Original Research Article

Traditional Knowledge and Ethnobotany of Wild Plants from the Central Western Ghats, Karnataka, India

Abstract:

The present study documents wild edible plants' diversity and ethnobotanical significance in the Sirsi region of Uttara Kannada, Karnataka. 73 wild edible species belonging to 41 families were recorded, with Lamiaceae and Myrtaceae being the most represented families. Among the surveyed species, *Centella asiatica* was the most frequently reported, followed by *Murraya koenigii* and *Alternanthera sessilis*. The study highlights that leaves (36%) and fruits (34%) are the most commonly consumed plant parts, while seeds (10%) and tubers (9%) are used to a lesser extent. The majority of these wild edibles are native species (81%), while a small percentage are naturalized (9%) or introduced (10%).

The study also reveals that a significant proportion of the respondents belong to the 31 to 40 and 41 to 50-years age groups, indicating that traditional ethnobotanical knowledge is primarily retained by the ageing rural population. Wild edible plants play a crucial role in local dietary habits, often consumed as *tambuli*, soup, or as ingredients in *sambar*. However, despite their nutritional and medicinal potential, these plants are not commercially exploited. Several species, such as *Basella alba*, *Moringa oleifera*, and *Mimosa pudica*, are reported to have medicinal uses, particularly in treating ailments such as vomiting, menstrual pain, and wound healing.

The study emphasizes the importance of preserving and documenting indigenous knowledge related to wild edible plants. Given their nutritional, medicinal, and ecological significance, efforts should be made to promote their conservation and potential domestication. This research contributes valuable insights into the traditional uses of wild edibles and calls for further studies on their nutritional composition, propagation techniques, and sustainable utilization strategies.

Keywords: Wild Edibles, Ethnobotanical Uses, Central Western Ghats, Uttara Kannada.

Introduction

The Western Ghats of India is one of the tropical regions that comprises rich vegetation and biodiversity. It contains a large number of wild edibles, many of which are endemic to this region. These wild edible plants are important non-timber forest products for many rural populations in India and are extensively used for both culinary and medicinal purposes.

Rural communities, especially tribal populations, depend on forests for their livelihood. They have a deep connection with nature and possess hereditary traditional knowledge regarding the consumption of wild plants and their parts, such as tubers, shoots, leaves, and fruits, as a source of food. Despite their crucial role in food security, wild edible plants remain largely ignored. Various tribal sects in India serve as repositories of rich knowledge on the diverse uses of plant genetic resources. Wild edible plants, particularly fruits, play a significant role in meeting the nutritional requirements of these communities, especially during crop failure and famine conditions.

Wild edible fruits hold great ethnobotanical importance and are rich in essential nutrients, including minerals, vitamins, carbohydrates, proteins, fats, fiber, nitrogen, phosphorus, potassium, calcium, magnesium, sodium, iron, zinc, copper, and manganese (Deepadarshan et al., 2022). In the past, these fruits were traditionally used to treat various disorders such as intestinal ailments, diabetes, anaemia, bronchitis, asthma, cough, toxaemia, diarrhoea, cold, acidity, jaundice, cancer, colitis, hiccough, poisoning, and dysentery (Deshmukh & Waghmode, 2011).

In India, over 53 million tribal people and about 60% of rural communities directly rely on forest resources for their daily needs (Kandari et al., 2012). Wild edible plants include various categories such as fruits, tubers, vegetables, leaves, and roots, among which wild edible fruits play a particularly vital role in supplementing local diets. Many rural and tribal communities rely on these fruits, especially during periods of food scarcity.

Given the ethnobotanical importance of wild edible fruit species, it is crucial to understand their occurrence, distribution, and phenology for their proper utilization. The documentation of wild edible fruits plays a key role in preserving natural food resources that have been traditionally used. Moreover, introducing these plants into cultivation could help address food security concerns by providing an alternative food source for the growing population. This requires the identification and protection of local indigenous knowledge systems that guide the collection and use of wild edible plants.

Documenting the wild edible plants used by indigenous groups provides valuable information for conservation planning and further research, particularly in areas such as propagation, domestication, and nutritional evaluation. Understanding the nutritional composition of these plants can contribute to their better utilization and integration into modern diets.

With this background this study was conducted to document the different wild edibles in the Sirsi region of Uttara Kannada and their ethnobotanical uses.

