

A PILOT ETHNOMEDICINAL STUDY OF MEDICINAL PLANTS UTILIZED IN RATANGAD AND ADJOINING REGIONS OF KALSUBAI HARISHCHANDRAGAD WILDLIFE SANCTUARY, MAHARASHTRA

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ABSTRACT

Indigenous medicinal knowledge has remained an integral component of healthcare practices among tribal and rural populations residing in forest habitats.[1] The Kalsubai Harishchandragad Wildlife Sanctuary is enriched with diverse medicinal flora and traditional ethnomedicinal practices preserved by tribal healers and local Gunijans.[2] The present pilot study was conducted to document medicinal plants and their traditional therapeutic applications in Ratangad and nearby forest regions of Kalsubai Harishchandragad Wildlife Sanctuary, Maharashtra. A pilot ethnomedicinal field survey was carried out from August 2025 to April 2026 in Ratangad and adjoining areas covering nearly 25 km forest region. Data were collected through repeated field visits and interviews with 10 local Gunijans and traditional healers. Information regarding vernacular names of plants, plant parts utilized,

therapeutic indications and methods of administration were systematically recorded. Photographic documentation and field observations were also maintained during the survey period. Various medicinal plant species belonging to different botanical families were identified and documented during the study. These plants were traditionally employed in the management of fever, respiratory disorders, skin ailments, digestive disturbances, wounds and musculoskeletal conditions. Decoction, paste, powder and fresh juice were among the commonly practiced dosage forms. The present pilot survey revealed rich ethnomedicinal knowledge among tribal inhabitants of Ratangad and surrounding forest areas. Proper documentation of medicinal flora and traditional therapeutic practices may contribute towards conservation of indigenous knowledge and encourage future scientific exploration.

KEYWORDS: Ethnomedicine, Folk medicine, Medicinal plants, Ethnobotany, Tribal healthcare, Ratangad.

INTRODUCTION

India possesses a long-standing heritage of traditional medicinal systems and folklore healthcare practices maintained by tribal communities and indigenous healers.[1] Forest areas of Maharashtra are recognized for their extensive biodiversity and medicinal plant resources.[4] Tribal populations inhabiting these regions continue to depend upon plant-based remedies for the treatment of common ailments and maintenance of health.[2]

Kalsubai Harishchandragad Wildlife Sanctuary is considered one of the ecologically important biodiversity zones of Maharashtra.[4] Ratangad and its adjoining forest regions harbor numerous medicinal plant species traditionally utilized by local Gunijans and tribal communities. [3,5] Ethnomedicinal knowledge regarding preparation and administration of herbal formulations is usually transmitted orally across generations.[2]

Rapid urbanization, modernization and changing social practices have gradually threatened the preservation of valuable traditional medicinal knowledge. Hence, scientific documentation and conservation of ethnomedicinal practices have become essential.[1] Therefore, the present pilot survey was undertaken to record medicinal plants and their traditional therapeutic uses in Ratangad and neighboring forest regions of Kalsubai Harishchandragad Wildlife Sanctuary.

AIMS AND OBJECTIVES

1. To perform a pilot ethnomedicinal survey in Ratangad and nearby forest areas.

2. To document medicinal plant species traditionally used by tribal communities and Gunijans.
3. To record folklore therapeutic indications and methods of herbal preparation.
4. To preserve indigenous medicinal knowledge through scientific documentation.

MATERIALS AND METHODS

Study Design: Pilot ethnomedicinal observational survey.

Study Area: Ratangad and adjoining regions of Kalsubai Harishchandragad Wildlife Sanctuary, Maharashtra, covering approximately 25 km forest area.

Study Duration: August 2025 to April 2026.

Study Participants: Ten local Gunijans, tribal inhabitants and traditional healers from the study area.

Methodology

Field investigations were conducted through personal visits to tribal settlements and forest regions. Ethnomedicinal information was gathered through direct interaction and interviews with local Gunijans and traditional healers. Details regarding medicinal plants, vernacular names, plant parts utilized, methods of preparation, therapeutic indications and routes of administration were systematically documented in survey forms.[1]

Plant Identification and Documentation:

Medicinal plant species were photographed during field exploration and identified with the help of regional floras, botanical literature and medicinal plant references.[4] Field observations and traditional folklore information were carefully recorded during the survey.

