



Ethnomedicinal plants and their traditional uses in nanded District, Maharashtra, India

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Abstract

An ethnomedicinal survey was conducted across the Nanded District of Maharashtra, India, spanning the years 2013 to 2016. The investigation successfully documented 58 distinct medicinal plant species, which belong to 56 genera and are distributed across 31 botanical families. Local communities traditionally utilize these documented plants to treat and manage a variety of health conditions, including pyrexia, gastrointestinal ailments, arthritis, dermatological infections, hemorrhoids, icterus, as well as respiratory and tract infections. This research highlights the significant wealth of indigenous ethnomedicinal knowledge preserved within the plant diversity of Nanded District.

Keywords: Ethnobotany, nanded District, medicinal plants, traditional knowledge, Maharashtra

Introduction

India stands out globally as one of the seventeen megadiverse nations, housing two prominent biodiversity hotspots: the Eastern Himalayas and the Western Ghats (Conservation International, 2007) ^[5]. The country boasts an impressive repository of medicinal flora, estimated to include roughly 7,500 species. As the cradle of Ayurveda—the historic Indian indigenous medical system—India relies heavily on plant extracts, which constitute nearly 85% of all Ayurvedic formulations. Given the escalating global demand for these natural remedies, evaluating and systematically documenting medicinal plant diversity remains a high scientific priority.

Since the foundational definitions provided by Hershberger, ethnobotanical methodologies have continually adapted, integrating modern analytic practices and evolving research paradigms (Ford, 1978; Jain, 1989 ^[6, 7]; Jones, 1941; Schultes & von Reis, 1995) ^[10]. Although ancient Indian literature is rich with empirical botanical observations, much of this heritage remained inaccessible to modern scientific inquiry during the 19th century because the foundational records were composed primarily in Sanskrit scripts and interpreted by a limited circle of scholarly practitioners (Sivarajan, 1991) ^[11]. Societal progress, economic paradigms, and cultural systems have historically been intertwined with biological wealth (Ravi & Pushpangadan, 1998). The development of Ayurveda reflects this dynamic, as its diagnostic and therapeutic concepts have deeply shaped the lifestyle, dietary habits, and healthcare routines of the Indian populace.

Within typical Indian households, domestic remedies derived from generations of ancestral experience are frequently deployed to manage minor health issues. In rural sectors, this therapeutic wisdom has been preserved via oral lineages, sustained by practical experience and family traditions (Bhattarai, 1998) ^[4]. However, in contemporary Nanded district, while some descendants are transitioning this oral knowledge into documented records, others are gradually abandoning these customary practices altogether. In response to these cultural shifts, the Government of Maharashtra has authorized and funded specific resource conservation initiatives focused on local traditional

knowledge. Within the official State Gazetteers, the structural distribution of local flora and medicinal resources has been recorded by several prominent taxonomists (Agharkar, 1953, 1957, 1961; Naik, 2006) ^[1, 2, 3, 9].

Geographically, Nanded forms an integral part of the Southern Deccan Plateau in India, encompassing an administrative area of 10,332 km² along the banks of the Godavari River. The district incorporates approximately 1,282.65 km² of forest cover scattered across 410 villages, predominantly concentrated in its central, northern, southern, and eastern sectors. A foundational baseline for the region was established via the Flora of Marathwada (Naik, 1998) ^[8], which provided rigorous taxonomic classification for numerous medicinal taxa native to Nanded. Indigenous healers reside primarily near these forested tracts. Many traditional practitioners travel from various parts of the district to harvest seasonal herbs from the forests during September, locally recognized as the Utara maas. Climatologically, the region experiences average winter lows of 9°C, summer highs reaching 45°C, and receives an annual mean rainfall of 901 mm.

Materials and Methods

Field investigations to document indigenous botanical knowledge were systematically carried out between 2013 and 2016, prioritizing plant species actively utilized by the local residents and herbal experts of Nanded district. Primary data regarding these medicinal resources were obtained from local practitioners, tribal groups, farmers, herbal market vendors, housewives, and village elders across genders. Information was gathered through semi-structured interviews and direct field observations inside natural habitats and forests, utilizing local Marathi and Hindi languages. To ensure empirical reliability, only those plant species that were independently cited for identical medical issues by multiple informants were selected for final analysis. Voucher specimens were gathered during the surveys, cross-verified taxonomically using regional floristic keys, and subsequently deposited in the official Herbarium of Dr. Babasaheb Ambedkar Marathwada University (BAMU) in Chhatrapati Sambhajanagar, Maharashtra.