Material and Methods

Study Area

The experiment was conducted in Sirsi taluk, located in the Uttara Kannada district of Karnataka. A total of 11 forest fringe villages—Podambail, Kokanamane, Dodnalli, Gadihalli, Neernalli, Kengremata, Kadakoda, Dasanagadde, Taragodu, Bairumbe, and Hulagola—were visited, and interviews were conducted with local respondents.

Sirsi Taluk is located between 14°70′ N latitude and 74°80′ E longitude. The region receives an average annual rainfall ranging from 2,000 mm to 6,000 mm, with approximately 95% of the precipitation occurring between June and September, coinciding with the peak of the southwest monsoon. Temperatures range from 22°C to 36°C, while relative humidity remains below 35% during both the dry and monsoon months, as reported in the Karnataka State Natural Disaster Management Centre's (2023) report. The Uttara Kannada district is predominantly forested, covering approximately 74.19% of the area. The major forest types in Sirsi taluk include evergreen forests, semi-evergreen forests, and moist and dry deciduous forests.

Documentation of Ethnobotanical Information

Ethnobotanical data was gathered through a semi-structured, open-ended questionnaire survey involving over 100 respondents, of which 90 provided detailed information. The respondents, primarily engaged in agriculture and horticulture for their livelihood, also rely on wild edible plants to meet their extensive ethnobotanical needs, particularly for culinary and medicinal purposes. Prior to the study, informed consent was obtained from all participants after explaining the purpose of the research. Participation was entirely voluntary, and respondents were assured of confidentiality and anonymity. The study adhered to ethical guidelines for ethnobotanical research. The data were further visualized using Microsoft Excel software.

Results and Discussion

In the study area, a total of 73 species belonging to 41 families were documented. The families Lamiaceae and Myrtaceae were the most represented, each with four species (Figure 1). Among the species surveyed, *Centella asiatica* was the most frequently recorded, accounting for 5.36% of responses, followed by *Murraya koenigii* (5%) and *Alternanthera sessilis* (4.64%) (Figure 2). Similarly, Prashanth kumar & Shiddamallayya (2016) reported the use of *Centella asiatica* and *Phyllanthus emblica* leaves for both edible and medicinal purposes in the Hassan district of Karnataka, which shares comparable floral biodiversity with Sirsi.

Previous studies have highlighted the consumption of various wild edible fruits in Karnataka. Pai et al., (2019) documented the use of *Mangifera indica* and *Syzygium cumini* fruits for culinary purposes in Ponnampet, Kodagu. Jadhav et al., (2011) reported the utilization of *Cassia fistula* for both edible and medicinal purposes. Our findings align with these observations, indicating similar uses in the Sirsi region.

The present study also recorded the use of *Colocasia esculenta* tubers, consistent with observations by Veena et al., (2022), who noted that *Colocasia esculenta* (Taro) tubers are consumed in the Western Ghats of Karnataka. Hebbar et al., (2010) reported that *Grewia nervosa* (Petlekaayi) and *Schleichera oleosa* (Sagade Mara) fruits were used for edible purposes in Uttara Kannada. Similarly, Nivedita & Pramod (2016) documented the consumption of *Autocarpus gomezians* (Kharika Deva) and *Garcinia cambogia* (Gamboge) fruits in Sirsi taluk, Uttara Kannada, which aligns with our findings. It is found that *Garcinia gummi-gutta* rind and syrup are used in non-vegetarian dishes instead of tamarind. A study by Karthik et al. (2024) reported a similar use in the Uttara Kannada district.

The survey revealed that leaves (36%) and fruits (34%) are the most commonly utilized plant parts among the recorded wild edibles, followed by seeds (10%) and tubers (9%). Other parts such as bark, flowers, roots, and stems are used less frequently (Figure 6). This pattern is comparable to findings by Sujatha et al., (2021) in the Bidar district of Karnataka, where leafy parts were predominantly used for edible and medicinal purposes from the local wild flora.

Approximately 81% of the wild edibles recorded are native species, while 9% are naturalized, and 10% are introduced (Figure 3). The majority of observed wild edibles in the study area are herbs (33 species), followed by trees (28), climbers (7), and shrubs (5) (Figure 4). Notably, two vulnerable and two near-threatened species, as per the IUCN Red List, were also observed (Figure 5).

The radar graph (Figure 7) illustrates that the highest number of respondents falls within the age group of 31-40 years, followed by the 41-50 years age group, indicating an ageing rural population possessing valuable ethnobotanical knowledge.

