

# Ethnomedicinal Study of Fabaceae Family Plants, Found in The Area of Narmadapuram District of Madhya Pradesh

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**Abstract:** *Ethnomedicinal plants have been used in healthcare since ancient times. Studies have been done globally to verify their efficacy and some of the findings have led to the production of plant-based medicines. In this paper, an ethnomedicinal survey of plants of the Fabaceae family found in the Narmadapuram area has been done, in which special emphasis has been given to the current strategic approach to disease prevention. A total of 31 medicinal plant species belonging to 24 genera of the Fabaceae family presented was reported. Medicinal plants play an important role in disease prevention and their promotion and use fit into all existing prevention strategies. However, conscious efforts are needed to properly identify, identify and position medicinal plants in the design and implementation of these strategies. These approaches present interesting and emerging perspectives in the field of medicinal plants. Recommendations are proposed to strategize the future role and place for medicinal plants in disease prevention.*

**Keywords:** Ethnomedicine, Fabaceae Family, Narmadapuram District

## I. INTRODUCTION

Various plant Species since immortal are being used by mankind for well-being. The plants used for curing various diseases in humans have been inscribed in ancient literature like Rig-veda, Bible, and Quran. The utilization of plants by the primitive man and the tribal has been studied under the unique and diversified branch of Science, known as "Ethnobotany".

Ethnobotany means the study of the botany of the primitive race. The term 'Ethnobotany' was first coined by John W. Harshberger (1895), who was one of Florida's early botanists and described it as the study of the interaction between people, plants and culture. Medicinal plants are plants that have the potential and the capacity for the treatment of varied diseases and are being used by people from the past (Pei, 2001). Ethnobotany is the study of how people of a particular culture and region make use of indigenous plants. Ethnobotany is not confined to one area but it covers a broad range of study areas, which are interconnected to each other in one sense or the other. As a field of research and study, ethnobotany is an interdisciplinary approach using botany, anthropology, history, chemistry and many others. It is a multidisciplinary science, that deals with disappearing traditional knowledge, system and relationship between human beings and surrounding flora. It has attracted much attention, not only due to its great academic or historical importance but also due to its many economic applications. Hence the major contribution of ethnobiological study today is towards the understanding and bioprospecting of biodiversity which has assumed great economic, ecological, social and political significance for modern civilization.

India is a rich diversity center for medicinal and aromatic plants. Around 45,000 plant species nearly 15,000 plants are used for their specific medicinal values (Singh, 2003). Due to fewer side effects and rich potential herbal medicines are in high demand in the world.

Narmadapuram District lies in the southwest part of Madhya Pradesh between 77° 50' East Longitude & 22° 30' 25'' North Latitude. Narmadapuram is located in the center of the Narmada Valley and to the North of the Satpura plateau

(Fig.-1). The District has some well-known tourist destinations like “Panchmori” a famous hill station, the city of Narmadapuram and Boris Sanctuary.

A study of the literature in hand suggests that no due attention has been paid to the ethnobotany of the Narmadapuram District of Madhya Pradesh, which is inhabited by a large number of tribes such as Gond, Baiga, Panica, etc. Although, ethno-medico-botanical work in different areas of Madhya Pradesh has been carried out by many workers with the main objective of filling up the knowledge gaps in the important area of bio-cultural diversity, directly relevant to the welfare of tribal communities living in far-flung and inaccessible areas of the same. Since there are no intensive and extensive studies carried out and reported from the District under study, an attempt shall be made through the current study to collate and document the vanishing knowledge of medicinal properties of plants by different tribes of Narmadapuram District, which are used in the treatment of various human and livestock diseases and ailments, ultimately providing the baseline information in the form of an immensely valuable database for the commercial exploitation of bio-resources.

