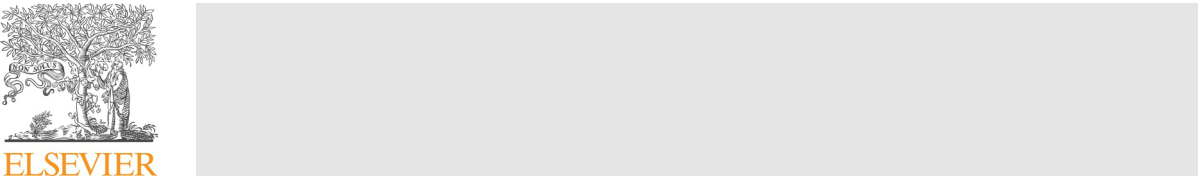
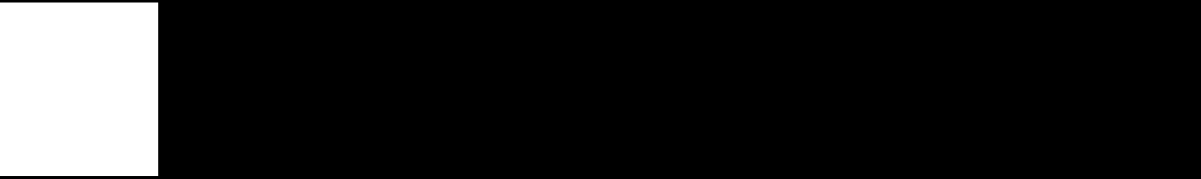
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Research paper

Medical and food ethnobotany among Albanians and Serbs living in the Shtërpcë/Štrpce area, South Kosovo

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ABSTRACT

Ethnobotanical research in the Balkans is important for providing concrete insights aimed at developing small-scale markets of local medicinal plants and food products to support rural development. An ethnobotanical field study was carried out in the spring of 2017 among Muslim Albanians and Christian Orthodox Serbs living in 20 villages located in South Kosovo. The aim of the study was to assess if two different ethnic affiliations played a role in shaping traditions of local plant uses by ethnic groups living in the same natural environment in South Kosovo over many centuries. The field survey was conducted via semi-structured interviews with 181 local adults who were chosen for their retention of traditional ecological knowledge (TEK) regarding traditional uses of wild and cultivated food and medicinal plants and fungi relevant to either human or animal health. A total of 122 botanical and fungal folk taxa, belonging to 51 families, and 19 other domestic remedies were recorded. The most common plants species cited by the study participants belongs to family Rosaceae, followed by Lamiaceae, and Asteraceae. Approximately 10 % of the total reports have not been previously recorded in the Western Balkans.

Comparison of the recorded reports between the Serbian and Albanian demonstrated that only 28.4 % of the recorded remedies are shared between the two ethnic groups, thus confirming the importance of religious and ethnic divides in shaping divergent traditional uses of natural resources. A more “herbophilic” attitude of the Slavic population (pointed out in previous studies) was not evident in this survey.

**1. Introduction**

Over the last few decades, several studies have explored the eth-nobotany of the Western Balkans with the aim of recording folk knowledge and perceptions of wild plants used in the food and med-icinal domains (Hajdari et al., 2018; Jarić et al., 2007, [2015](#page19), [2018](#page19) and [2019](#page20); Pieroni et al., 2005, [2008](#page19) and [2010](#page19); Menković et al., 2011; Pieroni et al., 2011, [2013](#page19), [2014a](#page19), [2014b](#page20), [2015](#page20), and [2017](#page20); [Mustafa](#page19) et al., 2012a, [2012b](#page19), and [2015](#page19); Savikin et al., 2013; Pieroni and Quave, [2014](#page19) and references therein; Zlatković et al., 2014; Quave and Pieroni, [2014](#page20) and [2015](#page20); Pieroni and Soukand, 2017; Janaćković et al., 2019; Savić et al., 2019). The rationale for these studies has stems from the assumption that this area in Southeastern Europe still possesses a tre-mendous reservoir of Traditional Ecological Knowledge (TEK) related to wild plants. This is based on several key factors: 1) the complex biocultural diversity of this region, which is a hotspot of biodiversity