It was found that the majority of wild edibles are consumed either in the form of *tambuli* (a type of soup), soup, or as an ingredient in *sambar* (stew). None of the respondents reported using these wild edibles for commercial purposes as a source of income.

Our survey revealed the use of *Basella alba* (*Basale soppu*) leaves for medicinal purposes. Jadhav et al., (2011) reported similar uses of *Basella alba* for treating vomiting in the Kolhapur district of Maharashtra.

Additionally, *Moringa oleifera* was found to be used for edible purposes, and *Mimosa pudica* for medicinal purposes, especially by women to alleviate menstrual pain in our study area. Similar observations were made by Bhat et al., (2019) in the Siddapur region of Uttara Kannada district.

Our study also found that *Curcuma longa* is used for the treatment of wounds. Bhandary et al., (2014) reported similar uses of *Curcuma longa* in the coastal region of Karnataka.

These findings underscore the rich ethnobotanical knowledge present in the Sirsi region and highlight the importance of documenting and preserving this traditional wisdom for future generations.

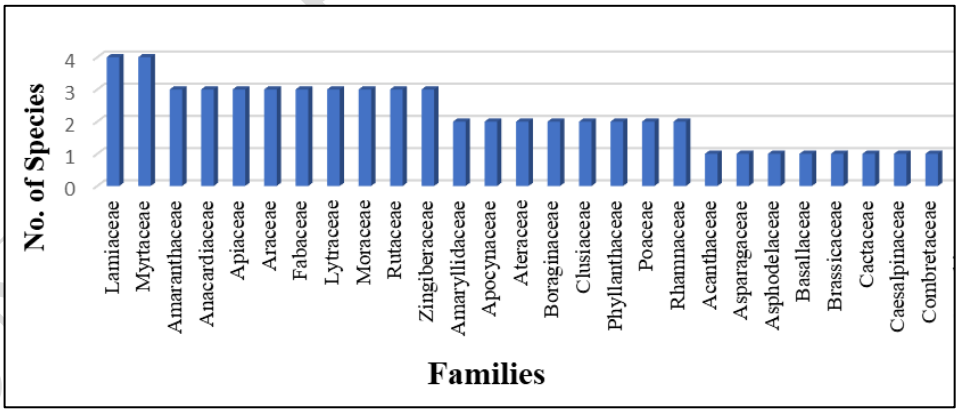

Figure 1. Percent dominance of families observed during study

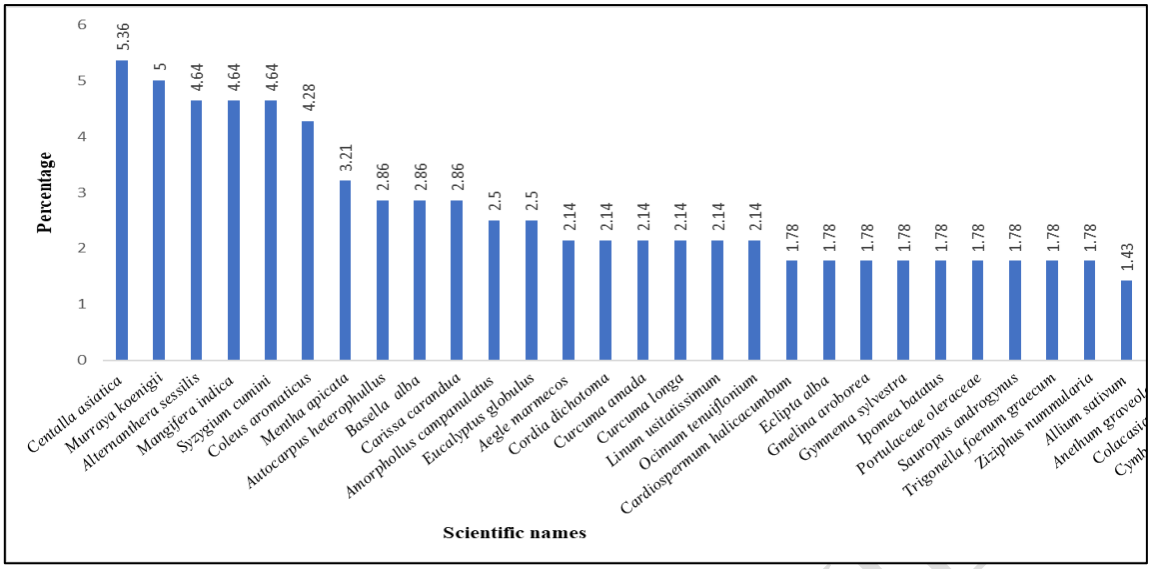

Figure 2. Frequency of Individual species encountered during survey