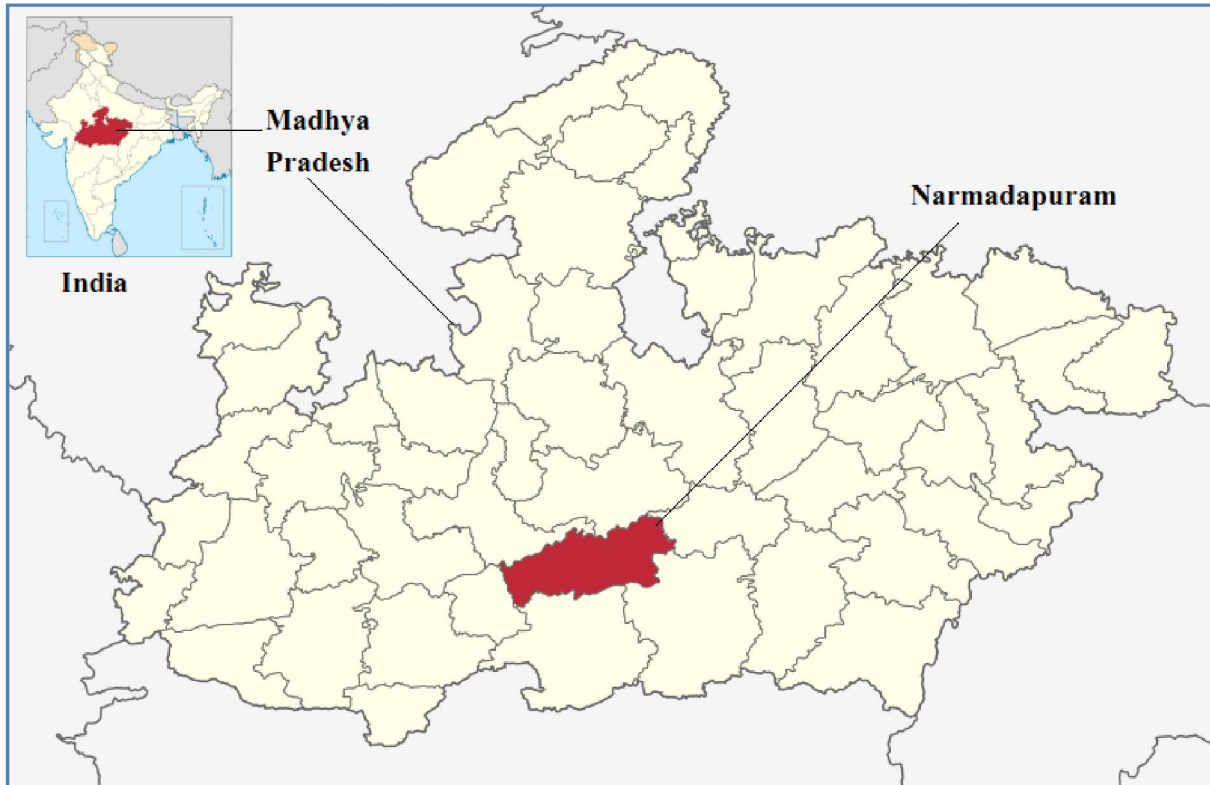


Fig.-1 Narmadapuram District Location Map

## II. MATERIALS AND METHODS

The present study is the outcome of the one-year critical field survey in the different parts of the Narmadapuram district of Madhya Pradesh in various seasons. Ethnomedicinal information was gathered from the local and tribal people. All the specimens were collected in duplicate forms and they were deposited in the Department of Botany, Government Maharani Laxmibai Girls College, Bhopal (M.P.) Descriptions of species and identification were done with the help of Flora of Madhya Pradesh (Verma, Balakrishnan and Dixit 1993) Flora of Jabalpur (Oommachan and Shrivastava, 1996), and internet sites like “Trees of India” (Mukherjee, 2008) and confirmed with the help of taxonomist.