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and also hosts a variety of different ethnic and religious groups; 2) the socio-economic environment related to the troubled vicissitudes of the last few decades, which has slowed down the economic development of the former Yugoslavia, especially in Bosnia, Kosovo, and Macedonia, fostering the permanence of subsistence economies in rural and mountainous areas, managed mainly by elderly peoples; and 3) the long held “tradition” in the collection of wild plants in the region, including before the end of the disintegration/occupation of the Ottoman Empire, which started at the beginning of the 19th Century (Kathe et al., 2003). Small-scale agro-pastoral activities, therefore, still represent the pillar of subsistence economies for those local ethnic groups who live in mountainous and rural areas in the Western Balkans, and TEK-centered studies are not only important for understanding local perceptions and uses of plants, but even more so for establishing baseline data for projects intended to foster rural development programs focusing on sustainable valorisation of local herbal and wild food resources.

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South Kosovo, in particular, represents an economically dis-advantaged montane area in the Balkans that could provide new in-gredients to the European herbal market in terms of new medicinal plant uses that are still practiced locally. Moreover, ethnobotanical studies are relevant to bio-conservation strategies, and these initiatives aimed at preserving local medicinal, aromatic, and wild food plants need to be culturally sensitive; i.e. the “emic” perceptions that local populations have towards their natural plant environment must be considered in order to successfully implement measures regarding nature protection.

The main goal is to assess if two different ethnic affiliations may have played a role in shaping traditions of local plant uses by ethnic groups living in the same natural environment in South Kosovo over many centuries. The objectives of this study were three-fold: 1) to document the ethnobotanical knowledge related to cultivated and wild plant or fungal-based cuisine and medicinal remedies pertaining to humans; 2) to compare the collected data between the two distinct ethnic groups (Albanian and Serbs), differing in religion and language; and 3) to compare the same data with the findings of previous ethno-botanical surveys conducted in SW Balkans, in order to highlight new plant and fungal uses of potential interest for further phytochemical and/or phytopharmacological studies, as well as for local development.

