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An ethnobotanical study of medicinal and wild food plants in Kırşehir (Türkiye)

Sibel ULCAY
Department of Field Corps, Faculty of Agriculture, Kırsehir Ahi Evran University, 40100, Kırşehir, Türkiye
Correspondence: sibelulcay@gmail.com
https://orcid.org/0000-0002-2878-1721

Abstract. This study compiles information regarding the use of certain plants found in Kırşehir and its surrounding regions in the Central Anatolia Region in folk medicine and other ethnobotanical characteristics. A total of 180 people participated in this study. Face-to-face interviews were conducted with the participants. As a result of the study, demographic characteristics of the participants, types of medicinal plant used by the people of the region, preparation techniques, usage patterns and frequency were determined. Local people benefit from 80 plants belonging to 28 families. The most commonly encountered medicinal plant family was Asteraceae (22 taxa). Twenty-two disease categories were identified in which traditional medicinal plants were used. Local people frequently use medicinal plants for the treatment of various diseases. These include dermatologic ailments (ICF 0.87), hematology issues (ICF 0.98), high cholesterol (ICF 0.98), gastrointestinal problems (ICF 0.88). Medicinal plants are also employed for treating cancer (ICF 0.95), hand tremors (ICF 1.00), cataracts (ICF 1.00), and gonorrhea (ICF 1.00), and kidney stones (ICF 1.00). The highest UV was found for *Mentha arvensis* and *M. pulegium*. This research is important in terms of transferring traditional knowledge to future generations. Moreover, the findings obtained should be investigated in fields such as pharmacology and phytotherapy.

Keywords. Ethnobotany, edible plants, folk medicine, medicinal herbs, traditional medicine.

Resumen. Este estudio recopila información sobre el uso de ciertas plantas que se encuentran en Kırşehir y sus regiones circundantes en la región de Anatolia Central en la medicina popular y otras características etnobotánicas. En este estudio participaron un total de 180 personas. Se realizaron entrevistas cara a cara con los participantes. Como resultado del estudio se determinaron características demográficas de los participantes, tipos de plantas medicinales utilizadas por los habitantes de la región, técnicas de preparación, patrones de uso y frecuencia. La población local se beneficia de 80 plantas pertenecientes a 28 familias. Asteraceae resultó la familia de plantas medicinales más común (22 taxones). Se identificaron 22 categorías de enfermedades en las que se utilizaban plantas medicinales tradicionales. La población local utiliza con frecuencia plantas medicinales para el tratamiento de diversas enfermedades. Estos incluyen dolencias dermatológicas (ICF 0.87), problemas hematológicos (ICF 0.98), colesterol alto (ICF 0.98), problemas gastrointestinales (ICF 0,88). Las plantas medicinales también se emplean para tratar el cáncer (ICF 0.95), temblores de manos (ICF 1.00), cataratas (ICF 1.00), gonorrea (ICF 1.00) y cálculos renales (ICF 1.00). La UV más alta se encontró para *Mentha arvensis* y *M. pulegium*. Esta investigación es relevante en la transferencia de conocimientos tradicionales a las generaciones futuras. Además, los resultados obtenidos deberían investigarse en campos como la farmacología y la fitoterapia.

Palabras clave. Etnobotánica, hierbas medicinales, medicina popular, medicina tradicional, plantas comestibles.

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INTRODUCTION

Ethnobotany, which investigates human relationships with plants, holds relevance in numerous areas of contemporary global importance, such as food security, climate change, biodiversity preservation, and human health. Ethnobotanical research offers understanding into how communities engage with their natural resources on a local level. Ethnobotanical investigations have the capacity to merge indigenous and scientific knowledge to promote the pursuit of biocultural conservation (Pardo de Santayana & Gómez Pellón 2003; Lado 2004; Camou-Guerrero & al. 2016; Gaoue & al. 2017; Pei 2020).

Türkiye is a country renowned for its very rich geomorphological, topographic and climatic diversity, which has fostered a wide array of plant species across its territory. This rich biodiversity in conjunction with Türkiye ‘s cultural diversity has significantly contributed to the country’s wealth in ethnobotanical uses. Besides, advancements in science and technology, and public awareness on the impor-

tance of ethnobotanical knowledge, have played a pivotal role in enhancing the appreciation of botanical resources an. Moreover, the development of methods and techniques for harnessing plant products has accelerated ethnobotanical research efforts (Demirtürk 1990) and many studies have been carried out recently (Baytop 1999; Tuzlacı 2006; Faydaoğlu & Sürücüoğlu 2011; Güneş & al. 2018; Ulcay & Şenel 2020; Korkmaz 2023; Ulcay & Şenel 2024).

Despite this ethnobotanical richness, the exact number of traditionally used medicinal plants is not known. However, estimates range between 500 and 1000 species (Öztürk & Özçelik 1991; Selvi & al. 2022), representing 0.4% of the 25,791 plants considered medicinal (Öztürk & Özçelik 1991; RBG Kew 2020). Notably, Türkiye is also home to numerous endangered species and narrowly distributed endemic species, reflecting a high degree of endemism within its borders (Eken & Ataol 2006).