## III. OBSERVATIONS

No.	Medicinal Plants	Local Name	Vegetation type	Parts use	Ethnomedicinal Properties
1.	<i>Abrus precatorius</i> L.	Ratti/Gunja	Wild	Fruits and leaves	Tetanus, rabies, scratches, sores, wounds, fever, cough and cold

2.	<i>Alysicarpus hamosus</i> Edgew.	Clover	Wild	Leaves	Stomach ache, fever, jaundice, leucoderma, diarrhea, skin diseases and kidney stones.
3.	<i>Alysicarpus vaginalis</i>	Neel	Wild	Leaves	dullness, cures diarrhea, dysentery, kidney stones and inability
4.	<i>Clitoria ternatea</i> Linn.	Aprajita	Wild/Cultivated	Leaves	antistress, anxiolytic, antidepressant, anticonvulsant, tranquilizing and sedative
5.	<i>Crotalaria juncea</i> Linn	Sanai/ Ghunghuna	Wild/Cultivated	Leaves	hypolipidemic, reproductive, antioxidant, antibacterial, antifungal, anti-diarrhoeal, anti-inflammatory, hepatoprotective
6.	<i>Dalbergia sissoo</i> Roxb.	Shisham	Cultivated	Leaves/ Bark	sore throats, dysentery, syphilis, bronchitis, inflammations, infections, hernia, skin diseases, and gonorrhoea
7.	<i>Desmodium dichotomum</i> (Willd.) DC. Prodr.	Chikta	Wild	Leaves	muscle pain
8.	<i>Desmodium laxiflorum</i> DC.	Parsniparni	Wild	Leaves	dysentery, rheumatism, fever, jaundice, stomach ache, skin problems, wounds and ulcers
9.	<i>Erythrina suberosa</i> Roxb.	Pangra/ Dhoul Dhak	Wild	Leaves	expectorant, bronchodilator, laxative, spasmolytic, anthelmintic, diuretic, and emmenagogue properties
10.	<i>Indigofera astragalina</i> DC. Prodr.	Ranmethi	Wild	Leaves	treat various illnesses such as rheumatism, arthritis
11.	<i>Mucuna pruriens</i> (L) DC	Gunja/Ratti /Gomachi	Wild	Seed/ Stem	male infertility, nervous disorders, and also as an aphrodisiac
12.	<i>Ougeinia oojeinensis</i> Roxb.	Tinsa	Wild	Fruit/ Leaves	burning syndrome, skin disease, urinary disorder, obesity, anti-inflammatory, anti-spasmodic and anti-hypertensive activity
13.	<i>Pongamia pinnata</i> L. Pierre.	Putikaranj/ Karanj	Wild/Cultivated	Seed/ Leaves	tumors, piles, skin diseases, and ulcers
14.	<i>Sesbania bispinosa</i> (Jacq.) W.F. Wight	Dhunchi	Wild	Leaf	menorrhagia, spleen enlargement, diarrhea and asanthelmintic, astringent, emmenagogue, anti-inflammatory and dysuria
15.	<i>Pterocarpus marsupium</i> Roxb.	Beejasal	Wild	Stem	boils, sores, and other skin diseases
16.	<i>Tephrosia purpurea</i> (L.) Pers.	Sirponka	Wild	Leaves	jaundice, kidney disorders and reduced thirst in diabetes
17.	<i>Teramnus mollis</i> Benth.	Lomasparni	Wild	Whole plant	fatigue, muscle wasting, Vata and Pitta
18.	<i>Butea monosperma</i>	Palash	Wild	Flower/ Leaves	anti-diarrheal, anthelmintic, anti-diabetic, anti-stress, hepatoprotective, antifungal, astringent, aphrodisiac, laxative, anti-inflammatory and