Results and Discussion

The field survey documented a total of 58 medicinal plant species distributed across 56 genera and 31 families. The

updated botanical nomenclature, vernacular names, familial classifications, and precise therapeutic applications recorded during the study are structured systematically in Table 1.

Table 1: Enumeration of Ethnomedicinal Plants of Nanded District

Sr. No.	Botanical Name	Local Name	Family	Ethnomedicinal Uses
1	<i>Abrus precatorius</i> L.	Gunj	Fabaceae	One tablespoon of leaf juice is administered orally for the treatment of cough.
2	<i>Abutilon indicum</i> (L.) Sweet	Ati bala, Mudrica	Malvaceae	Tender leaves are useful in piles (hemorrhoids).
3	<i>Acalypha indica</i> L.	Khokali	Euphorbiaceae	Leaf juice is given orally at a dose of one spoonful for the treatment of stomachache and cough.
4	<i>Acanthospermum hispidum</i> DC.	Ghadav kata	Asteraceae	Roasted fruits are powdered and mixed with aliv (halim) to prepare a soup, which is consumed during winter to cure rheumatic pain.
5	<i>Aegle marmelos</i> (L.) Correa.	Bel	Rutaceae	Fruit pulp is traditionally used in the treatment of diphtheria. A mixture of Aegle leaves and Capsicum seeds is taken with approximately 500 ml of water for the treatment of urinary obstruction.
6	<i>Ailanthus excelsa</i> Roxb.	Maharuk	Simaroubiaceae	Leaf paste is applied to treat swelling.
7	<i>Aloe vera</i> L.	Koprpha	Liliaceae	A mixture of leaf pulp and curd is traditionally used in the treatment of piles (haemorrhoids).
8	<i>Andrographis paniculata</i> (Burm. f.) Nees	Kalmegh	Acanthaceae	Leaf juice is given for the treatment of stomachache Fever and enteritis.
9	<i>Argemone mexicana</i> L.	Pivla dhotra, Vilayati	Papaveraceae	Leaf juice is used as eye drops for the treatment of Cataract.
10	<i>Azadirachta indica</i> A. Juss.	Kadunimb	Meliaceae	Bark infusion is traditionally used for the treatment of fever and as an antimicrobial remedy. A decoction of the inner bark is also used to treat fever.
11	<i>Bauhinia variegata</i> L.	Aapta, Sona	Cesalpiniaceae	The roots are useful in the treatment of scorpion bite.
12	<i>Buchanania cochinchinensis</i> (Lour.) Almeida	Charoli	Anacardiaceae	Bark juice is given in diphtheria by local healer.
13	<i>Butea monosperma</i> (Lam.) Taub.	Palas	Fabaceae	Petals mixed with honey are used in sunstroke. A decoction prepared from the petals and roots of <i>Phyllanthus amarus</i> Schumach. & Thonn. is taken for 5–10 days in the morning before breakfast for the treatments of kidney stones.
14	<i>Caesalpinia bonduc</i> (L.) Roxb.	Sagar-gota	Caesalpiniaceae	Leaf juice is useful for the treatment of severe headache.
15	<i>Cassia fistula</i> L.	Bahava	Caesalpiniaceae	Roots used for the treatment of hepatitis. The fruit used for the treatment of stomach problems.
16	<i>Catunaregam spinosa</i> (Thunb.) Tirveng.	Phetar	Rubiaceae	Root is used as an antidote for scorpion stings.
17	<i>Cayratia trifolia</i> (L.) Domin.	Paratwel	Vitaceae	Leaves and roots are useful for the complaints of vaginal white discharge. Roots are also used for lactation-related complaints.
18	<i>Cissampelos pareira</i> L.	Pahadvel, Madhyam Kutki	Menispermaceae	Root used for stomach infection.
19	<i>Cissus quadrangularis</i> L.	Kandvel	Vitaceae	Stem, turmeric powder, and salt are mixed and heated and the resulting mixture is applied over paronychia and bandaged; the treatment is repeated for three days. A two-inch piece of stem is heated and bound over the affected finger to relieve joint pain.
20	<i>Citrullus colocynthis</i> (L.) Schrad.	Kadu Indrayan	Cucurbitaceae	Scarified seeds are used to control high blood pressure. An infusion of the root is taken with half a cup of curd and half a cup of water for five days for the treatments of menstrual irregularities. Roots are also used as an antidote for snakebite.
21	<i>Clerodendrum multiflorum</i> (Burm. f.) O. Ktze	Takli	Verbenaceae	Leaf juice is taken orally to treat jaundice
22	<i>Daucus carota</i> L.	Gajar	Apiaceae	A decoction prepared from dried carrots is used in the treatment of tonsillitis.
23	<i>Desmodium gangeticum</i> (L.) DC.	Chikta	Fabaceae	The root decoction is used in the treatment of typhoid fever.
24	<i>Dioscorea bulbifera</i> L.	Jatashankar	Dioscoriaceae	Root tubers are used in the treatment of stomach-ache.
25	<i>Dolichandrone falcata</i>	Medshingi	Bignoniaceae	Bark is used in the treatment of rheumatism.
26	<i>Drimia indica</i> (Roxb.) Jessop.	Jangli Kanda	Liliaceae	The bulb is used in the treatment of fever.
27	<i>Echinops echinata</i>	Suryakata	Asteraceae	Root extract is used for the treatment of fever.
28	<i>Enicostema axillare</i> (Lam.) A. Raynal	Nai	Gentianaceae	Leaf juice is used in the treatment of stomach-ache and prolonged fever.
29	<i>Eucalyptus globulus</i>	Nilgiri	Myrtaceae	A bath prepared with leaf extract is traditionally used to relieve sneezing.