Interest in ethnobotanical studies has not only increased in Türkiye, but also considerably all over the world (Yıldırımlı 2004; Onar 2006), being ethnobotanical studies very relevant for drug production research. However, there are still regions where only limited field studies have been conducted. For instance, the ethnobotanical richness of the Kırşehir province remains largely unexplored, despite its rich biodiversity and the traditional knowledge of its inhabitants. Çelik and Yeşil (2020) documented the utilization of 51 wild taxa in the village of Pöhrenk (Çiçekdağı) and documented the use of 32 wild taxa for food and only nine for medicinal purposes, highlighting the need for broader ethnobotanical surveys to uncover the full spectrum of traditional plant use in the region. Therefore, we conducted an ethnobotanical study aimed to document traditional medicinal and wild food uses of plants to serve as a foundational resource for future research in the field of healthcare, especially pharmacy and phytotherapy.

MATERIAL AND METHODS

Study area

Kırşehir is situated within the Central Kızılırmak region of the Central Anatolia Region. It covers an area of 6530 km^2. The province's landmass, which roughly resembles a parallelogram, constitutes 0.8% of the country's total land area, 2.9% of the Central Anatolian Region's land, and ranks 53rd in terms of surface area. The geographical coordinates of the province range between 38°50'–39°50' North latitude and 33°30'–34°50' East longitude. The southernmost point of the province is the town of Ulupınar, while the northernmost point is the Konurkale village in Çiçekdağı. The westernmost point is Kaman Büğüz village, and the easternmost point is Mucur Kılıçlı village. Its mean elevation above sea level is 985 meters. The province's distances to the sea, measured as the crow flies, are 362 km to Anamur Cape in the Mediterranean Sea to the south and 334 km to Sinop in the Black Sea to the north (Özüçetin 2013).

The study area encompasses the central district of Kırşehir, its surrounding villages, and the districts of Akçakent, Akpınar, Boztepe, Çiçekdağı, Kaman, Merkez, and Mucur, along with select villages. The villages visited were Özbağ, Yazıkınık, Dulkadirli, Eskidoğanlı, Yenidoğanlı, Seyfe, Kuşaklı, Tatık, Kargın Yenice, İsahocalı, Yelek, Kurugöl, Çimeli, Kortulu, Karakurt, Sevdiğin, Sıdıklıbüyükoba, Kortulu, Yağmurlu, Küçükteflek, Büyükteflek.

Kırşehir, located in the steppe belt of the Central Anatolia Region, has a continental climate. There is generally no forest cover in the province and the dominant natural vegetation is steppe. The people make their living from agriculture and animal husbandry. Cattle farming is common. Field crops are grown in 66.2% of the agricultural areas in the province, vegetables are grown in 0.6%, and fruits are grown in 0.9%. Since only 9.3% of the agricultural areas in the province are irrigated and rainfall is low, dry farming is generally practiced. Local people grow wheat, barley, chickpeas, sunflowers, corn, melons, watermelons, green beans, walnuts, apples and pears. People living in rural areas mostly obtain medicinal plants by collecting them from nature (Pehlivanlı &Tanrıverdi 2018).

Data collection

An ethnobotanical study was carried between 2018 and 2020. Markets frequented by villagers from rural areas were visited to identify individuals with knowledge and experience in traditional folk medicine and wild food plants. Information was received from the vendors coming from the villages about whether there were medicinal plants in their villages and who we could contact. The village resident whose phone number was taken was called. During the phone calls, the interviewees were informed that we would meet in person and the meeting date was determined. On the planned day, the villages were visited and the questions summarized in Table 1 were asked. Since it was a semi-structured interview approach, knowledge of edible plants was also documented during the interviews. The first people we met referred us to other residents of the village and we had face-to-face meetings with them. We visited them at their home. Additionally, some of the people we visited in their homes participated in field trips. The survey included questions regarding the demographic characteristics of the participants, the name of the species, its

medicinal purposes, as well as details about the part of the plant used, preparation method, amount and frequency of use. Individuals who chose not to disclose their names and surnames were identified only as men or women (Table 1). The survey included questions regarding the demographic characteristics of the participants, the name of the species, its medicinal purposes, as well as details about the part of the plant used, preparation method, amount and frequency of use. Individuals who chose not to disclose their names and surnames were identified only as men or women. Additionally, information about edible plants and other uses was obtained.

Table 1. Ethnobotanical information sheet including the data and questions used in the survey.

1. Name and surname	7. What is the name of the medicinal and wild food plant you use?
2. Age	8. Which disease is it good for?
3. Occupation	9. Which part of the plant is used?
4. Living place	10. What is your preparation method?
5. Education status	11. What is the amount used?
6. Marital status	12. What is the frequency of use?

Field visits

Additionally, field sites where the plants utilized and sold are gathered were visited. Field trips were conducted to observe the plants during both their vegetative and generative phases. This approach aims to gather the plants at different growth stages and maintain ongoing surveillance of the plants marketed or employed. Most of the field trips were combined with neighborhood visits, and attention was paid to visit the research area together with the villagers as much as possible. 21 volunteers, whose homes we visited, accompanied us on field trips.