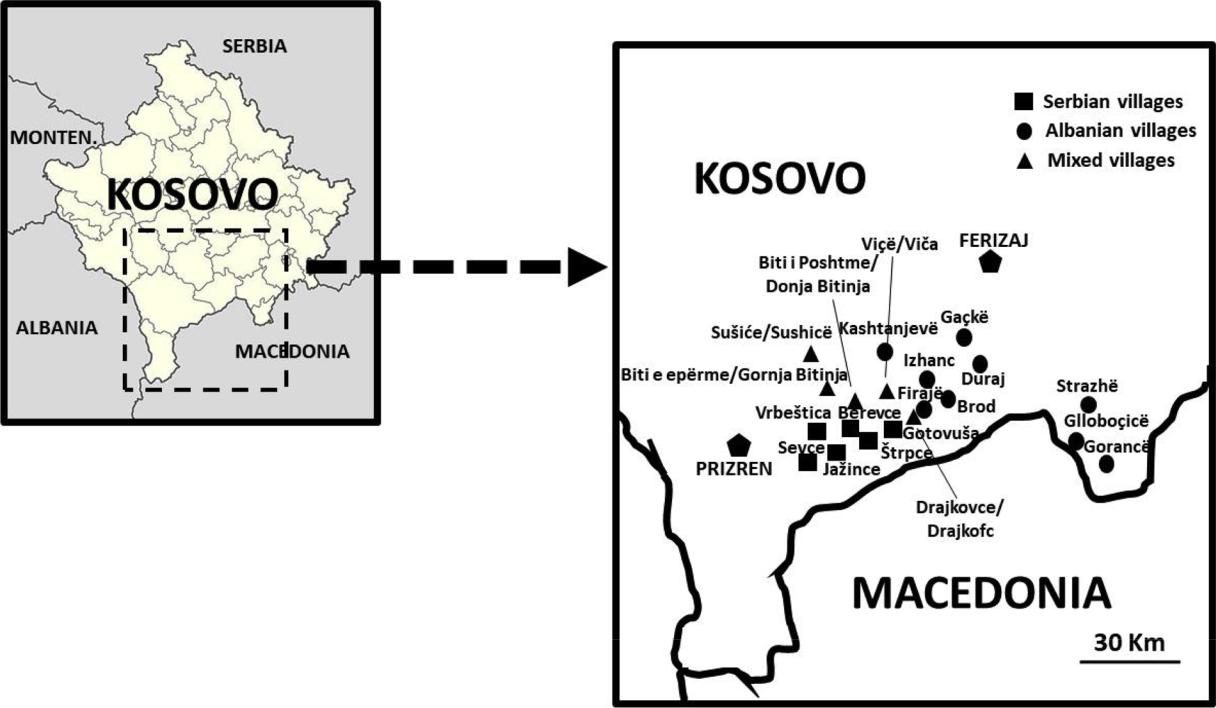
**2. Materials and methods**

*2.1. Study area*

Twenty villages in South Kosovo were visited (Fig. 1); the study area is situated at a latitude and longitude of E 20.86444 - E21.14804; N42.25122 - N 42.1398. The local population dynamics for each site are described in Table 1. These villages are located in the Sharr Mountains (in Albanian known as Malet e Sharrit; in Serbo-Croatian Šar Planina), which is one of the largest mountain massifs in the Balkans (1600 km2), spanning the Republic of Macedonia (in a total area of 826.8 km2 or 51.44 %) and the Republic of Kosovo (in a total area of 780.4 km2 or

48.56 %) ([Cukić, 1983](#page19)).

Different names for the Sharr Mountains have been used during



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different historical periods. The author Polibi called it “Scardus orus”, while Tit Livija referred to it as “Scordi montis” and “Scordus”. The name “Scardus” is also found in different maps of Ptolomeu. The classic name “Scardus” was used until the 16th century (Cvijć, 1911), and from that time until middle of the 19th century, the names “Monte Argen-taro”, “Schardagah”, “Çardagh”, “Scharta”, “Sharsilsilesi”, and “Sharr” were also used (Krivokapić, 1969). These differences in the geographic nomenclature of the region, which appeared in various maps and the literature, are an indication of the interest shown by Europeans and the Ottoman Empire for the region.

Many authors have made attempts to clarify the meaning of the name “Sharr”. For example, according to Kovačević and Jovanović [(1893)](#page19), the name “Sharr” was derived from the word “Scard” or “Shqarth” (“Shqarth” is the Albanian name for *Martes foina*), or from “Sharrë” (“Sharrë” is the Albanian name for Saw). According to [Frannck](#page19) [(1932)](#page19), the name “Scardus” is derived from the Iliryian word “Scard”, while for Vladimir (1903), the name “Sharr” is derived from Latin word “Scardus”. During the 20th century, different authors used the name “Shar planina” which is the Slavic name of Sharr translated from “Schardagh” (Schar - Sharr and dagh-mountain) and is the name used for Sharr by the Ottoman administration. The name “Sharr” was used for the first time by Ami Boue in 1840 ([Boue, 1840](#page19)).

Due to its favourable and unique geographic position, the Sharr Mountains have a specific climatic and hydrological character and are geologically diverse with volcanic, metamorphic and sedimentary rocks of varying ages and origins, which foster the biodiversity of the region. Sharr in general is characterized by a continental climate, in lower al-titudes the continental climate that is influenced by the Mediterranean climate coming from the Adriatic Sea via the Drini Bardh river valley and from the Aegean sea via the Vardar and Lepenci river valley, whereas in higher altitudes the continental clime is influenced by a subalpine and alpine climate. The soils of this region are generally rich with nutrients, providing a good growth medium for plants, resulting in a rich level of biodiversity ([Mustafa and Hoxha, 2001](#page19)).

To date, there are roughly 1,500 vascular plant species known to grow in the Sharr Mountains Stevanović and Janković, 1984). A special characteristic of the plant population here is the presence of the