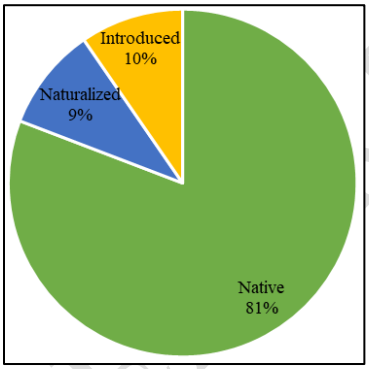

Figure 3. Origin of species observed

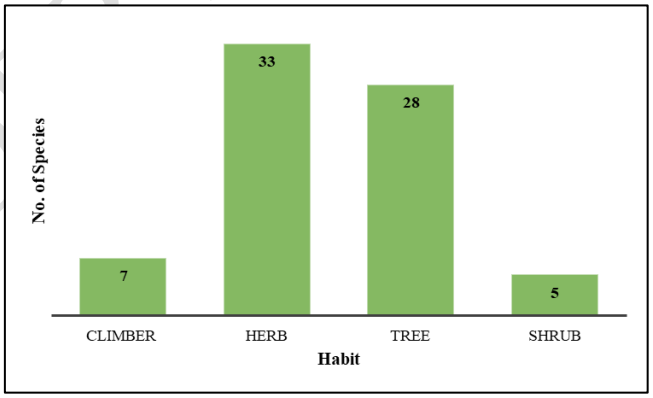

Figure 4. Habit of species observed

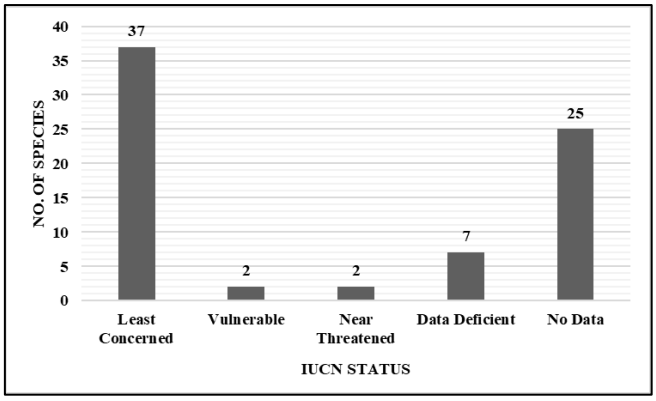

Figure 5. IUCN Status

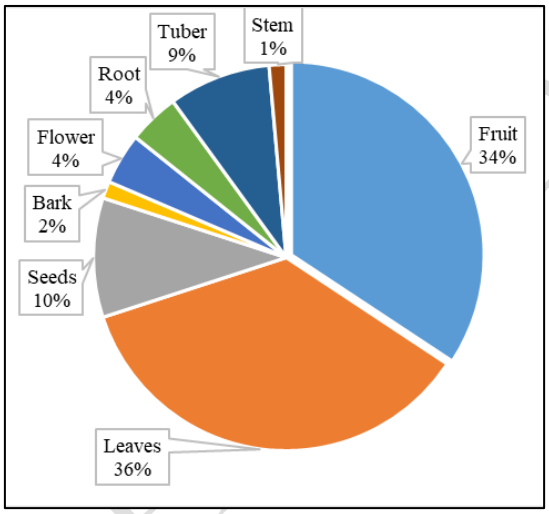

Figure 6. Different plant part used

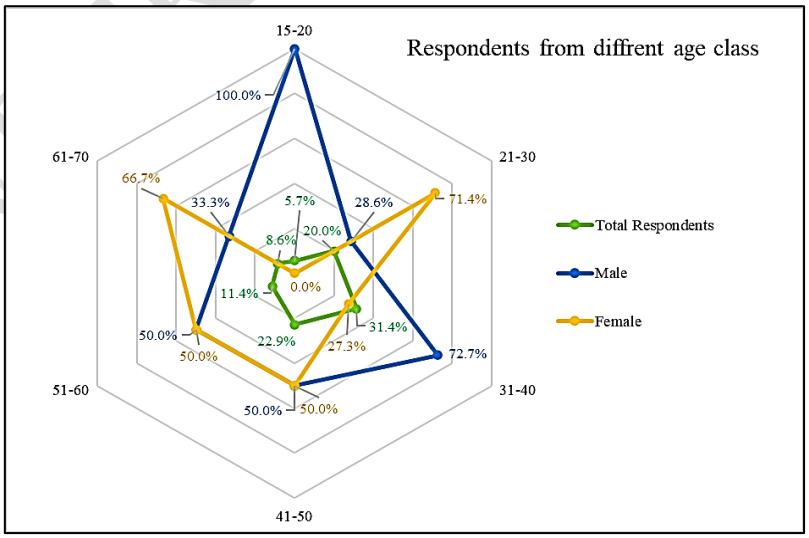

Figure 7. Respondents from different age class

Table 1. List of different wild edibles and their ethnobotanical uses documented in the study area

Sl.	Scientific name	Local name	Family	Plant Part Used	Mode Used	Ethnobotanical Uses	Habit	IUCN	Origin
1	*Acorus calamus* L.	Baje	Araceae	R	Juice of root	To improve speech ability in children	*H*	LC	N
2	*Aegle marmelos* (L.) Corrêa	Bilva patre	Rutaceae	L & F	Thambuli and whole green leaf	Edible (Rich in vitamin c), Leaves for Religious Purpose	*T*	*NT*	N
3	*Allium cepa* L.	Erulli soppu	Amaryllidaceae	L	Thambuli/Sambar	Edible as Vegetable	*H*	ND	N
4	*Allium sativum* L.	Bellulli soppu	Amaryllidaceae	L	Thambuli/Sambar	Edible as Condiment	*H*	ND	INT
5	*Aloe vera* (L.) Burm.f.	Lolesara	Asphodelaceae	L	Leaf Gel - Externally Applied	Cosmetic Purposes, Hair Purposes	*H*	ND	INT
6	*Alternanthera sessilis* (L.) R.Br. ex DC.	Ongonne soppu / Hon-gonne soppu	Amaranthaceae	L	Thambuli/Sambar and leaf paste - external application	Edible as Vegetable and Leaf paste to Reduce Hair fall for Womens/ Hair Dye	*H*	LC	N