Plant materials

The plants were pressed in the field and herbarium samples were prepared. They were kept in the laboratory of Kırşehir Ahi Evran University Field Crops Department prepared for identification using the "Flora of Turkey and the East Aegean Islands" (Davis 1965–1985; Güner & al. 2012). Plant scientific names of species and families were checked from http://www.theplantlist.org/ , https://powo.science.kew.org/, https://sweetgum.nybg.org/science/, and the book "List of Plants of Türkiye " (Güner & al. 2012). The species were barcoded according to the information at http://sweetgum.nybg.org/science/ih/ and https://powo.science.kew.org/. Endemicity of taxa has been checked in the book "List of Plants of Turkey " (Güner & al. 2012). Also, the names of local plants were checked on the webpage of the Turkish Language Association (TLA) to confirm whether they were Turkish or not (http://tdkterim.gov.tr/bts/).

Data Analysis

In order to reflect the relative significance of the taxa utilized we relied on the simplified version of the Use-Value (UV) index defined by Phillips & Gentry (1993) (Cakılcıoglu & Turkoglu 2010; Zenderland & al. 2023). The UV was calculated using the formula UVs = ΣUi/, where UV refers to the use value of a species; Ui to the number of use-report or citations of species *s,* and N to the total number of informants (Table1).

To assess the level of consensus among individuals regarding the utilization of plants for various conditions and to evaluate the reliability and efficacy of medicinal plants in addressing them, we employed the Informant Consensus Factor (ICF) proposed by Trotter & Logan (1986). This index was computed was calculated using the formula ICFc = Nur- Nt/Nur-1, where Nt represents the number of taxa used for treating the condition *c*, and Nur indicates the total number of use-reports or citations in each category. The ICF ranges from 0, indicating no consensus among participants, to 1 signifying complete agreement among participants on the plants utilized for a specific purpose. In other words, medicinal plants presumed to be effective in treating particular diseases have higher ICF values (Teklehaymanot & Giday 2007).

RESULTS

180 individuals participated in our study and provided information regarding plants. The participation rate of men was 29%, while the participation rate of women was 71%. Among the participants, 82.4% were married, and 43.1% have completed primary school education. Furthermore, 63.9% of the participants reside in villages, whereas 33.7% live in urban areas. Regarding occupation, 60.6% were housewives, and 21.2% were farmers. The majority of participants fall within the age range of 45–55.

A total of 80 plant species during flowering and fruiting periods were collected in the field visits. The study documented the utilization of these species for medicinal and food purposes belonging to 28 families within the research area. Thirty-four species were used only for medicinal purposes, 31 for both medicinal purposes and for food, 15 were used only for food. The plants used in the region are presented in Appendix 1 alphabetically arranged according

to their plant family and botanical names, together with the relevant ethnobotanical information. The most common medicinal plant families according to the number of useful species were Asteraceae (22 taxa) Lamiaceae (8), Brassicaceae (7), Rosaceae (6) and Amaranthaceae (6), Malvaceae (5) and Polygonaceae (4) (Appendix 1).

The most commonly used plant species according to their UV were *Mentha arvensis* L. (0.5), *Teucrium polium* L. (0.45), *Sinapis alba* L. (0.44), *Mentha pulegium* L. (0.44), *Mentha longifolia* (L.) L. (0.42), *Capsella bursa-pastoris* (L.) Medik. (0.38), *Juglans regia* L. (0.38), *Vitis vinifera* L. (0.37), *Gundelia tournefortii* L. (0.33), *Alcea biennis* Winterl. (0.28), *Plantago major subsp. intermedia* (Gilib.) Lange (0.26), *Petroselinum crispum* (Mill.) A.W. Hill (0.02), *Raphanus raphanistrum* L. (0.25) and *Salvia virgata* Jacq. (0.25) (Appendix 1). *Mentha arvensis, M. pulegium, M. longifolia* and *J. regia* are utilized for both medicinal and culinary purposes, while *T. polium, V. vinifera, A. biennis, P. major* subsp. *intermedia* and *S. virgata* exclusively for medicinal applications and *S. alba, C. bursa-pastoris, G. tournefortii* and *R. raphanistrum* were employed only as a food source (Appendix 1).

Nine of the plants documented were cultivated species such as *Vitis vinifera* or *Petroselinum crispum* and the rest were wild growing authoctonous species (Cultivated plants were marked ** in Appendix 1). Nine of them being endemic (e.g., *Helichrysum arenarium* subsp. *aucheri* (Boiss.) P.H. Davis & Kupicha, *Onopordum anatolicum* Boiss. & Heldr. ex Eig, *Taraxacum microcephaloides* Soest, *Astragalus condensatus* Ledeb, *Astragalus kirshehiricus* D.F. Chamb., *Astragalus tokatensis* Fisch., *Crocus ancyrensis* (Herb.) Maw. *Verbascum vulcanicum* var. *vulcanicum* Boiss. & Heldr., *Verbascum wiedemannianum* Fisch. & C.A.Mey.). Endemic taxa were marked * in Appendix 1. The most common parts were leaf (38.7%), flowers (30.1%), fruits (15.05%) roots (6.45%), and seeds (5.3%). The most used preparation methods are infusion 33.3%, decoction 21.42%, and raw use 17.85% (Appendix 1).

