

Ethnobotanical study of medicinal plants and traditional knowledge in Songnisan National Park, Korea

Mi-Jang Song

School of Liberal Arts, College of Superstar, Jeonju University, Jeonju 55069, Republic of Korea

E-mail: mjsong2014@jj.ac.kr

Received 05 November 2025; revised 13 April 2026; accepted 19 May 2026

The present study was undertaken to document and preserve the traditional knowledge related to the use of medicinal plants in Songnisan National Park, Korea. Information was gathered from 130 informants through interviews, group discussions, and field observations based on semi-structured questionnaires. Quantitative indices, including informant consensus factor, fidelity level, and inter-network analysis, were applied to evaluate the data. In total, 187 plant species belonging to 160 genera and 71 families were identified, accounting for 1,442 use reports for the treatment of 122 ailments. The most represented family was Asteraceae (13.6%; 22 species), followed by Fabaceae (12.6%), Rosaceae (5.6%), and Araliaceae (5.4%). Twenty-three plant parts were utilized and prepared using 43 different ways. The highest informant consensus factor was found for poisonings (0.95), whereas diabetes showed the lowest level of agreement (0.76). Forty-three species showed a fidelity level of 100%. Inter-network analysis revealed that *Sophora flavescens* Aiton was the most widely used species, being applied to treat 16 ailments. The common cold was the condition most frequently treated, with 35 species reported. Overall, the results reflect how medicinal plant knowledge is still actively practiced and shared among local residents. The documented plant species and their uses provide useful reference data for future studies on plant-based medicine, as well as for conservation and sustainable resource management.

Keywords: Ethnobotany, Medicinal plants, Quantitative indices, Songnisan national park, Traditional knowledge

IPC Code: Int Cl.²⁶: A61K 36/00

Traditional plant-based medicine continues to play an important role in healthcare systems in many parts of the world. According to the World Health Organization, a large proportion of people in developing countries still rely on such practices for their primary healthcare needs¹. Over time, local communities have developed knowledge of medicinal plants through continuous interaction with their natural surroundings. This knowledge is closely associated with cultural practices and has largely been transmitted orally from one generation to another². In many Asian countries, including Nepal, India, Thailand, and the Philippines, medicinal plants are still widely used, especially in rural areas where access to modern medical services is limited³⁻¹¹. These practices reflect not only healthcare needs but also the relationship between people and local biodiversity.

In Korea, traditional knowledge related to plant use has recently drawn attention in discussions on sustainability and resource use. Rather than being treated only as cultural heritage, it is increasingly examined as a source of practical information that

may complement scientific approaches. Knowledge formed through long-term use of local plant resources can provide useful insight into how communities manage and utilize their surrounding environments, especially under current conditions such as climate change and ecological degradation¹².

Ethnobotanical studies have contributed to recording this type of knowledge and to identifying plant species with potential applications in pharmacology and conservation¹³. However, much of this information has traditionally been passed down orally. As a result, it is becoming more difficult to maintain, particularly as rural populations decline and the number of elderly knowledge holders decreases¹⁴. For this reason, documenting how knowledge is currently used and transmitted in local communities has become increasingly important.

Following the adoption of Convention on Biological Diversity and the Nagoya Protocol, traditional knowledge has also been discussed in relation to access, rights, and benefit-sharing at broader institutional levels². In Korea, research has

often focused on areas where both ecological conditions and traditional practices have been relatively well maintained, including Hallasan National Park¹⁵, Jirisan National Park¹⁶, Gayasan National Park¹⁷, and Wolchulsan National Park¹⁸.

This study focuses on Songnisan National Park, located in the central part of the Sobaek mountain range. The area is known for its diverse plant communities as well as its long-standing cultural landscape¹⁹. Previous floristic surveys have reported a high level of species diversity in this region²⁰⁻²³, but relatively few studies have investigated how these plant resources are actually by local residents.

Based on fieldwork conducted in the study area, including interviews with residents who have long-term experience using medicinal plants, this study documents current patterns of plant use and the ways in which related knowledge is maintained. By focusing on practice as well as species diversity, this study provides a basis for understanding the present status of traditional knowledge and its relevance for future conservation and research.