7	*Amaranthus cruentus* L.	Chikkere soppu / Rajageere	Amaranthaceae	L	Thambuli	Edible as Vegetable	*H*	*ND*	INT
8	*Amaranthus tricolor* L.	Harive soppu	Amaranthaceae	L	Thambuli	Edible as Vegetable	*H*	*ND*	N
9	*Amorphophallus paeoniifolius* (Dennst.) Nicolson	Suvarna gadde	Araceae	T	Thambuli/Sambar	Edible as Vegetable and Treatment for Liver Problems, Kidney Stones, Diet maintenance for aged people.	*H*	*LC*	N
10	*Anethum graveolens* L.	Sabbasige soppu	Apiaceae	L	Thambuli	Edible - Vegetable	*H*	*ND*	N
11	*Artocarpus heterophyllus Lam.*	Halasu	Moraceae	F & S	Ripe fruits and cooked seeds	Ripe fruits are edible, young immature fruits used as vegetable. Seeds used additives in sambar preparation.	*T*	*ND*	N
12	*Artocarpus lacucha* Roxb. ex Buch.-Ham.	Vaate huli	Moraceae	F	Dry fruit rinds	Used instead of tamarind in some local dishes.	*T*	*LC*	N
13	*Asparagus racemosus Willd.*	Shatavari	Asparagaceae	T	Cooked tuber	Used in treatment of Diarrhoea and acidity	*C*	*ND*	N
14	*Basella alba* L.	Basale soppu	Basallaceae	L	Thambuli/Sambar	Edible as Vegetable	*C*	*ND*	N
15	*Bergera koenigii L.*	Karibevu soppu	Rutaceae	L	Thambuli	Edible as Condiment	*T*	*LC*	N
16	*Brassica rapa* L.	Sasive soppu	Brassicaceae	L	Thambuli	Edible as Condiment	*H*	*DD*	INT