Ten of the plants consumed as food (such as *Amaranthus blitoides*, *Malva sylvestris*) were consumed by cooking. The fruits of 8 plants (such as *Vitis vinifera* L., *Cydonia oblonga* Mill., *Crataegus orientalis* Pall. ex M.Bieb.,*Crataegus monogyna* Jacq., *Juglans regia* L.,) were eaten raw. Some plants, such as *Taraxacum microcephaloides* Soest, *Sinapis alba* L., *Sinapis arvensis* L. *Petroselinum crispum* (Mill.) A.W.Hill were consumed by making salads.

Medicinal plants were grouped in 22 disease categories (Fig. 1). Local people most frequently used medical plants for the treatment of cataracts (ICF 1.00), gonorrhea (1.00), hand tremors (1.00), kidney stones (1.00), hematology issues (0.98) cholesterol-related concerns, (0.98), cancer (0.95), gastro-intestinal conditions (0.88), dermatologic conditions (0.87), internal diseases (0.87), cardiovascular issues (0.86), and respiratory issues such as shortness of breath, asthma (0.83) (Fig. 1).

Plants consumed as food were generally prepared cooked. Species of the genera *Mentha* L., *Salvia* L., *Thymus* L., *Origanum* L., and *Nigella* L., were consumed as spices. Lastly, some species such as the fruits of *Juglans*

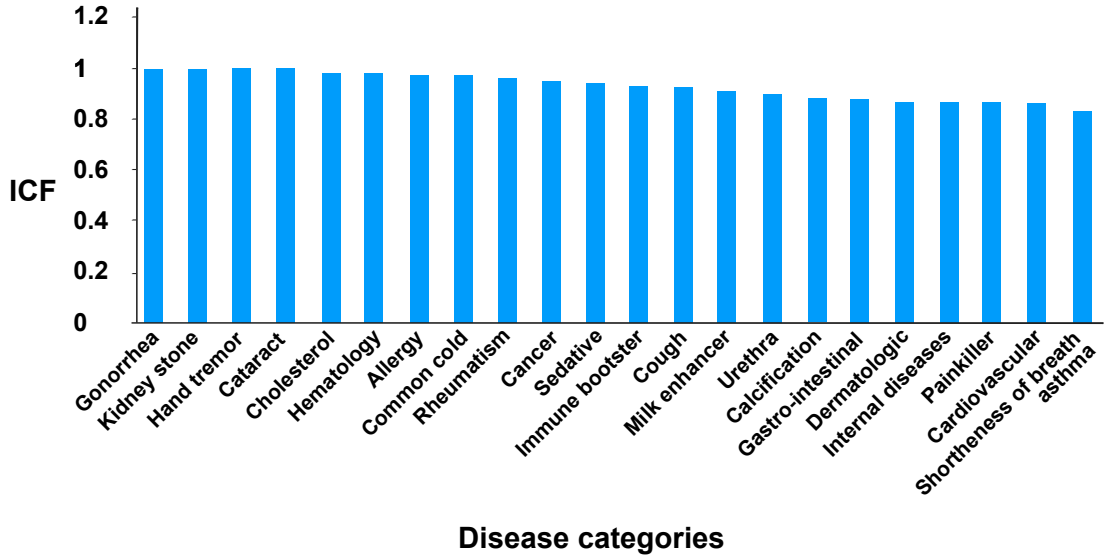

Fig. 1. Informant Consensus Factor (ICF) for each disease category.

regia, *Sorbus umbellata* Fritsch and *Crataegus orientalis* Pall. ex M. Bieb. were usually consumed raw (Appendix 1).

The usage patterns and preparation methods of some of the plants we have identified are quite interesting. Additionally, as far as we know, there is no information yet about these methods. *Alcea biennis* Winterl. flowers were infused in a cup of boiled milk for ten minutes. The filtered milk is drunk. When this application was repeated for 4 days in the morning and evening, it was good for chronic cough that develops in the post-covid period and all coughs of bacterial origin. According to the information given by the local people, the seeds of *Peganum harmala* L. were roasted in a pan without oil and then stored in a jar after cooling. One of these seeds was swallowed every morning. It is stated that when this application was continued for a month, it was good for skin rashes and allergy itching. Again, it has been reported that when the fresh or dried seeds are boiled and drunk, it treats skin related ailments. Local people benefited from *Urtica dioica* in the treatment of eczema. Fresh *Urtica dioica* leaves and stem were placed in a cloth bag, the mouth was closed and beaten, after a little sap comes out, it was placed on the eczema area and covered with a stretch film. It was kept for 24 hours. This application was repeated 2–3 times a week. When the branches and leaves of the *U. dioica* were dried, infused and drunk, it treated eczema.

Euphorbia szovitsii var. *szovitsii* Fisch. & C.A.Mey. leaves were dried and powdered, mixed with henna and put on the wound. Thus, the wound heals quickly. This mixture was also used in the treatment of psoriasis. 1–2 drops of Euphorbia's milk stop the bleeding.

When *Chenopodium urbicum* L. leaves were dried and tea is drunk, it was used for therapeutic purposes in patients who cannot receive chemotherapy. It was stated that nettle leaves prepared by the same method can also be used in cancer treatment. *Urtica dioica* was also used as an immune system enhancer. It was reported by us for the first time that *Astragalus* species were used in the treatment of gonorrhea, heel spurs and rheumatic pains in the region.