	Labill.			The oil is used in the treatment of rheumatism.
30	<i>Ficus benghalensis</i>	Vad	Moraceae	A cotton swab soaked in latex is traditionally placed at the base of the affected tooth to relieve toothache.
31	<i>Ficus religiosa</i>	Pimpal	Moraceae	Dried Hypanthodium is crushed, rolled in a leaf, and smoked; the smoke is inhaled for the treatment of Ghatsarp.
32	<i>Ficus racemosa</i>	Umbar	Moraceae	Crushed unripe fruits mixed with sandstone are used in the treatment of piles (hemorrhoids).
33	<i>Gymnema sylvestre</i> (Retz.) R. Br.	Aphumari, Gudmari	Asclepiadaceae	The plant is useful in digestive issues.
34	<i>Holarrhena pubescens</i> Wall. ex G. Don.	Kalakuda	Apocynaceae	A pinch of the root or bark powder is taken with a cup of water before dinner for pregnancy-related complaints.
35	<i>Hygrophila auriculata</i> (Schumach.) Heine	Talimkhana	Akanthaceae	<i>Hygrophila auriculata</i> (Schumach.) Heine seeds and <i>Vigna mungo</i> (L.) Hepper seeds are soaked in milk for 5–6 hours and consumed to improve immunity and physical strength.
36	<i>Lannea coromandelica</i> (Houtt.) Merr.	Moi	Anacardiaceae	Leaf juice is applied over swelling associated with snakebite.
37	<i>Lepidagathis cristata</i> Willd	Bhui gend, Phans, Tharsod	Acanthaceae	Leaf juice is used in the treatment of scabies.
38	<i>Leonotis nepetifolia</i> R. Br.	Deepmaal	Lamiaceae	Seeds are mixed with cumin seeds and sugar crystals in equal proportions, crushed into a powder, and taken for heat-related discomfort. The powder is taken in the morning for three days.
39	<i>Limonia acidissima</i> L.	Kaut	Rutaceae	Leaf juice is administered for the treatment of fever.
40	<i>Mangifera indica</i> L.	Amba	Anacardiaceae	Bark juice of <i>Mangifera indica</i> L., <i>Ficus benghalensis</i> L., and <i>Sesbania bispinosa</i> (Jacq.) Steud. & Wight is used to alleviate weakness.
41	<i>Maytenus emarginata</i> (Willd.) Ding.	Hekal	Celastraceae	Tender leaves and the apical stem are chewed to treat neck swelling.
42	<i>Morinda citrifolia</i> L.	Bartondi	Rubiaceae	Leaf juice is used as ear drops for the relief of earache.
43	<i>Ocimum gratissimum</i> L.	Raan tulas	Lamiaceae	Leaf juice is traditionally used for the treatment of Anjut.
44	<i>Phyllanthus amarus</i> Schumach. & Thonn.	Bhui awla	Euphorbiaceae	A decoction of the whole plant is traditionally used in the treatment of kidney stones.
45	<i>Pergularia daemia</i> (Forssk.) Chiov.	Utra vel	Asclepiadaceae	Leaves are used for the treatment of cough. A bark decoction is administered for the treatment of rheumatism.
46	<i>Sapindus emarginatus</i> Vahl.	Ritha	Sapindaceae	Bark mixed with Sugar cubes is used for the treatment of jaundice (Pandhra kavil).