17	*Buchanania lanzan* Spreng.	Nurukal hannu	Anacardiaceae	F	Directly Edible	Edible as fruit	*T*	*LC*	N
18	*Cardiospermum halicacabum* L.	Minchu balli / Kanakaaya	Sapindaceae	L	Thambuli	Edible as Condiment	*C*	*LC*	N
19	*Carissa carandas* L.	Kavali hannu	Apocynaceae	F	Directly Edible	Edible as fruit	*S*	*DD*	N
20	*Cassia fistula* L.	Kakki gida	Caesalpinaceae	L & FL	Leaf Paste - Applied Externally	Tender leaves are edible, leaf and flower paste used for maintaining Hair health.	*T*	*LC*	N
21	*Centella asiatica* (L.) Urb	Ondelaga	Apiaceae	L	Thambuli/Soup	Edible, Treatment for Cough, Headache etc.	*H*	*LC*	N
22	*Baccharoides anthelmintica* (L.) Moench	Kaadu jeerige	Asteraceae	S	Thambuli/Soup	Treatment of Fever and Digestion problems	*H*	*ND*	N
23	*Chrysopogon zizanioides* (L.) Roberty	Laavancha	Poaceae	R & L	Soup	Edible, Treatment of Pimples, Ulcers and body heat	*H*	*ND*	N
24	*Citrus maxima* L.	Sakkare kanchi	Rutaceae	F	Directly edible	Used to make Kusumbri (a traditional dish), helps reduce blood glucose level and to improve the bone health	*T*	*LC*	N
25	*Coccinia grandis* (L.) Voigt	Tonde kaayi	cucurbitaceae	L & F	Thambuli, Sambar	Used to treat body warmness (ushnate), reduce tension and used as Vegetable	*C*	*LC*	N
26	*Coleus amboinicus* Lour.	Dodda pathre	Lamiaceae	L	Thambuli	Edible as Condiment and used in treatment of Cold in Children.	*H*	*ND*	N
27	*Colocasia esculenta* (L.) Schott	Kesivina yele	Araceae	L	Thambuli	Edible as Vegetable	*H*	*LC*	N
28	*Cordia dichotoma* (Ruiz & Pav.) Gürke	Gonne hannu / Challe hannu	Boraginaceae	F	Directly Edible	Edible as fruit	*T*	*LC*	N
29	*Cordia obliqua* L.	Dodda Challe hannu	Boraginaceae	F	Directly edible	Edible as fruit	*T*	*LC*	N
30	*Curcuma amada* Roxb.	Ambe kombu / Ambe haladi	Zingiberaceae	L & T	Thambuli	Edible as Spice	*H*	*ND*	N
31	*Curcuma aromatica* Salisb.	Kaadu arashina or Ambe Haladi / Maavu shunti	Zingiberaceae	T	Whole tuber and powder of tuber	Used as Condiment	*H*	*ND*	N
32	*Curcuma longa* L.	Arasina	Zingiberaceae	T	Thambuli/Sambar	Edible use as condiment and used for treatment of wounds	*H*	*DD*	N