Materials and Methods

Study area

The study was conducted in Songnisan National Park, located in the central region of South Korea. The area lies between 36° 28' 05"–36° 46' 30" N latitude and 127° 47' 20"–127° 58' 00" E longitude (Fig. 1). Administratively, the park spans parts of Chungcheongbuk-do and Gyeongsangbuk-do, including Mungyeong-si, Sangju-si, Boeun-gun, and

Goesan-gun. The total area is 284.4 km², ranking as the fifth largest among inland national parks¹⁹.

The region is characterized by a typical central inland climate of Korea. According to data from the Korea Meteorological Administration over the past 10 years, the mean annual temperature was 10.9°C. The highest mean monthly temperature was 30.1°C in August, and the lowest was -7.7°C in January, resulting in an annual temperature range of 37.8°C. The mean annual precipitation was 1,292.0 mm, approximately 50% of which occurred during July and August²⁴.

The vegetation belongs to the southern part of the cool temperate forest zone and is predominantly composed of deciduous broad-leaved forests. Floristically, the region is part of the Sino-Korean-Japanese subregion of the Boreal Kingdom, and harbors a diverse range of temperate plant species²⁵.

A total of 25 endemic plant species, including *Sedum zokuriense* Nakai, have been identified in Songnisan National Park. Additionally, *Abeliophyllum distichum* Nakai (white forsythia), *Berchemiella berchemiifolia* (Makino) Nakai (Korean berchemia), and *Pinus densiflora* Siebold & Zucc. (Jeongipumsong pine) are designated as Natural Monuments and are legally protected under national conservation regulations²³.

Data collection

Field surveys were carried out from July 2014 to October 2017 at 53 sites, including community halls, senior welfare centers, and traditional markets.

Information on medicinal plant use was gathered through interviews, informal discussions, individual

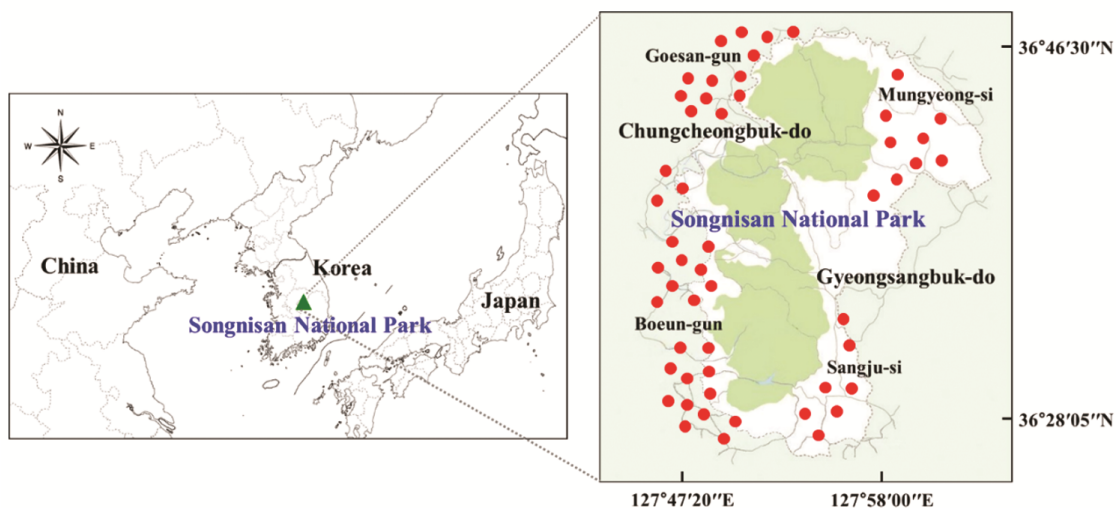


Fig. 1 — Schematic map of the survey sites within Songnisan National Park, Korea (prepared using Microsoft PowerPoint 2021, Microsoft Corp., WA, USA)

and group conversations, and field observations using semi-structured questionnaires. The questionnaire was designed to record local knowledge, including plant names, parts used, ailments treated, methods of preparation and administration, dosage, and duration of use^{26,27}.

Plant specimens were collected in the region and prepared using standard herbarium specimen preparation procedures. Voucher specimens were deposited at the herbarium of Jeonju University.

Species identification was conducted in accordance with the illustrated floras of Lee²⁸ and Lee²⁹. Korean and scientific names were assigned based on the National Standard Plant List of the National Knowledge and Information System for Biological Species³⁰, the National Species List of the CBD-CHM (Convention on Biological Diversity Clearing-House Mechanism) Korea³¹, and the International Plant Names Index³².