DISCUSSION

Systematic studies of traditional pharmacopoeias were urgently needed in Southern Europe, including Türkiye, in regions where industrial development had not led to the complete loss of traditions. Despite the centrality of medicinal cuisines and the consumption of healthy edibles in traditional folk medicine systems, little is known about the practice of food medicine (Pieroni 2000; Etkin 2008). Therefore, our study is important because it reports medicinal plants that are also consumed as food (Abdul Aziz & al. 2021). Although Kırşehir is located in central Anatolia, it has similar characteristics to the use of plants in the region where the Mediterranean climate prevails (Pieroni 2000; Rivera & al. 2005). The traditional use of *Onopordum*, *Taraxacum* and *Tragopogon*, *Rosmarinus* species in food consumption is similar in Türkiye and some Mediterranean countries (Everest & Öztürk 2005; Della & al. 2006; Martinez 2015; Sánchez-Mata & Morales 2016; Şenkardeş & Tuzlacı 2016; Cakır 2017; Ulcay & Şenel 2020; Emre & al. 2021; Ulcay & Şenel 2024). In some regions of Türkiye, there is also commonality in the use of local names for plants. In the provinces close to Kırşehir, *Cichorium intybus* was called "çıtlık", *Onopordum carduchorum* was called "kangal", *Capsella bursa-pastoris* was called "kuşekmeği", *Sinapis arvensis* was called "hardal", some *Tragopogon* species were called "yemlik", *Astragalus* species were called "geven", *Anthemis* species were called "papatya" (Şenkardeş & Tuzlacı 2016; Ulcay & Şenel 2020; Ulcay & Şenel 2024).

This research showed that a rich ethnobotanical knowledge is still alive in Kırşehir. As far as we know no information about the medicinal use of *Astragalus condensatus* and *Astragalus kirshehiricus* among the public. Again, as far as we know, there was no information about the preparation method of *Alcea biennis* Winter in Covid cough and the public use of *Chenopodium urbicum* L. in cancer treatment. *Peganum harmala* L. which was generally used for incense in Türkiye, was used in the treatment of skin diseases (Itching, eczema) in Kırşehir. We would like to point out that old people use seeds of *P. harmala* in this way and young people were not aware of this information. *Chenopodium urbicum* was consumed as food by making food by the local people. Senkardes & Tuzlacı (2014) states that the *Chenopodium album* L. subsp. *album* var. *album* L. was also cooked and eaten. In Kırşehir, *Verbascum wiedemannianum* Fisch. & C.A.Mey., *Verbascum natolicum* (Fisch. & C.A.Mey.) Hub.-Mor., *Verbascum vulcanicum* var. *vulcanicum* Boiss. & Heldr. types were used in the treatment of eczema, skin, warts, cough, and hemorrhoids. It had been stated that the *Verbascum cheiranthifolium* Boiss. var. *asperulum* (Boiss.) Murb. and *Verbascum cheiranthiflium* var. *cheiranthifolium* Boiss species are also used for the same purpose in the village of Pöhrek (Çelik & Yeşil 2020).

In various studies *Hypericum perforatum* L. was reported to be used for gastrointestinal problems, sedative (Woelk &1994; Akan & Bakır Sade 2015), *Sinapis arvensis* L. for diabetes (Polat & Satıl 2012), *Mentha piperita* L., for anxiety, insomnia, digestive, halitosis, kidney diseases (Šavikin & al. 2013; Selvi & al. 2022), *Glaucium grandiflorum* Boiss. & A.Huet (Morteza-Semnani & al. 2002) for

analgesic and anti-inflammatory, *Helichrysum armenium* DC. for kidney stone (Kültür & al. 2021), *Onopordum acanthium* L. for hepatic diseases, hemorrhoids (Polat & al. 2013), *Juglans regia*, for diabetes (Sarahroodi 2009), *Artemisia absinthium* L. for parasites (Youssefi 2012). *Vitis vinifera* L. was used in the treatment of itching in India (Bhat & al. 2014). This taxon was used for cataract in the region of our study.

According to Ulcay & Şenel's (2020), *Rumex acetosella* was consumed raw as food and was believed to be beneficial for colds. In our study, we found that it was also consumed for the same purpose in Kırşehir and its surrounding areas. Our study further revealed that when brewed and consumed, the leaves of *R. acetosella* can help reduce kidney stones, a finding not previously reported. Local residents also reported using various species of *Astragalus* for the treatment of conditions such as gonorrhea, heel spur, arthritis, joint and muscle pain. Meanwhile, Lysiuk & Darmohray (2016) mention that *Astragalus* species were used in folk medicine as a diuretic and cholesterol-lowering agent in the treatment of gynecological disorders.

This study focused on medicinal plants and food plants used in local folk medicine. Medicinal plants form the basis of modern medicine (Zarrelli 2022). The amount of use of these plants, their preparation methods and the diseases for which they are used are of vital importance. There is interest in wild food plants due to their nutritional and medicinal values in order to expand the diversity of the human diet (Abdul Aziz & al. 2021). There were hundreds of field ethnobotanical studies devoted to food or medicinal uses of wild species, but to date food-medicine plants in cultural contexts remains understudied, although the studies show a general resurgence. More comprehensive research is needed on the therapeutic and pharmacological properties of the plants revealed in this study and used in traditional treatment and consumed as food.