OBSERVATION TABLE

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1.	<i>Aamalaki</i>	<i>Phyllanthaceae emblica</i>	Aavla	Tree	Phyllanthaceae	fruit
2.	<i>Aagastya</i>	<i>Sesbania grandifolia</i>	Hadga	Tree	Fabaceae	leaves,flower, bark,root,pods
3.	<i>Aam</i>	<i>Mangifera indica</i>	Aamba	Tree	Anacardiaceae	Fruit,Leaves, Bark,Seed,flowers
4.	<i>Aamarvel</i>	<i>Cuscuta reflexa</i>	Nirmuli	Climber	Convolvulaceae	Whole plant
5.	<i>Aaragvadh</i>	<i>Cassia fistula</i>	Bahava	Tree	Fabaceae	fruit

6.	Arka	<i>Calotropis gigantea</i>	Rui	Shrub	Apocynaceae	Root, leaves, latex, bark
7.	Aavartaki	<i>Cassia auriculata</i> Linn	Tarvad	Shrub	Fabaceae	Flower, whole plant
8.	Aavartani	<i>Helicteres isora</i> Linn	Murud phali	Shrub	Malvaceae	Fruit, Root, Bark
9.	Adhapushpi	<i>Trichodesma indicum</i>	Gokhru bhaji	Herb	Boraginace	Whole plant
10.	Agnimanth	<i>Clerodendrum phlomidis</i>	Agnimanth	Tree	Verbenaceae	root
11.	Anjeer	<i>Ficus carica</i>	Anjeer	Tree	Moraceae	Fruit
12.	Apamarga	<i>Achyranthes aspera</i> linn.	Aaghada	Shrub	Amaranthaceae	leaves
13.	Aparajita	<i>Clitoria ternatea</i>	Gokarna	Climber	Fabaceae	Root, Bark, flowers, leaves
14.	Arishthaka	<i>Sapindus mukorossi</i>	Ritha	Tree	Sapindaceae	Fruit, Pericarp, Seed
15.	Arjuna	<i>Terminalia arjuna</i>	sadadha	Tree	Combretaceae	twak
16.	Ashvaghandha	<i>Withania somnifera</i>	Askanda	Shrub	Solanaceae	Root, fruit
17.	Asthishrunkhala	<i>Cissus quadrangularis</i>	Hadjod	Climber	Vitaceae	stem
18.	Atibala	<i>Abutilon indicum</i> (Linn)	Petari	Herb	Malvaceae	root
19.	Babbul	<i>Vachellia nilotica</i>	Babhul	Tree	Arecaceae	Leaves, Gum, Pods, Seed
20.	Badar	<i>Ziziphus mauritiana</i>	Bor	Tree	Rhamnaceae	Fruit, leaves, bark, seed
21.	Bharangi	<i>Clerodendrum serratum</i>	Ghetuli	Tree	Verbenaceae	mool
22.	Bhrungaraj	<i>Eclipta alba</i>	Makka	Herb	Compositae	whole plant
23.	Bhumyalaki	<i>Phyllanthus niruri</i>	bhui Aavala	Herb	Phyllanthaceae	mool
24.	Bibhitaki	<i>Terminalia belerica</i>	Behada	Tree	Combretaceae	fruit
25.	Bilva	<i>Aegle marmelos</i>	Bel phala	Tree	Rutaceae	Root, bark, leaves, fruit
26.	Brahmi	<i>Bacopa monnieri</i>	Bramhi	Herb	Plantaginaceae	Whole plant
27.	Bruhati	<i>Solanum indicum</i> Linn	Dorli	Shrub	Solanaceae	Fruit, Mool
28.	Chakramard	<i>Cassia tora</i> Linn.	Takala	Shrub	Caesalpinieae	leaves root whole plant
29.	Changeri	<i>Oxalis corniculata</i>	Ambuti	Herb	Oxalidaceae	Whole plant