Quantitative analysis

To evaluate the ethnobotanical importance of medicinal plants and the level of agreement among informants, Informant consensus factor (ICF), Fidelity level (FL), and Inter-network analysis (INA) were applied. The results were visualized using graphical representations.

Informant consensus factor (ICF)

The Informant consensus factor (ICF) was used to assess how consistently different informants reported the use of plants species for particular ailment categories³³.

ICF was calculated using the formula:

$$ICF = \frac{nur - nt}{nur - 1}$$

where *nur* represents the number of use reports within a disease category, and *nt* refers to the number of plant species used for that category.

ICF values range from 0 to 1. Values close to 0 indicate low consensus among informants, suggesting that a wide variety of species are cited for the same condition. Conversely, values close to 1 indicate high consensus, meaning that informants consistently report the same species for a specific condition.

Fidelity level (FL)

Fidelity level (FL) was calculated to identify species that are most strongly associated with specific ailments. This index reflects how frequently a plant is cited for a particular use relative to all its reported uses³⁴.

FL was calculated using the formula:

$$FL(\%) = \frac{Np \times 100}{N}$$

where *Np* is the number of informants who mentioned a plant for a specific ailment, and *N* is the total number of informants who reported that plant for any ailment.

FL values range from 0 to 100%. A low FL indicates that a plant is used to treat a variety of ailments with low specificity, whereas a high FL suggests that the plant is predominantly used to treat a particular ailment.

Inter-network analysis (INA)

Inter-network analysis (INA) was performed using NetMiner (Ver. 4.3, Cyram Inc., Seoul, Korea)^{35,36} to assess association between ailments and medicinal plants.

A two-mode matrix of ailments and medicinal plants was constructed, and a network map was generated based on degree centrality. Degree centrality analysis was used to identify structural relationships between plant species and the ailments they treat. In the network diagram, node size represents the number of connections, while edge thickness indicates the frequency or strength of associations.

Results and Discussion

Supplementary Table S1 provides detailed information the recorded plant species, including their Korean and scientific names, family, parts used, methods of preparation, modes of administration, ailments treated, and corresponding FL values.

Demographic characteristics of informants

A total of 130 indigenous informants who had resided in the study area for at least 40 years, were randomly selected. Among them, 31 were men (23.8%) and 99 were women (76.2%). The average age was 77.3 years, range from 56 to 92 years (Table 1). Most participants (88.5%) were over 70 years old. This suggests that knowledge related to medicinal plants is largely retained by the older members of the community. Similar patterns were also observed during field visits. In many cases, younger residents were less familiar with traditional practices.

In terms of education, 43.8% (n=57) of the informants had no formal schooling. This may reflect their long-term reliance on natural resources and the continued oral transmission of knowledge. Some

variation was also noted among individuals, depending on their personal experiences.

Ethnobotanical knowledge

In this study, 187 plant species belonging to 160 genera and 71 families were identified, based on 1,442 ethnomedicinal use reports (Supplementary Table S1). Most of these were vascular plants. However, two algal species (*Porphyra tenera* Kjellman and *Undaria pinnatifida* (Harvey) Suringar) were also mentioned, as they are commonly traded in local markets.

Table 1 — Demographic characteristics of informants interviewed (n=130)

Characteristics	Category	Number	Frequency (%)
Gender	Male	31	23.8
	Female	99	76.2
Age	50-59	2	1.5
	60-69	13	10.0
	70-79	63	48.5
	80-89	50	38.5
	90-99	2	1.5
Education	Never attended school	57	43.8
	Never completed elementary school	32	24.6
	Completed elementary school	33	25.4
	Never completed middle school	1	0.8
	Completed middle school	3	2.3
	Never completed high school	1	0.8
	Completed high school	3	2.3

The number of ethnomedicinal plant species recorded in Songnisan National Park was comparable to that reported for Hallasan National Park (171 species)¹⁵ and Gayasan National Park (200 species)¹⁷, but lower than that in Jirisan National Park (274 species)¹⁶ and higher than that in Wolchulsan National Park (104 species)¹⁸. The documented species accounted for 25.8% of the total flora (726 species)²³ recorded in the study area. These differences may be influenced not only by ecological conditions but also by demographic factors. In particular, the high proportion of elderly informants appears to have contributed to the richness of recorded knowledge.