The information presented here relies on the firsthand accounts of local people. It is crucial to bear in mind that plants have the potential to inflict permanent harm if not handled with caution. Finally, further comprehensive investigations are essential regarding the therapeutic and pharmacological characteristics of the mentioned plants.

The increasing global demand for medicinal plants, due to factors such as population growth, urbanization and increasing interest in alternative medicine, puts significant pressure on the populations of these plants. In addition, habitat destruction, overharvesting, climate change and unsustainable harvesting practices further increase the difficulties faced by these plants (Shukla 2023). Studies on endangered species and the identification of destroyed areas in the region should also be carried out. With these factors, efforts to cultivate both edible and medicinal plants should be accelerated. There is also a need to raise public awareness about collecting plants from nature.

In addition, the source of most of the information obtained in this study is the elderly living in the region. Considering that young people are not very aware of traditional knowledge, the findings are also important in terms of recording traditional knowledge and transferring cultural heritage.

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AUTHORSHIP CONTRIBUTION STATEMENT

Sibel ULCAY: Conceptualization, Data curation, Resources, Investigation, Analysis, Funding acquisition, Writing–original draft, Writing–review & editing.

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Appendix 1. Ethnobotanical information of medicinal and food plant species from the Kırşehir region in Türkiye. UP (used part), leaf (le), root (Ro), seeds (Se), fruit (Fr), flower (Fl), Stem (St), Bulb (Bu). *Endemic taxa, **Cultivated taxa.

Scientific name	Local name	UP	Preparation, Application	Diseases	Voucher	U	Uv	Use
Adoxaceae								
Viburnum opulus L.**	Gilabulu,	Fr	Pickle	Diabetes	326268-2	4	0.02	Medical
Amaryllidaceae								
Allium atroviolaceum Boiss.	Soğan	Bu	Raw	Food	4241953	11	0.06	Food
Amaranthaceae								
Amaranthus albus L.	Deli sirken, çıtlık	Le	Infusion, cooking	Blood purifier	190526	25	0.13	Medical, food
Amaranthus blitoides S.Wats.	Çıtlık	Le	Cooking	Food	10615-2	23	0.12	Food
Amaranthus retroflexus L.	Deli ıspanak	Le	Cooking	Food	572165	9	0.05	Food
Chenopodium urbicum L.	Sirken	Le	Decoction, raw, mash, cooking	Cancer, blood purifier	3240762	32	0.14	Medical, food
Apiaceae								
Petroselinum crispum (Mill.) A.W.Hill**	Maydonoz	Le, br, ro	Raw	Edema	42470	47	0.02	Medical, food
Asteraceae								
Achillea millefolium L.	Civanperçemi	Fl, le	Infusion	Carminative, ulcer and stomach ache	322394	10	0.05	Medical
Anthemis cretica L.	Papatya	Fl	Infusion	Urinary tract infection	8951753	24	0.13	Medical
Anthemis cretica subsp. *anatolica* (Boiss.) Grierson	Papatya	Le, Fl	Infusion	Edema	428 1975	14	0.07	Medical
Artemisia austriaca Jacq.	Yavşan	Le	Decoction, raw, mash	Edema, fungus and psoriasis	3368969	19	0.1	Medical
Calendula officinalis L.**	Öküzgözü	Fl	Infusion	Allergy	211063	28	0.15	Medical
Centaurea solstitialis subsp. *solstitialis* L.	Çakırdikeni, çöğen	Le, Fl	Infusion	Hemorrhoids, diabetes	444401	11	0.06	Medical
Cichorium intybus L.	Aslandişi	Ro	Decoction, triturate, cooking	Cancer, wound	41734	19	0.1	Medical, food
Cirsium vulgare (Savi) Ten.	Deve kangalı	Fl	Infusion, raw	Fatty liver, hemorrhoids	41730	33	0.18	Medical, food
Chondrilla juncea L.	Karaoğlak	Le	Cooking	Food	688509	23	0.12	Food
Cota wiedemanniana (Fisch. & C.A.Mey.) Holub	Papatya	Fl	Decoction, raw, mash	Swelling, fungus and psoriasis	2701974	17	0.09	Medical
Echinops ritro L.	Top baş	Fl	Infusion	Indigestion	2071420	9	0.05	Food
Gundelia tournefortii L.	Kenger	Fl	Infusion	Stomach and abdominal pain	4044789	60	0.33	Food
Helichrysum armenium DC.	Altınotu	Fl	Infusion	Dermatological, liver	1831838	12	0.06	Medical
Helichrysum arenarium subsp. *aucheri* (Boiss.) P.H.Davis & Kupicha*	Ölmez çiçek	Fl	Infusion	Dermatological, liver	K000978176	11	0.06	Medical

Appendix 1. Cont'd. Ethnobotanical information of medicinal and food plant species from the Kırşehir region in Türkiye. UP (used part), leaf (le), root (Ro), seeds (Se), fruit (Fr), flower (Fl), Stem (St), Bulb (Bu). *Endemic taxa, **Cultivated taxa.