		linn				
30.	Chitrak	<i>Plumbago zeylanica</i>	Chitrak	Shrub	Plumbagine	fruit
31.	Dadim	<i>Punica granatum L.</i>	Dadim	Tree	punicaceae	fruit,seed,bar k,flower,leave s
32.	Danti	<i>Baliospermum montanum</i>	Danti	Shrub	Euphorbiae	Root,Fruit.
33.	Dhanyaka	<i>Coriandrum sativum linn.</i>	Kothambi r	Herb	Umbellifere	Root,Bark,Flo wers, leaves,seed
34.	Dhatki	<i>Woodfordia fruticosa(L)</i>	Dhayati	Shrub	Lythraceae	flower
35.	Dhattura	<i>Datura metel</i>	Dhatura	Shrub	Solanaceae	Seed, Leaf.
36.	Draksha	<i>Vitis vinifera</i>	Draksha	Climber	Vitaceae	fruit
37.	Durva	<i>Cynodon dactylon</i>	Durva	Gras	Poaceae	Root
38.	Ekshu	<i>Saccharum officinarum</i>	Ganna	Gras	poaceae	Stem
39.	Emli	<i>Tamarindus indica</i>	Chincha	Tree	Fabaceae	Fruit,Bark,Le aves,Flowers.
40.	Erand	<i>Ricinus communis L</i>	Erand	Shrb	Euphorbiae	seed,root,leav es
41.	Genda	<i>Tagetes erecta</i>	Zandu	Herb	Asteraceae	Flower, Leaves.
42.	Gokhshur	<i>Tribulus terrestris L</i>	Gokhru	Herb	Zygophylle	fruit,root,wh ole plant
43.	Guduchi	<i>Tinospora cordifolia</i>	Gulvel	Climber	Menisperae	whole plant,stem,lea ves,root
44.	Gunja	<i>Abrus precatorius</i>	Gunja	Clibr	Fabaceae	Leaves
45.	Hansapadi	<i>Adiantum lunulatum</i>	Hansapa di	shrb	Pteridaceae	Leaves
46.	Haridra	<i>Curcuma longa L</i>	Halad	Herb	Zingiberace	rhizome
47.	Haritaki	<i>Terminalia chebula</i>	Hirda	Tree	Combretace	fruit
48.	Jangaljalebi	<i>Pithecellobium dulce</i>	Vilayti chincha	Tree	Fabaceae	Fruit
49.	Japa	<i>Hibiscus rosa-sinensis L</i>	Jaswand	Shrb	Malvaceae	flower,leaves, root, whole plant
50.	Jatamansi	<i>Nordostachys jatamansi</i>	Jatamansi	Herb	Caprifoliaceae	Leaves

RESULTS

The pilot ethnomedicinal survey documented numerous medicinal plants traditionally employed by tribal communities and local healers for primary healthcare management. The documented plants were commonly utilized for management of fever, respiratory illnesses, dermatological conditions, digestive disorders, wounds and musculoskeletal complaints. Traditional herbal preparations such as decoction, paste, powder and fresh juice were frequently used among tribal populations. It was also observed that ethnomedicinal knowledge was predominantly preserved among elderly Gunijans and traditional practitioners. Plant-derived remedies remained popular because of their accessibility, affordability and cultural acceptance among forest-dwelling communities.

DISCUSSION

The present study demonstrates the rich ethnomedicinal heritage preserved among tribal communities residing in Ratangad and neighboring forest areas of Kalsubai Harishchandragad Wildlife Sanctuary.[1] Medicinal plant species documented during the survey are traditionally employed in the management of several commonly occurring disorders among rural populations [3,5]

Plants such as Gulvel, Tulsi, Adulsa and Nirgundi are extensively mentioned in Ayurvedic and folklore medicinal literature for their therapeutic utility [3,5,6] Traditional dosage forms including decoction, paste and powder continue to serve as important healthcare modalities among indigenous communities.[1]

The findings of the study emphasize the necessity of preserving traditional medicinal wisdom before it gradually diminishes due to modernization and changing socio-cultural practices. Furthermore, these medicinal plants may provide promising opportunities for future pharmacological, phytochemical and clinical research investigations.

CONCLUSION

The present pilot ethnomedicinal survey revealed significant traditional medicinal knowledge among tribal communities inhabiting Ratangad and adjoining forest areas of Kalsubai Harishchandragad Wildlife Sanctuary. Several medicinal plants along with their folklore therapeutic applications were successfully documented during the study period.

Systematic scientific documentation of ethnomedicinal practices may assist in preservation of indigenous healthcare traditions and provide baseline data for future scientific research.

Further detailed studies involving larger populations and pharmacological validation are recommended.

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CONFLICT OF INTEREST

None declared.

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