The distribution of families showed that Asteraceae was the most frequently represented family, comprising 22 species with 196 citations (13.6%). This was followed by Fabaceae (12.6%), Rosaceae (5.6%), Araliaceae (5.4%), and Poaceae (5.3%) (Fig. 2). This pattern has also been noted in other ethnobotanical studies^{15,16,18,37}. It is likely to the wide availability and known medicinal properties of these families.

Twenty-five plant parts were used for medicinal purposes. Roots (29.8%) were most commonly mentioned, followed by fruits (17.1%), stems (11.4%), seeds (9.4%), leaves (8.9%), and whole plants (5.8%) (Fig. 3). These results are consistent with previous studies conducted in Korea, as roots are primarily used in traditional Korean medicine^{15,16,18,36}.

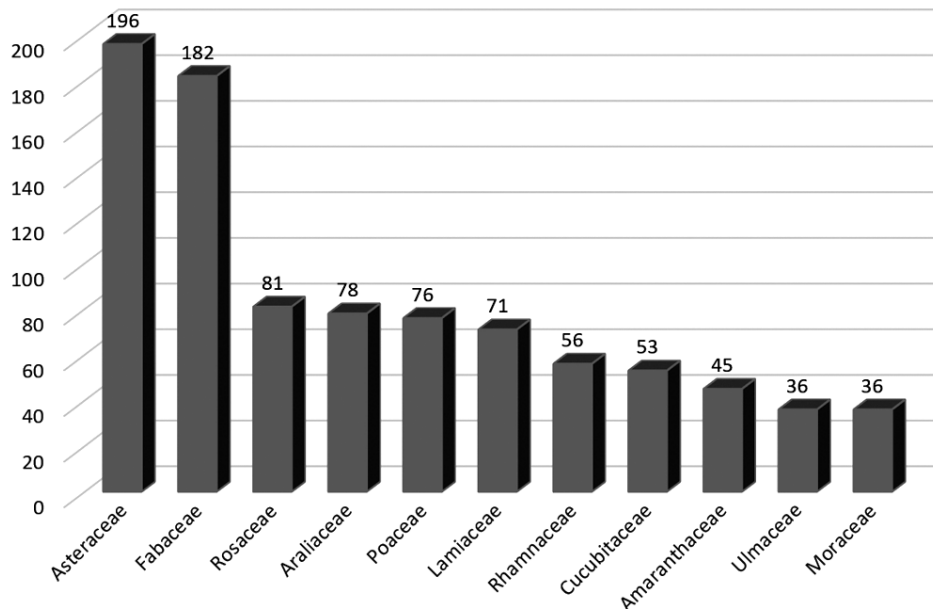


Fig. 2 — Most representative plant families used for medicinal purposes (number of use reports)

Forty-three preparation methods were reported. Infusion (40.1%) was most commonly mentioned, followed by maceration (13.8%), brewing (5.3%), fermentation (5.2%), and decoction (4.0%) (Fig. 4). These observations suggest that informants possess detailed practical knowledge of how to prepare and use medicinal plants. In a few cases, different preparation methods were reported for the same plant.

Regarding modes of administration, oral application (82.4%) accounted, followed by topical application (17.5%) and nasal application (0.1%). This appeared similarly across different informant groups.

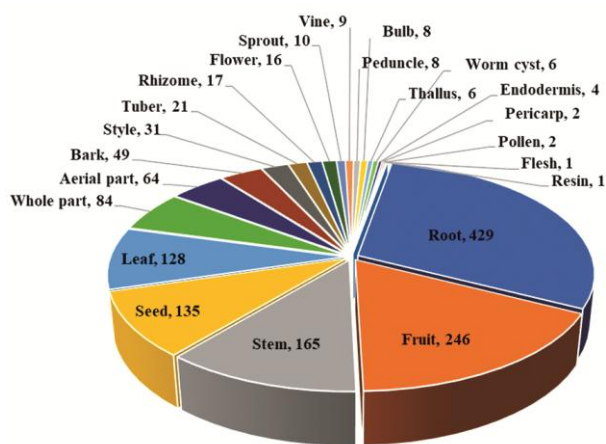


Fig. 3 — Plant parts used for medicinal purposes (number of use reports)

Among the frequently mentioned species, *Sophora flavescens* Aiton was associated with the largest number of ailments (n=16), followed by *Leonurus japonicas* Houtt. (n=15). These plants were repeatedly mentioned by informants. Their widespread use suggests that they play an important role in local healthcare practices. In Particular, *S. flavescens* has also been used in veterinary medicine, such as the treatment hoove and cattle diseases In addition to medicinal uses, some plants were also associated with cultural practices. *Juniperus chinensis* L. was used in rituals aimed at warding off misfortune. This represents the broader cultural context in which plant use occurs.