33	*Cymbopogon flexuosus* (Nees ex Steud.) Will.Watson	Nimbe hullu	Poaceae	L	Thambuli/Soup	Edible, Used in Herbal Tea.	*H*	*ND*	N
34	*Eclipta prostrata* Lour.	Gurjala soppu/ Gurugalu/ Kaadugarige	Asteraceae	L	Thambuli	Edible, Used in Hair Oils and Treatment of Piles.	*H*	*LC*	N
35	*Ensete superbum* (Roxb.) Cheesman	Kaadubale	Musaceae	L	Thambuli	Treatment For Kidney Stone	*H*	*NT*	N
36	*Entada scandens* (L.) Benth.	Ganape gayi	Fabaceae	S	Whole seed and its kernel powder	Home Decoration and seed is used to treat stomach-ache.	*C*	*ND*	N
37	*Eryngium foetidum* Walter	Kaadu kottambari	Apiaceae	L	Thambuli/Sambar	Edible, Treating Children During Cold.	*H*	*ND*	NAT
38	*Eucalyptus globulus* Labill.	Nilagiri soppu	Myrtaceae	L	Soup	Treating Cough	*T*	*LC*	INT
39	*Ficus religiosa* Forssk.	Aswatha mara	Moraceae	L	Leaf Paste	Paste applied externally to maintain Hair health.	*T*	*LC*	N
40	*Garcinia gummi-gutta (L.) N.Robson*	Uppage	Clusiaceae	F & S	Fruits – Dry rind and Syrup, Seed - fat	Fruits used as condiments in non-vegetarian dishes and Seed fat used in cooking purpose and Lighting lamps.	*T*	*DD*	N
41	*Garcinia indica (Thouars) Choisy*	Murugalu / Punarpuli	Clusiaceae	F & S	Fruits – Dry rind and Syrup, Seed - fat	Fruits – Refresher drinks and Seed fat used in cooking purpose	*T*	*VU*	N
42	*Gardenia latifolia* Schltdl. ex Hook.f.	Bikke, Kalkambi	Rubiaceae	F	Directly edible	Edible as fruit	*T*	*LC*	N
43	*Gmelina arborea* Roxb. ex Sm.	Sivane mara	Verbanaceae	L & B	Paste	Treating Swelling of Hands and Legs.	*T*	*LC*	N
44	*Gymnema sylvestre (Retz.) R.Br. ex Sm.*	Madhunashini	Apocynaceae	L	Thambuli	Used as mouth refresher	*C*	*ND*	N
45	*Jasminum multiflorum* (Burm.f.) Andrews	Kaadu mallige	Olaceae	L, FL & R	Decoction	Treatment of Ulcers, Allergy and Headache	*H*	*ND*	N
46	*Jatropha curcas* L.	Kalli gida	Cactaceae	ST & S	Twigs Used as Brush	Tooth Brush and Treatment of Wounds	*T*	*LC*	NAT
47	*Justicia adhatoda* L.	Aadu soge	Acanthaceae	L	Thambuli/Soup	Treatment of Fever	*H*	*LC*	N
48	*Lagerstroemia speciosa* (L.) Pers.	Hole dasavala	Lythraceae	F	Decoctions	Treating mouth ulcers	*T*	*LC*	N
49	*Lawsonia inermis* L.	Mehandi	Lythraceae	L	Paste	Hair Dye	*S*	*LC*	N

50	*Leucas aspera* (Willd.) Link	Tumbe	Lamiaceae	L & FL	Thambuli/ Sambar	Edible- Vegetable, Treatment of Asthma and Headache	*H*	*LC*	N
51	*Maesa indica* Hook.f.	Gudde haragi	Primulaceae	T	Thambuli/Sambar	Edible as Vegetable	*S*	*LC*	N
52	*Mangifera indica* L.	Mavina hannu	Anacardiaceae	F	Directly Edible	Edible as fruit	*T*	*DD*	N
53	*Mentha spicata* L.	Bettada pudina soppu	Lamiaceae	L	Thambuli	Edible as Vegetable	*H*	*LC*	NAT
54	*Mimosa pudica* L.	Nachike mullusoppu	Fabaceae/Mimosaceae	L	Leaf Paste - Consumed Internally	Consumed by Women to ease the Periods pain	*H*	*LC*	NAT
55	*Moringa oleifera* Lam.	Nugge soppu	Moringaceae	L & F	Thambuli/Sambar	Edible as Vegetable	*T*	*LC*	N
56	*Myristica fragrans* Houtt.	Jaayi kaayi	Myristicaceae	S	Thambuli	Edible as Spice	*T*	*DD*	INT
57	*Ocimum tenuiflorum* L.	Tulasi	Lamiaceae	L	Soup/Thambuli	Edible and treating cough, sore throat pain etc.	*H*	*ND*	N
58	*Persicaria chinensis* (L.) H.Gross	Kanne kudi	Polyganaceae	L	Thambuli	Edible as Vegetable	*H*	*ND*	N
59	*Phyllanthus amarus* Schumach. & Thonn.	Nelanalli	Phyllanthaceae	L	Soup	Edible as Vegetable, used in Treatment for Cough, Headache and Cold Fever	*H*	*ND*	NAT
60	*Portulaca oleracea* L.	Goni soppu/ Kirugoni	Portulacaceae	L	Thambuli	Edible as Vegetable	*H*	*LC*	NAT
61	*Punica granatum L.*	Dalimbe kudi	Lythraceae	L	Thambuli	To treat Diarrhoea and stomach pain	*T*	*LC*	INT
62	*Sauropus androgynus* (L.) Merr.	Chakramuni/ Chakraani / Elavarige soppu	Phyllanthaceae	L	Thambuli/Sambar	Edible as Vegetable and treating Stomach pain	*S*	*ND*	N
63	*Semecarpus anacardium* Blume	Gudde geru, Kadu geru	Anacardiaceae	F	Dried pulp	Used to cure diseases related to digestive system, phlegm and to improve sexual power	*T*	*LC*	N
64	*Sesbania grandiflora* (L.) Poir.	Agase soppu	Fabaceae	L	Green leaf	Cattle Feed	*T*	*DD*	N
65	*Solanum nigrum L.*	Kaaki hannu	Solanaceae	F & L	Fruits - Directly edible, Leaves- Thambuli	Fruits used to regulate intestinal problems (pitta shamana)	*H*	*LC*	N
66	*Syzygium caryophyllatum* (L.) Alston	Kuntu nerale	Myrtaceae	F	Directly edible – Syrups	Edible and Refresher drinks	*T*	*VU*	N

