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# Exploring the Tribal Heritage: Medicinal Plants Utilized by the People of Guna District, Madhya Pradesh

Meena Mewada, Priyanka Tiwari
Department of Botany, SAM Global University, Bhopal, India

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Abstract - Amidst widespread biodiversity loss, misuse, and the escalating threat of biopiracy, alongside intensifying patent conflicts over bioresources, the documentation of biodiversity and its traditional uses, particularly in medical applications by ethnic communities, has become paramount. Medicinal plants, utilized for millennia to produce diverse medications, have a rich history of efficacy in treating a multitude of ailments. Consequently, these botanical resources continue to play a crucial role in traditional and contemporary medicinal practices. Despite existing ethnobotanical publications focusing on various tribes, this study aims to explore the diversity of medicinal plants among the tribal communities of Guna district, Madhya Pradesh, India. Through interviews and surveys, local names and medicinal uses of 32 medicinal plant species were documented from the study area. These species belong to 26 genera and 18 families, with Fabaceae emerging as the dominant family, comprising eight species, followed by Combretaceae with four species.

Keywords- Ethanobotany, Tribals, Fabaceae, Medicinal plants, Ethnic

## INTRODUCTION

Madhya Pradesh, the second-largest state in the Indian subcontinent after Rajasthan, spans a total area of 308,000 square kilometres. Positioned strategically at the heart of India, the states of Bihar, Orissa, Andhra Pradesh, Maharashtra, Gujarat, Rajasthan, and Uttar Pradesh border it. Geographically, Madhya Pradesh lies between 17°48' and 26°52' North latitude and 74°-2' and 84°-24' East longitude. Characterized by a plateau with an average elevation of 1600 feet above sea level, Madhya Pradesh features the Vindhya and Satpura mountain ranges, interspersed with valleys such as those of the Narmada and Tapti rivers. The state's major river systems include the Chambal, Betwa, Sindh, Narmada, Tapti, Mahanadi, and Indravati. The state experiences varying rainfall patterns, averaging 45 to 90 cm across different regions. The climate ranges from extremely dry in the north to mild and windy on the plateaus and hot and humid in the eastern and southern plains. Madhya Pradesh boasts the largest tribal population in terms of both territory and numbers. With nearly all 52 districts hosting over 100 distinct ethnic communities, extensive research has been conducted on various aspects of ethnobotany, particularly medico-ethnobotany, focusing on regional specifics. Numerous studies have explored different forest divisions and adjacent areas, such as the Gwalior, Shivpuri, Morena, Sagar, Bundelkhand, Rewa, Bhopal, Chhatarpur, Raigarh, Shahdol, Amarkantak plateau, Mandla, Jabalpur, and Chhindwara

districts, each contributing valuable insights into the ethnobotanical wealth of the region. Despite significant progress in understanding ethno-medicinal plants across India, interior areas remain yet to be thoroughly surveyed. The Guna district is a locale ripe for exploring new traditional medicines. Thus, the current study aims to document the medicinal plants utilized by the tribal communities of the Guna district.