Quantitative analysis

Informant consensus factor (ICF)

A total of 122 ailments were grouped into 16 categories, and the informant consensus factor (ICF) was calculated for each category.

ICF values ranged from 0.76 to 0.95 (Table 2). The highest value was for poisoning (0.95), followed by veterinary ailments (0.93), birth-related disorders (0.91), gastrointestinal disorders (0.91), and pain (0.90). The lowest value was for diabetes (0.76).

These results suggest that informants tend to agree on the use of certain plants for specific conditions. In categories with high ICF values, a

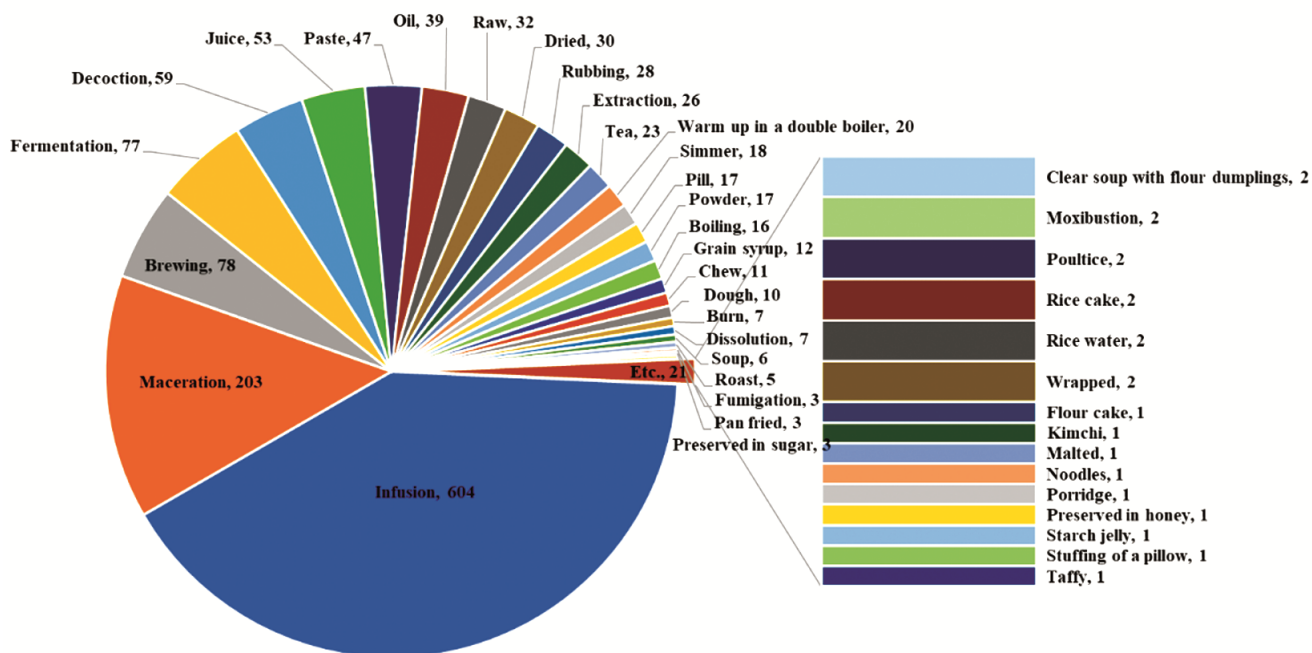


Fig. 4 — Modes of preparation used for medicinal purposes (number of use reports)

small number of species were repeatedly mentioned. In contrast, greater variation was observed in categories with lower values. In practice, these values help to understand how consistently different informants use particular plant species.

Fidelity level (FL)

Fidelity level (FL) was used to identify plant species that are strongly associated with particular ailments.

FL values ranged from 0.63% to 100% (Supplementary Table S1). After excluding species mentioned only once, 49 species showed an FL of 100%. This indicates that certain plants are consistently used for specific conditions.