					antioxidant qualities
19.	<i>Butea superba</i> Roxb.	Palash Bel	Wild	Flower/ Leaves	Alzheimer's
20	<i>Cassia fistula</i> Linn.	Amaltas	Wild/Cultiva ted	Pod	joint pain, migraine, chest pain and blood dysentery
21.	<i>Bauhinia malabarica</i> Roxb.	Amta	Wild/Cultiva ted	Leaves	cough, gout, glandular swellings and goiter
22.	<i>Bauhinia vahlii</i> Wight & Arn.	Mahulbel	Wild/Cultiva ted	Leaves	demulcent and mucilaginous
23	<i>Bauhinia variegata</i> Linn.	Kachnar	Wild/Cultiva ted	Leaves	Ulcers, skin diseases and snake poison
24.	<i>Hardwickia binata</i> Roxb.	Anjan	Wild/Cultiva ted	Leaves	diarrhea, leprosy, worm's infection, indigestion, leucorrhoea, chronic cystitis, gonorrhoea, and cancer
25.	<i>Tamarindus indica</i> L.	Imili	Wild	Fruit	abdominal pain, diarrhea, dysentery, parasitic infestation
26.	<i>Senna tora</i> Linn.	Powar	Wild	Seed/ Leaves	skin diseases and arthritis
27.	<i>Albizia lebbek</i> (L.) Benth.	Kala siris	Wild/Cultiva ted	Fruit/ Leaves	scabies, lung ailments, piles, bronchitis, abdominal tumors, cough, eye disorders
28.	<i>Albizia procera</i> (Roxb.) Benth.	Safed siris	Wild/Cultiva ted	Fruit/ Leaves	ulcers
29.	<i>Senegalia catechu</i> (L. f) Willd.	Khair	Wild	Bark/ Stem	sore throat and diarrhea
30.	<i>Vachellia leucophloea</i> (Roxb.) Willd.	Rimjha	Wild	Bark/ Seed	bronchitis, cough, vomiting, wounds, ulcers, diarrhea, dysentery, internal and external hemorrhages
31.	<i>Vachellia nilotica</i> L.	Babool	Wild	Bark/ Seed	sexually transmitted diseases

### 3.1 Ethnomedicinal plants

Ethnomedicinal plants A total of 31 medicinal plant species belonging to 24 genera of the Fabaceae family presented in (Table-1) was reported. The most represented genus was *Bauhinia* (3 species) followed by *Vachellia*, *Albizia*, *Butea* and *Alysicarpus* (2 species each), (Table-1). *Vachellia nilotica*, *Tephrosia purpurea*, *Abrus precatorius* and *Pterocarpus marsupium* were common ethnomedicinal plants among all participants because these plants are important as they have long been using for generations and due to their rich bioactive constituents. Out of a total of 31 preparations, the herbal medicine formulations prepared according to the traditional uses as follows: Leaves (74%), Fruit (19%), Bark (13%), Stem (13%), Seed (16%), (Table-1). The most frequent use of leaves might be due to the easy preparation and effectiveness of herbal drugs. Water was commonly used as a solvent if required for the preparation. Sometimes milk or honey was used.

### 3.2 Ethnomedicinal Properties

During the present study, ethnomedicine has been recorded to cure the following diseases in the plants of the Fabaceae family: abdominal pain, abdominal tumors, Alzheimer's, anthelmintic, antibacterial, anticonvulsant, antidepressant, anti-diabetic, anti-diarrheal, antifungal, anti-hypertensive activity, anti-inflammatory, antioxidant, anti-spasmodic, anti-stress, anxiolytic, aphrodisiac, arthritis, asanthelmintic, astringent, blood dysentery, boils, bronchitis, bronchodilator, burning syndrome, cancer, chest pain, chronic cystitis, cough and cold, diabetes, diarrhea, diuretic, dullness, dysentery, dysuria, emmenagogue properties, emmenagogue, expectorant, external hemorrhages, eye disorders, fatigue,

fever, glandular swellings, goiter demulcent, gonorrhoea, hepatoprotective, hernia, hypolipidemic, inability, indigestion, infections, inflammations, jaundice, joint pain, kidney disorders, kidney stones, laxative, leprosy, leucoderma, leucorrhoea, lung ailments, male infertility, menorrhagia, migraine, mucilaginous, muscle pain, muscle wasting, nervous disorders, obesity, parasitic infestation, piles, rabies, reproductive, rheumatism, scabies, scratches, sedative, sexually transmitted diseases, skin diseases, snake poison, sore throat, sores, spasmolytic, spleen enlargement, Stomach ache, syphilis, Tetanus, tranquilizing, tumors, Ulcers, urinary disorder, Vata and Pitta, vomiting, worm's infection, and wounds