Table 1. Medicinal Plants of Guna District

| S. N. | Botanical Name | Family | Local Name | Part Used | Disease |
|---|---|---|---|---|---|
| 1 | Acacia nilotica (Linn.) | Fabaceae | Babool | Stem, Bark | Tooth Problems, Skin Diseases |
| 2 | Acacia catechu (L.f.) | Fabaceae | Khair | Bark | Skin diseases, especially eczema |
| 3 | Acacia leucophloea | Fabaceae | Reunja | Bark | Diarrhea |
| 4 | Aegle marmelos (Linn.) | Rutaceae | Bilpatra | Roots, Leaves, Fruit | Digestive problems |
| 5 | Albizzia lebbeck (Linn.) | Fabaceae | Kala Siris | Whole Plant | Asthma reduces the enlargement of cervical glands, coughs, colds, ulcers, snake bites, wounds, and leucoderma. |
| 6 | Annona squamosa (Linn.) | Annonaceae | Sitaphal | Bark | Wound Healing, Diabetes |
| 7 | Anogeissus latifolia | Combretaceae | Sharifa | Root, Leaves, Fruit | Antiseptic, wound healing, treatment of tumours and cancer, rheumatism, burning sensation |
| 8 | Argemone mexicana | Papaveraceae | Satyanashi | Root, Latex | Gout, Dysentery, Liquid film in the eye |
| 9 | Azadirachta indica | Meliaceae | Neem | Whole Plant | Insecticidal, liver tonic, urinary astringent, leprosy, skin diseases, dyspepsia, ulcers, tuberculosis, eczema, malaria, intermittent fever |
| 10 | Bombax ceiba | Bombacaceae | Semal | Root | Used for surgical dressing in wounds, it increases the sexual vigour |
| 11 | Buchanania lanzan Spreng. | Fabaceae | Achar, Chironji | Bark and Seeds | Used in cuts, wounds, skin diseases, snake bites, and rheumatism |
| 12 | Butea monosperma Lamk. | Fabaceae | Dhak, Palas | Flowers and Seeds | Scorpion bites. The flowers are a source of dye |
| 13 | Carissa spinarum L. | Apocynaceae | Karaunda | Fruits and Roots | Rheumatic pain, fever, and wound healing |
| 14 | Cassia fistula Linn. | Caesalpinaceae | Amaltas | Leaves, Stem, Roots | Leprosy, heart diseases, applied externally in rheumatism and snake bites |
| 15 | Centella asiatica L. | Apiaceae | Brahmi | Leaves | Memory enhancement |
| 16 | Cynodon dactylon (L.) Pers. | Poaceae | Dub | Leaves | Arthritis |
| 17 | Dalbergia sissoo Roxb. | Fabaceae | Sheesham | Leaves, Bark, Roots | Eye diseases, gonorrhoea, scabies, leprosy, diarrhoea, dysentery |
| 18 | Euphorbia hirta L. | Euphorbiaceae | Dudh Ghas | Leaves | Arthritis |
| 19 | Ficus benghalensis L. | Moraceae | Bargad | Whole Plant | Diabetes, gout, diarrhoea, leucorrhoea, dysentery, ulcers, rheumatism, toothache, and more |
| 20 | Ficus religiosa Linn. | Moraceae | Pipal | Whole Plant | Gonorrhea, scabies, snake bites. Juice relieves toothache and |

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| | | | | | strengthens gums. Powder sterilizes women for a long time during menses. |
| 21 | Lagerstroemia parviflora Roxb. | Lythraceae | Siddha, Seja | Stem, Bark | Leucorrhoea |
| 22 | Madhuca longifolia var. latifolia (Roxb.) | Sapotaceae | Mahua | Fruit | Gout and Rheumatism |
| 23 | Syzygium cumini (L.) Skeels. | Myrtaceae | Jamun | Seeds | Diabetes |
| 24 | Tamarindus indica Linn. | Caesalpiniaceae | Imli | Leaves, Bark, Fruits | Destroying worms in children, jaundice, gastropathy, bilious vomiting |
| 25 | Tectona grandis Linn.f. | Fabaceae | Sagun | Bark, flowers, seeds, oil | Headache, toothache, subduing inflammation and irritation of skin |
| 26 | Terminalia arjuna Roxb. Wight &Arn. | Combretaceae | Arjuna | Bark, Leaves | Hypertension, pimples, minor skin eruptions, cardiotonic, rickets in children, skin diseases |
| 27 | Terminalia bellerica Roxb. | Combretaceae | Baherha | Bark, Seeds, Fruits | Wound healing, sore throat, diarrhoea, dysentery, gonorrhoea, piles, chronic constipation |
| 28 | Terminalia chebula Retz. | Combretaceae | Harra | Fruits | Astringent, digestive, laxative, cardiotonic, aphrodisiac, febrifuge |
| 29 | Vitex negundo L. | Verbenaceae | Nirgudi | Leaves | Rheumatism |
| 30 | Woodfordia fruticosa (L.) Kurz | Lythraceae | Dhawai | Leaves | Arthritis |
| 31 | Zizyphus mauritiana Lamk. | Rhamnaceae | Ber, Beri | Fruits | Cold and C |
| 32 | Zizyphus xylopyrus (Retz.) Wild. | Rhamnaceae | Ghont, Ghuter | Fruits, Leaves | Skin eruptions, dye used in tanning leather |