47	<i>Sesbania bispinosa</i> (Jacq.) Steud & Wight.	Raan Shevri	Fabaceae	A decoction of the bark is used in the treatment of piles (hemorrhoids).
48	<i>Solanum surattense</i> Burm. f.	Ringani	Solanaceae	Crushed fruit is applied topically to relieve itching of the skin.
49	<i>Tephrosia purpurea</i> Pers.	Unhali	Fabaceae	Crushed root is applied for the treatment of nail wounds (paronychia).
50	<i>Thespesia populnea</i> (L.) Sol. ex Corrêa	Paras pimpal	Fabaceae	Seeds are used for pregnancy-related complaints.
51	<i>Trianthema portulacastrum</i> L.	Wasu	Aizoaceae	A small piece of root is administered with Piper betle for three days for the treatment of hepatitis (Kavil). The leaves are also prepared as a vegetable and consumed fresh for three days for the treatment of hepatitis.
52	<i>Trichosanthes cucumerina</i> L.	Chandol	Cucurbitaceae	Fresh leaves are crushed with turmeric powder and salt, and the paste is applied to swellings for three days. A mixture of leaves and curd is applied over paronychia. The same mixture is also administered orally for the treatment of piles (hemorrhoids).
53	<i>Tylophora fasciculata</i> Buch.-Ham.	Jangli mirchi	Asclepiadaceae	An infusion of the roots is traditionally administered for 3–4 days in the morning for the treatment of fever, body swelling, and facial yellowing.
54	<i>Ventilago denticulata</i> Willd.	Sakhal dand	Rhamnaceae	Leaf juice is used in the treatment of dysentery.
55	<i>Vigna aconitifolia</i> (Jacq.) Maréchal	Matki	Fabaceae	Flour prepared from the seeds of <i>Vigna aconitifolia</i> , <i>Trigonella foenum-graecum</i> L., and <i>Brassica campestris</i> is traditionally taken in the morning for 21 days for the relief of joint, wrist, and knee pain.
56	<i>Withania somnifera</i> (L.) Dunal.	Ashwagandha	Solanaceae	Leaf or root juice is traditionally administered for the treatment of dysentery (one spoonful in the morning) and rheumatism.
57	<i>Xanthium indicum</i> L.	Kutra, Landga	Asteraceae	Leaf juice is used as a purgative. One cup of leaf decoction is taken for three days in the treatment of piles (hemorrhoids).
58	<i>Ziziphus mauritiana</i> Lamk.	Bor	Rhamnaceae	A poultice prepared from leaves and turmeric powder is applied to swellings.

Conclusion

The present ethnomedicinal survey documented 58 medicinal plant species belonging to 56 genera and 31 botanical families in Nanded District, Maharashtra. The recorded traditional uses demonstrate the substantial ethnomedicinal knowledge associated with the plant

diversity of the district and highlight the importance of documenting and conserving this traditional knowledge.

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