Among these, *Poncirus trifoliata* (L.) Raf. was the most frequently reported species for urticaria (n=19), followed by *Momordica charantia* L. for glycosuria (n=8), and *Allium cepa* L. for the common cold (n=7). These plants were repeatedly mentioned by informants. High FL values, combined with frequent citation, suggest that these species are well recognized within the community. This may reflect their perceived effectiveness.

Inter-network relationship of ailments and medicinal plants

Inter-network analysis showed that *Sophora flavescens* Aiton was associated with the highest number of ailments (n=16), followed by *Leonurus japonicus* Houtt. (n=15), and *Eleutherococcus sessiliflorus* (Rupr. & Maxim.) S.Y.Hu and *Kalopanax septemlobus* (Thunb.) Koidz., each associated with 12 ailments.

Table 2 — Categories of ailments and the informant consensus factor (ICF) for each category

Symptom and ailment categories	Use citations	Taxons	ICF
Poisonings	168	10	0.95
Veterinary ailments	135	11	0.93
Birth-related disorders	96	10	0.91
Gastrointestinal disorders	465	45	0.91
Pains	670	65	0.90
Respiratory system disorders	469	47	0.90
Genitourinary system disorders	337	37	0.89
Cuts and wounds	92	12	0.88
Muscular-skeletal disorders	111	15	0.87
Skin diseases and disorders	163	22	0.87
Inflammation	195	30	0.85
Liver complaints	81	13	0.85
Others	260	40	0.85
Nervous system disorders	149	25	0.84
Circulatory system disorders	268	62	0.77
Diabetes	43	11	0.76

Thirty-five medicinal plants were used to treat the common cold. This suggests that respiratory conditions are a major concern in the study area. Also, 22 medicinal plants were mentioned for both lack of vigor and lumbago, reflecting a strong interest in fatigue and musculoskeletal disorders.

Based on citation frequency, *Leonurus japonicus* Houtt. was the most frequently mentioned species (n=158), followed by *Achyranthes japonica* (Miq.) Nakai (n=135) and *Sophora flavescens* Aiton (n=131). These results indicate a high level of recognition and reliance on these species within the local traditional knowledge system.

In terms of ailment frequency, the common cold was the most frequently cited condition (n=252), followed by pollakiuria (n=189), lumbago (n=152), and leg pain (n=145), suggesting that urinary and musculoskeletal disorders are perceived as prevalent health concerns within the community (Fig. 5 a).

Inter-network analysis of categories with high ICF values—poisonings, veterinary ailments, birth-related disorders, and gastrointestinal disorders—identified key associated species. *Adenophora triphylla* var. *japonica* (Regel) H. Hara, *Cornus officinalis* Siebold & Zucc., *Cucurbita moschata* Duchesne, *Ulmus davidiana* var. *japonica* (Rehder) Nakai, and 10 additional species were associated with birth-related disorders (Fig. 5 b). *Atractylodes ovata* (Thunb.) DC., *Diospyros kaki* Thunb., *Leonurus japonicus* Houtt., *Plantago asiatica* L., *Solanum nigrum* L., and 45 additional species were used to treat gastrointestinal disorders (Fig. 5 c). Also, *Castanea crenata* Siebold & Zucc., *Morus alba* L., *Oryza sativa* L., *Vigna radiata* (L.) R.Wilczek, and 10 additional species were associated with poisonings treatments (Fig. 5 d), while *Papaver somniferum* L., *Rhus javanica* L., *Sophora flavescens* Aiton, and 11 additional species were used for veterinary ailments (Fig. 5 e).

As shown in (Fig. 5), a single plant species is utilized for various therapeutic purposes, not limited to the treatment of specific ailment. These results demonstrate the multifunctional role that medicinal plants play within local ethnomedical system and support the potential to develop them into medicinal foods or materials for new medicine.

preserving traditional knowledge. Continued documentation and research will be important, particularly in the context of ongoing social and environmental changes.

Supplementary Data

Supplementary data associated with this article is available in the electronic form at [https://nopr.niscpr.res.in/jinfo/ijtk/IJTK_25\(6\)\(2026\)584-592_SupplData.pdf](https://nopr.niscpr.res.in/jinfo/ijtk/IJTK_25(6)(2026)584-592_SupplData.pdf)

Acknowledgments

The author is sincerely grateful to all informants in Songnisan National Park for generously sharing their traditional oral knowledge during the field surveys.

