data offers valuable preliminary insights for pharmacological research, potentially aiding in the discovery of novel therapeutic compounds. Lastly, the study promotes a deeper respect for tribal intellectual property rights and biodiversity ethics, emphasizing the need to recognize and protect the cultural and ecological contributions of indigenous communities.

CONCLUSION

The ethnobotanical wealth of the Western Ghats is a living testimony to India’s biocultural diversity. Indigenous medicinal practices, though marginalized, remain invaluable for sustainable health systems and ecological resilience. Urgent steps must be taken to document, protect, and integrate this knowledge into broader healthcare and conservation strategies.

RECOMMENDATIONS

- Documentation Initiatives: Establish community-led documentation centers for preserving oral traditions.
- Policy Inclusion: Recognize tribal healers in local governance and biodiversity management.
- Bioprospecting Ethics: Develop benefit-sharing models under India’s Biodiversity Act.
- Youth Engagement: Introduce ethnobotany in tribal schools to revitalize interest.

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