Scientific name	Local name	UP	Preparation, Application	Diseases	Voucher	U	Uv	Use
Onopordum anatolicum Boiss. & Heldr. ex Eig*	Çıtlık	Le	Infusion, raw	Diabetes	1911942	8	0.04	Food
Sonchus asper (L.) Hill	Şeker otu	Le	Decoction, raw, mash, cooking	Breast milk enhancer	3508307	27	0.15	Medical, food
Taraxacum bessarabicum (Hornem.) Hand.-Mazz.	Karahindiba, çıtlık	Le	Raw	Food	26 1907	36	0.2	Food
Taraxacum microcephaloides Soest*	Karagıcı	Le	Raw	Food	2631974	38	0.2	Food
Tragopogon latifolius var. *angustifolius* Boiss.	Teke-dede sakalı	Le	Raw	Food	K000815080	30	0.16	Food
Tragopogon porrifolius L.	Yemlik	Le	Raw	Food	1483335	28	0.15	Food
Boraginaceae								
Ajuga chamaepitys subsp. *chia* (Schreb.) Arcang.	Acı gıcı	Le	Raw	Food	560 1882	14	0.07	Food
Nonea stenosolen Boiss. & Balansa	Sormuk	Fl	Infusion	Cold	119414-1	16	0.08	Medical
Brassicaceae								
Capsella bursa-pastoris (L.) Medik.	Kuşekmeği	Le, Fl	Decoction	Hemorrhoids	119825	70	0.38	Medical
Diplotaxis tenuifolia (L.) DC.	Çıtlık	Le	Raw	Food	K0009141	39	0.21	Food
Raphanus raphanistrum L.	Karagıcı	Le	Raw	Food	42685	45	0.25	Food
Sinapis alba L.	Hardal, çıtlık	Le, Ro	Raw	Diabetes	3198875	80	0.44	Food
Sinapis arvensis L.	Karahardal, çıtlık	Le	Raw	Constipation	411145	25	0.13	Medical, food
Cucurbitaceae								
Momordica charantia L.**	Kudret narı	Fr	Raw	Tummy ache	866911	14	0.07	Medical, food
Euphorbiaceae								
Euphorbia szovitsii var. *szovitsii* Fisch. & C.A.Mey.	Sütlüce, sütleğen	St	Raw	Wart	4047872	27	0.15	Medical
Fabaceae								
Astragalus condensatus Ledeb.*	Geven	Ro	Scrape	Gonorrhea	K000951988	11	0.06	Medical
Astragalus kirshehiricus D.F.Chamb.*	Geven	Ro	Decoction	Muscle pains	478127-1	9	0.05	Medical
Astragalus tokatensis Fisch*.	Geven	Ro	Decoction	Osteoarthritis	K000951984	10	0.05	Medical
Hypericaceae								
Hypericum origanifolium Willd.	Sarikantaron	Fl	Maceration	Wound healing	2235919	33	0.18	Medical
Hypericum perforatum L.	Sarikantaron	Fl	Infusion	Cholesterol, rheumatism, constipation, pain relief	40061	22	0.12	Medical

Appendix 1. Cont'd. Ethnobotanical information of medicinal and food plant species from the Kırşehir region in Türkiye. UP (used part), leaf (le), root (Ro), seeds (Se), fruit (Fr), flower (Fl), Stem (St), Bulb (Bu). *Endemic taxa, **Cultivated taxa.

Scientific name	Local name	UP	Preparation, Application	Diseases	Voucher	U	Uv	Use
Iridaceae								
Crocus ancyrensis (Herb.) Maw*	Çiğdem	Bu	Raw	Gastroenteritis, digestive regulator	436451-1	25	0.15	Medical, food
Juglandaceae								
Juglans regia L.	Ceviz	Fr	Infusion	Cholesterol	1486485	70	0.38	Medical, food
Lamiaceae								
Lavandula stoechas L.	Karabaş otu	Fl	Decoction	Rheumatism, headache, fatty liver, cholesterol	43480	9	0.05	Medical
Mentha arvensis L.	Nane	Le	Infusion, raw	Cold	737420	90	0.5	Medical, food
Mentha pulegium L.	Yarpuz	Le	Raw, mash	Wound healing	2430684	80	0.44	Medical, food
Mentha longifolia (L.) L.	Nane	Le	Infusion, raw	Cold	2430699	77	0.42	Medical, food
Origanum vulgare subsp. *viridulum* (Martrin-Donos) Nyman	Keklik otu	Fl	Infusion	Sedative	197439	15	0.08	Medical
Rosmarinus officinalis L.**	Biberiye	Le	Infusion, mash	Allergy	3092966	9	0.05	Medical, food
Salvia virgata Jacq.	Adaçayı	Le, Fl	Infusion	Joint pains	K000929675	45	0.25	Medical
Teucrium polium L.	Pür yavşan	Le, Fl	Decoction	Dermatological diseases	2236179	82	0.45	Medical
Thymus sipyleus Boiss.	Kekik	Le, ro	Decoction	Appetite stimulant, liver strengthener	461665-1	29	0.16	Medical, food
Lythraceae								
Punica granatum L.	Nar	Fl	Infusion	Cough	191987	17	0.09	Medical, food
Malvaceae								
Abelmoschus esculentus (L.) Moench**	Bamya	Fr	Decoction	Varicose vein disease	1439383	8	0.04	Medical, food
Alcea biennis Winterl.	Gül hatmi	Fl	Infusion	Cough	1158458	52	0.28	Medical
Malva neglecta Wallr.	Düğmecik	Le, Fl	Infusion, cooking	Intestinal regulator	280268	20	0.1	Medical, food
Malva sylvestris L.	Ebemgümeci	Se	Decoction, mash, cooking	Immune booster, wound healer	2377697	37	0.2	Medical, food
Nitrariaceae								
Peganum harmala L.	Üzerlik	Le, se	Mash , roasted	Hair loss, cardiovascular diseases, tuberculosis, allergies	643449	11	0.06	Medical