67	*Syzygium cumini* (L.) Skeels	Nerale hannu	Myrtaceae	F	Directly Edible	Edible as fruit	*T*	*LC*	N
68	*Syzygium jambos* (L.) Alston	Pannerale hannu, rose apple	Myrtaceae	F	Directly Edible	Edible as fruit	*T*	*LC*	N
69	*Terminalia bellirica* (Gaertn.) Roxb.	Taare mara	Combrataceace	F	Fruit Paste - Consumed Internally	Treatment For Intestinal Worms	*T*	*LC*	N
70	*Tinospora cordifolia* (Willd.) Hook.f. & Thomson	Amrutha balli	Menispermacea e	L	Leaf Decoction	Used treat to Eye Irritations and Urinary Problems	*C*	*ND*	N
71	*Trigonella foenum-graecum* L.	Mente	Fabaceae	L	Thambuli	Edible as Condiment	*H*	*ND*	NAT
72	*Ziziphus nummularia* (Burm.f.) Wight & Arn.	Mullu hannu	Rhamnaceae	F	Directly Edible	Edible as fruit	*S*	*LC*	N
73	*Ziziphus rugosa* Lam.	Bile mulle hannu	Rhamnaceae	F	Directly edible	Edible as fruit	*T*	*LC*	N

Plant parts: L- Leaves, **R**- Root, **FL**- Flower, **F**- Fruit, **T**- Tuber, **ST**- Stem, **B**- Bark and **S**- Seed.
Habit: H- Herb, **T**- Tree, **S**- Shrub and **C**- Climber.
IUCN Status: LC – Least concerned, **NT**- Near threatened, **VU**- Vulnerable, **DD**- Data deficient and **ND**- No data.
Origin: N- Native, **INT**- Introduced and **NAT**- Naturalized.

CONCLUSION

The findings of this study underscore the rich diversity of wild edible plants in the Sirsi region and their significant ethnobotanical value. A total of 73 species were identified, with leaves and fruits being the most commonly utilized plant parts. The study highlights the reliance of rural and tribal communities on these plant resources, both as food and for medicinal purposes. The presence of vulnerable and near-threatened species further emphasizes the need for conservation efforts.

The research reveals that the highest number of respondents belong to the 31-40 and 41-50 age groups, suggesting that traditional knowledge is at risk of being lost as younger generations move away from traditional practices. Despite their nutritional and medicinal benefits, wild edibles remain underutilized commercially. This presents an opportunity for future research to explore their domestication, market potential, and role in food security.

Conservation strategies should focus on the sustainable utilization of wild edibles, along with community-driven efforts to protect indigenous knowledge. Policymakers and researchers should collaborate to integrate these plant resources into mainstream agricultural and nutritional programs. Additionally, awareness programs can encourage younger generations to recognize the value of wild edibles, ensuring the preservation of this traditional wisdom for future generations.

By documenting and promoting the use of wild edible plants, this study contributes to the broader goal of biodiversity conservation, sustainable food systems, and rural livelihood enhancement. Further studies on their nutritional composition, medicinal properties, and ecological roles will be instrumental in fostering their sustainable utilization and conservation.

Disclaimer (Artificial intelligence)

Option 1:

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

Option 2:

Author(s) hereby declare that generative AI technologies such as Large Language Models, etc. have been used during the writing or editing of manuscripts. This explanation will include the name, version, model, and source of the generative AI technology and as well as all input prompts provided to the generative AI technology

Details of the AI usage are given below:

1.

2.

3.

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