Funding

None

Author Contributions

The author was responsible for data collection, data analysis, and manuscript preparation.

Conflict of Interest

The author declares that there are no conflicts of interest.

Prior Informed Consent

The author obtained prior informed consent from the informants in the investigative area. Prior approval was taken from traditional knowledge holders prior to conducting the field survey.

Ethics Approval

Not applicable.

Use of Artificial Intelligence (AI)

During the preparation of this manuscript, AI-assisted tools were used only for language editing, grammar checking, and improving readability. The AI tools were not used for generating, analyzing, interpreting, or modifying research data, results, figures, tables, or scientific conclusions. All scientific content, data analysis, interpretations, and conclusions presented in the manuscript are the sole responsibility of the author.

Data Availability

Ethnobotanical data will be automatically made available to the public domain once published.

References

- 1 World Health Organization, *World health statistics*, (WHO, Geneva), 2008.
- 2 Kim H & Song M J, *Benefit sharing and development of biological genetic resources and traditional knowledge*, (World Science, Seoul), 2011.
- 3 Coburn B, Some native medicinal plants of the Western Gurung, *Kailash*, 11 (1-2) (1984) 55-88.
- 4 Pohle P, *Useful Plants of Manang District: A contribution to the ethnobotany of the Nepal-Himalaya*, (Steiner Verlag Wiesbaden GMBH, Stuttgart), 1990.
- 5 Baral S R & Kurmi P P, *A compendium of medicinal plants in Nepal*, (Rachana Sharma, Kathmandu), 2006.
- 6 Trisonthi C & Trisonthi P, Ethnobotanical study in Thailand, a case study in Khun Yuam District Maehongson Province, *Thai J Bot*, 1 (1) (2009) 1-23.
- 7 Phatlamphu N, Saensouk S, Saensouk P & Junsongduang A, Ethnobotany of edible plants in Muang district, Kalasin Province, Thailand, *Biodivers J*, 22 (12) (2021) 5432-5444. <https://doi.org/10.13057/biodiv/d221226>
- 8 Antonio N C B & Tuason R J G, Ethnobotanical and phytochemical study of the medicinal plants used by Kanawan Aytas in Morong, Bataan, Philippines, *Indian J Tradit Know*, 21 (3) (2022) 595-604. DOI: 10.56042/ijtk.v21i3.31614.
- 9 Cordero C S, Meve U & Alejandro G J D, Ethnobotany and diversity of medicinal plants used among rural communities in Mina, Iloilo, Philippines: A quantitative study, *J Asia-Pac Biodivers*, 16 (1) (2023) 96-117. <https://doi.org/10.1016/j.japb.2022.12.003>
- 10 Akash Navneet & Bhandari B S, Ethnobotanical plants used in health care and traditional practices by local inhabitants (Gujjars) of Rajaji Tiger Reserve, Uttarakhand, India, *Indian J Tradit Know*, 20 (1) (2021) 91-105. DOI:10.56042/ijtk.v20i1.27596.
- 11 Biona T, Keithellakpam O S, Nameirakpam B, Sougrakpam S, Nahakpam S, *et al.*, Ethnobotany of traditional medicinal plants used in Senapati district of Manipur, Northeastern India, *Indian J Tradit Know*, 24 (2) (2025) 112-123. DOI:10.56042/ijtk.v24i2.8847.
- 12 Korea National Arboretum, *Ethnobotany in Korea: The traditional knowledge and use of indigenous plant*, (Korea League of the Disabled Votes, Printing Business Division, Seoul), 2017.
- 13 Cakilcioglu U & Turkoglu I, An ethnobotanical survey of medicinal plants in Sivrice (Elazığ-Turkey), *J Ethnopharmacol*, 132 (1) (2010) 165-175. <https://doi.org/10.1016/j.jep.2010.08.017>
- 14 Chung G Y, Park M S, Nam B M, Hong K N, Jang J, *et al.*, The regional folk plants in inland of Gyeongsangbuk-do (I), *Korean J Plant Res*, 23 (5) (2010) 465-479.
- 15 Song M-J, Kim H, Heldenbrand B, Jeon J & Lee S, Ethnopharmacological survey of medicinal plants in Jeju Island, Korea, *J Ethnobiol Ethnomed*, 9 (2013) 48. DOI: 10.1186/1746-4269-9-48.
- 16 Kim H & Song M-J, Analysis of traditional knowledge about medicinal plants utilized in communities of Jirisan National Park (Korea), *J Ethnopharmacol*, 153 (1) (2014) 85-89. <https://doi.org/10.1016/j.jep.2013.10.047>
- 17 Song M-J, Kim H, Lee B-Y, Brian H, Park C-H, *et al.*, Analysis of traditional knowledge of medicinal plants from