Appendix 1. Cont'd. Ethnobotanical information of medicinal and food plant species from the Kırşehir region in Türkiye. UP (used part), leaf (le), root (Ro), seeds (Se), fruit (Fr), flower (Fl), Stem (St), Bulb (Bu). *Endemic taxa, **Cultivated taxa.

Scientific name	Local name	UP	Preparation, Application	Diseases	Voucher	U	Uv	Use
Plantaginaceae								
Plantago major subsp. *intermedia* (Gilib.) Lange	Kırk sinir otu	Fr	Infusion	Stomach pain, joint pain	1008803	48	0.26	Medical
Platanaceae								
Platanus orientalis L.	Çınar	Le	Infusion	Osteoartrit	2513991	16	0.08	Medical
Poaceae								
Elymus hispidus subsp. *barbulatus* (Schur) Melderis	Ayrık otu	Le, ro	Decoction	Eczema, diabetes	881998-1	14	0.07	Medical, Animal feed
Hordeum vulgare L.	Arpa	Se	Decoction	Diabetes	84 1753	11	0.06	Medical, Animal feed
Polygonaceae								
Polygonum arenastrum Boreau	Madımalak	Le	Decoction mash, cooking	Kidney stone	K000914098	38	0.21	Medical, food
Polygonum bistorta L.	Kibritçiotu	Fr	Raw	Arrhythmia	2530906	7	0.03	Medical
Rumex acetosella L.	Ekşimek	Le	Raw, infusion	Cold, kidney stones	413050	39	0.21	Medical, food
Rumex crispus L.	Evelek	Le	Decoction, cooking	Rheumatism	413066	27	0.15	Medical, food
Ranunculaceae								
Nigella arvensis L.	Çörekotu	Se	Raw	Diabetes	764816	37	0.2	Medical, food
Rosaceae								
Amygdalus communis L.	Badem	Se	Raw	Decrease blood pressure	211077	21	0.11	Medical
Crataegus monogyna Jacq.	Alıç	Fr	Pickles	Cardiovascular system	2235962	14	0.07	Medical, food
Crataegus orientalis Pall. ex M.Bieb.	Alıç	Fr	Raw	Arrhythmia	1070490	9	0.05	Medical, food
Cydonia oblonga Mill.	Ayva	Le, fr	Infusion, raw	Urinary tract, cough, shortness of breath	1527286	19	0.1	Medical, food
Rosa canina L.	Kuşburnu	Fr	Decoction	Cold, hand tremors	1527540	28	0.15	Medical, food
Sorbus umbellata Fritsch	Üvez	Fr	Raw	Constipation	2449189	10	0.05	Medical, food
Sapindaceae								
Aesculus hippocastanum L.**	Atkestanesi	Fr	Maceration	Varicose vein disease	482201	8	0.04	Medical
Scrophulariaceae								
Verbascum natolicum (Fisch. & C.A.Mey.) Hub.-Mor.	Sığırkuyruğu	Le	Decoction	Dermatological	811298-1	13	0.07	Medical

Appendix 1. Cont'd. Ethnobotanical information of medicinal and food plant species from the Kırşehir region in Türkiye. UP (used part), leaf (le), root (Ro), seeds (Se), fruit (Fr), flower (Fl), Stem (St), Bulb (Bu). *Endemic taxa, **Cultivated taxa.

Scientific name	Local name	UP	Preparation, Application	Diseases	Voucher	U	Uv	Use
Verbascum vulcanicum var. *vulcanicum* Boiss. & Heldr.*	Calba	Le, Fl	Decoction	Dermatological	770214-1	14	0.07	Medical
Verbascum wiedemannianum Fisch. & C.A.Mey.*	Sığırkuyruğu	Le, Fl	Infusion	Cough	770218-1	9	0.05	Medical
URTICACEAE								
Urtica dioica L.	Isırgan	Le	Infusion	Intestinal inflammations	984 1753	8	0.04	Medical
VITACEAE								
Vitis vinifera L.**	Asma	Br, fr	Squeeze juice	Cataract	202 1753	67	0.37	Medical, food
ZYGOPHYLLACEAE								
Tribulus terrestris L.	Çoban çökerten	Le, Fl	Raw	Asthma, vascular occlusion	3871753	7	0.03	Medical