#### IV. CONCLUSION

The present paper is the first attempt at a survey in the Narmadapuram district of Madhya Pradesh, India. Fabaceae family plants were the most used and root were the most commonly used plant parts in the area. *Crotalaria juncea*, *Clitoria ternatea*, *Dalbergia sissoo*, *Ougeinia oojeinensis*, *Sesbania bispinosa*, *Butea monosperma*, *Hardwickia binata*, *Vachellia leucophloea* and *Desmodium laxiflorum* are well known medicinal plant species, contributing important role in the local health care system of Narmadapuram district. Documentation of local medicinal knowledge is also essential due to the outmigration of the younger. The study of ethnomedicinal knowledge helps identify the important species of the region for pharmacological importance and ecological sustainability and it also aids conservation of traditional knowledge. Cataloging useful plant species supports the registration of indigenous knowledge, aiding the national impetus of obeying the implementation of the convention of biological diversity and Nagoya protocol. Traditional knowledge is based on experience passed on from generation to generation and is limited only to elderly people and traditional healers. We came to the following considerations to be taken while doing ethnomedicinal studies in the Narmadapuram: (a) local people are quite conservative in sharing traditional knowledge about the Medicinal plants; (b) the young generation is not interested and knowledgeable about the ethnomedicinal plants and their uses; and (c) outmigration is a menace to the conservation of traditional ethnomedicinal knowledge. The present study showed that medicinal plants are still very important for the livelihood of the local inhabitants of Narmadapuram. Some medicinal plants are on the brink of being threatened due to their ecology, biology, and human-induced exploitations. To sum up, documentation of useful plants and the knowledge of their utilization is immediate before being lost.

#### REFERENCES

- [1]. D cruz, Lancelot 2007. Ethnobotanical studies on Leguminous plants of Dediapada forests. *Ethnobotany* vol 19 pp.73-77.
- [2]. Jain S.K. and Mudgal, V. *A Handbook of Ethnobotany*. Bishen Singh Mahendra Pal Singh, Dehradun 1999.
- [3]. Jain SK, Rao R. Today and tomorrow. In: *A handbook of field and herbarium*. New Delhi: Printers and Publishers; 1977.
- [4]. Malik ZA, Bhat JA, Ballabha R, Bussmann RW, Bhatt BA. Ethnomedicinal plants are traditionally used in health care practices by inhabitants of western Himalaya. *J Ethnopharmacol*. 2015;172:133–44.
- [5]. Mukherjee P., *Trees of India*, World Wildlife Fund India/ Oxford University Press 2008, *Flowering Trees and Shrubs in India*, D.V. Cowen
- [6]. Negi C, Nautiyal S, Dasila L, Rao K, Maikhuri R. Ethnomedicinal plant uses in a small tribal Community in a Part of central Himalaya. *India J Hum Ecol*. 2002;14(1):23–31.
- [7]. Oommachan M. and Shrivastava J.L., *Flora of Jabalpur*. Scientific Publishers, Jodhpur. 1996 pp. 354.
- [8]. Parthiban R, Vijayakumar S, Prabhu S, Yabesh J. Quantitative traditional knowledge of medicinal plants used to treat livestock diseases from Kudavasal taluk of Thiruvavur district, Tamil Nadu India. *Braz J Pharmacognosy*. 2016;26:109–21.
- [9]. Rai R. Nath, V. Use of medicinal plants by traditional herbal healers in central India. *Indian Forester* 2005;131(3): 463-468.
- [10]. Sahu T.R. An ethnobotanical study of Madhya Pradesh I- Plants used against various disorders among tribal women. *Ancient sci. Life*, 1982; 1(3): 178-181.
- [11]. Saxena H.O. Observations on the Ethnobotany of M.P. *Bull. Bot. Surv. India*, 1986; 28 (1-4): 149-156.



- [12]. Shrestha PM, Dhillion SS. Medicinal plant diversity and use in the highlands of Dolakha district, Nepal. J Ethnopharmacol. 2003;86(1):81–96.
- [13]. Tangjanga S, Namsa N, Arana C, Litin A. An ethnobotanical survey of medicinal plants in the eastern Himalayan zone of Arunachal Pradesh, India. J Ethnopharmacol. 2011;134:18–25.
- [14]. Verma D.M., Balakrishnan, N.P. and Dixit, R.D., Flora of Madhya Pradesh. Volume 1. Botanical Survey of India, Calcutta. 1993.