- residents in Gayasan National Park (Korea), *J Ethnobiol Ethnomed*, 10 (2014) 74. DOI:10.1186/1746-4269-10-74.
- 18 Song M-J, Ethnobotanical study of medicinal plants used by indigenous people in Wolchulsan National Park, Korea, *Kor J Herbol*, 34 (6) (2019) 1-23. <http://dx.doi.org/10.6116/kjh.2019.34.6.1>
 - 19 Korea National Park Service, *National Park of Korea*, (Korea National Park Service, Seoul), 2008.
 - 20 Nakai T, Notulae ad Plantas Asiae Orientalis (X), *J Jap Bot*, 15 (11) (1939) 672-692. https://doi.org/10.51033/jjapbot.15_11_2326
 - 21 Lee E B & Oh B U, Vascular plants and their distribution in Mt. Songni, *The Report of the KACN*, 29 (1991) 65-95.
 - 22 Ko S C & Lee Y S, *Flora of Songnisan and nearby mountains*, (Ministry of Environment, Seoul), 2001.
 - 23 Choi H J & Oh B U, Floristic study of Songnisan National Park in Korea, *Korean J Plant Res*, 39 (4) (2009) 277-291.
 - 24 KMA (Korea Meteorological Administration) National climate data center, the national climate and weather database, available online: <https://data.kma.go.kr/stcs/grnd/grndTaList.do?pgmNo=70> (accessed on 21 February 2025)
 - 25 Yim Y-J & Kira T, Distribution of forest vegetation and climate in the Korean peninsula, I. Distribution of some indices of thermal climate, *Jap J Ecol*, 25 (2) (1975) 77-88. DOI:10.18960/SEITAI.25.2_77.
 - 26 Martin G J, *Ethnobotany: A Conservation Manual*, (Chapman & Hall, London), 1995.
 - 27 Kim H & Song M J, *Ethnobotany*, (World Science, Seoul), 2008.
 - 28 Lee T B, *Illustrated flora of Korea*, (Hyangmunsa, Seoul), 1979.
 - 29 Lee Y N, *Flora of Korea*, (Kyohak Publishing Co., Seoul), 2002.
 - 30 Korea National Arboretum, National Standard Plant List of the National Knowledge and Information System for Biological Species (NKISBS), Available online: <https://www.nature.go.kr/kpni/index.do> (accessed on 15 July 2024)
 - 31 National Biodiversity Center, National Species List of the CBD-CHM (Convention on Biological Diversity Clearing-House Mechanism) Korea, Available online: <https://kbr.go.kr/content/view.do?menuKey=799&contentKey=174> (accessed on 17 July 2024)
 - 32 International plant names index, Available online: <https://www.ipni.org> (accessed on 21 July 2024)
 - 33 Heinrich M, Edwards S, Moerman D E & Leonti M, Ethnopharmacological field studies: A critical assessment of their conceptual basis and methods, *J Ethnopharmacol*, 124 (1) (2009) 1-17. <https://doi.org/10.1016/j.jep.2009.03.043>
 - 34 Alexiades M N, *Selected Guidelines for Ethnobotanical Research: A field Manual. vol. 10 of Advances in Economic Botany*, (The New York Botanical Garden, NY), 1996.
 - 35 Kim H & Song M J, Analysis of ethnomedicinal practices for treating skin diseases in communities on Jeju Island (Korea), *Indian J Tradit Know*, 13 (4) (2014) 673-680.
 - 36 Song M J, A study on the traditional knowledge of medicinal plants traded in Hamyang traditional market, Gyeongsangnam-do, Korea, *Korean Herb Med Inf*, 12 (2) (2024) 191-210. DOI:10.22674/KHMI-12-2-7.
 - 37 Sevgi E, Kızılarıslan-Hançer Ç, Akkaya M, Altundağ-Çakır E, *et al.*, An ethnobotanical survey of medicinal plants in Biga (Çanakkale-Turkey), *Indian J Tradit Know*, 21 (3) (2022) 583-594. DOI:10.56042/ijtk.v21i3.35840