## MATERIALS AND METHODS

An ethnobotanical survey was conducted in various tribal-inhabited areas of Guna district in 2023. The survey involved extensive field trips to collect plant specimens and data. The primary focus was documenting plants' medicinal uses for treating various diseases. Ethno-botanical information was gathered using the standard methodology outlined by Jain and Rao (1977). To systematically collect data, a questionnaire was prepared, ensuring comprehensive coverage of relevant information. Plant specimens collected during the survey were identified using standard flora and other botanical literature references such as Varma et al. (1993), Singh et al. (2001), Mudgal et al. (1997), and Jain and Rao (1991). In addition to documenting medicinal uses, information on plants utilized for purposes other than medicinal ones was also recorded. Details such as ailments treated, specific plant parts used, formulations, dosage, and duration of usage were meticulously gathered from the tribal communities interviewed. The methodology employed aimed to ensure thoroughness and accuracy in data collection, utilizing established protocols and referencing authoritative botanical literature for plant identification. By adhering to these rigorous standards, the study sought to provide a comprehensive understanding of the ethnobotanical knowledge prevalent among the tribal populations of the Guna district.

## RESULTS AND DISCUSSIONS

All plant species are listed in the enumeration along with their family, common name, components used, and various medical applications shown in Table 1. Reports have been compiled on 32 plant species belonging to ethnographic investigations regarding the use of medicinal plants within the district among different tribes, which have been documented. The dominant family, Fabaceae, comprises eight species, followed by Combretaceae with four species, and Annonaceae, Apiaceae, Apocynaceae, Bombacaceae, Euphorbiaceae, Meliaceae, Myrtaceae, Papaveraceae, Poaceae, Rutaceae, Sapotaceae, and Verbenaceae, each with one species. India boasts an incredibly rich and diverse flora and fauna due to its vast topography and climatic diversity. Biodiversity, the most valuable resource on Earth, is the cornerstone of human civilization. Every human activity, socio-cultural, economic, or otherwise, has a direct or indirect relationship with different environmental resources. Ethnobotanical studies have been conducted in various parts of the world, including Africa (Houessou et al., 2012), Canada (Uprety et al., 2012), Malaysia (Ong et al., 2012), Nepal (Singh et al., 2012), and Pakistan (Qureshi et al., 2007). Despite significant research efforts in India (Alagesaboopathi, 2013; Murthy, 2012; Kumar et al., 2010), substantial information and indigenous knowledge have been lost. Knowledge held by older generations could not be adequately passed on to younger generations and remains largely unrecorded. While the literature contains numerous general references to ethnobotany on a national scale, there have been few attempts to document specific details of this knowledge despite the efforts of several researchers in this direction.

## CONCLUSION

In conclusion, our investigation revealed that the elderly members of the community predominantly hold valuable knowledge regarding the medicinal properties of plants in Guna District. Unfortunately, the younger generation lacks awareness regarding these resources and tends to favour conventional medicines. Additionally, tribal practitioners exhibit reluctance to share their traditional knowledge openly. Despite these challenges, it is evident that the indigenous herbal practices within the tribal community remain rich and abundant in Guna District, Madhya Pradesh. Therefore, there is an urgent need to document and preserve this traditional knowledge before it fades away. By documenting the therapeutic uses of medicinal plants, we can ensure that this valuable heritage is safeguarded for future generations and that they continue to benefit from the wealth of natural resources available in the region.

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