**Fig. 1.** Map of study site and visited villages.

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**Table 1**

Demographic data on ethnic groups included in the field study (Kosovo Agency of Statistics, population censuses, 2011).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Village Name | Elevation | Total Population | Number of Albanian | Number of Albanians | Number of Serbs | Number of Serbs |  |
|  | (m.a.s.l.) | Size | Inhabitants | Interviewed | Inhabitants | Interviewed |  |
|  |  |  |  |  |  |  |  |
| Beroc / Berevce | 820 | 286 | 0 | 0 | 286 | 1 |  |
| Biti e epërme/ Gornja | 833 | 329 | 195 | 5 | 134 | 2 |  |
| Bitinja | 780 | 383 | 252 | 6 | 131 | 3 |  |
| Biti i Poshtme/ Donja |  |
| Bitinja | 720 | 1678 | 1678 | 12 | 0 | 0 |  |
| Brod |  |
| Drekoc / Drajkovce | 816 | 106 | 39 | 2 | 67 | 5 |  |
| Duraj / Dura | 635 | 651 | 651 | 3 | 0 | 0 |  |
| Firajë/ Firaja | 860 | 1103 | 1103 | 11 | 0 | 0 |  |
| Gaçkë / Gatnje | 618 | 2356 | 2356 | 6 | 0 | 0 |  |
| Glloboçicë / Globoćica | 830 | 1283 | 1283 | 6 | 0 | 0 |  |
| Gorancë | 704 | 1028 | 1028 | 7 | 0 | 0 |  |
| Gotovushë / Gotovuša | 845 | 445 | 0 | 0 | 445 | 13 |  |
| Izhanc / Ižance | 835 | 88 | 88 | 3 | 0 | 0 |  |
| Jazhincë / Jažince | 965 | 161 | 0 | 0 | 159 | 10 |  |
| Kashtanjevë / Koštanjevo | 1104 | 123 | 123 | 4 | 0 | 0 |  |
| Sevcë / Sevce | 1054 | 174 | 0 | 0 | 174 | 16 |  |
| Strazhë / Straža | 1040 | 258 | 258 | 5 | 0 | 0 |  |
| Shtërpcë / Štrpce | 855 | 1228 | 0 | 0 | 1211 | 12 |  |
| Sušiće / Sushicë | 1157 | 74 | 39 | 2 | 35 | 21 |  |
| Viçë / Viča | 780 | 209 | 197 | 8 | 12 | 5 |  |
| Vërbeshticë / Vrbeštica | 1027 | 449 | 0 | 0 | 449 | 13 |  |
|  |  |  |  |  |  |  |  |

endemic, relict, and rare species and plant communities, with 150 Balkan endemic species (Stevanović and Janković, 1984). The Sharr Mountains provide an interesting richness and diversity of plant life, with a flora belonging to three different bio-geographic zones: the Mediterranean, the Central-European and the Central-South European regions (Mustafa, 1998; Krasniqi, 1998). Because of its rich biodi-versity, the Sharr Mountains are known as the centre of Balkan endemic plants ([Krasniqi, 1987](#page19)).

The most representative vegetation units of this region are black alder (*Alnetum glutinosae*) communities, found widespread and along streams and rivers; oriental hornbeam (*Carpinetum orientalis scardicu*) forests; hop hornbeam mixed forests and oriental hornbeam (*Ostryo-Carpinion orientalis*) forests; thermophilous oak forests (*Quercetum frai-netto-cerris scardicum* and *Quercetum pubenscens, Quercetum montanum*, *Quercetum trojanae dukagjini*); beech (*Fagetum montanum*) forests; andpine (*Pinetum heldreichii*, *Pinetum peucis*, and *Pinetum mughi typicum*) forests ([Rexhepi, 1994](#page20)); etc.

The Sharr Mountains and surrounding areas have been inhabited for centuries and thus serve as home to many villages that are isolated from the urban areas and mainly engaged in agricultural and pastoral ac-tivities.

When Romans arrived in the region (years 40–50 of the 1st Century), they found a local population composed of Dardanians and Illyrian tribes (Albanian ancestors). Serbs arrived in the area for the first time in 1190, and were then expelled by the Byzantines. By the end of the 13th century, the area was occupied by the Serbian Kingdom and the area was recolonized by Serbs (Schmid, 2012). Cadastral records of the Ot-toman Empire (1455) show that Albanians and Serbs were present in the area (Handžić, 1969; Bukumirić, 1981).

*2.2. Field study*

The field study was conducted over a five day period in the spring (April) 2017, as part of a fieldwork training and research project with students from the University of Prishtina. The research team consisted of three professors and 12 students, who were divided into three small groups that interacted with either individual respondents or small focus groups of no more than three individuals. Participants were selected among members of the adult population that retained traditional

knowledge concerning plants, usually those engaged in small-scale farming and pastoral activities, as these socio-economies activities still represent the primary income source for families in the study area.

In-depth open and semi-structured interviews were then conducted with 181 selected villagers (101 Albanians and 80 Serbs), Table 1. The participants ranged in age from 39 to 85 years (mean age: 63.3; stan-dard deviation: 14.2), with the large majority of the informants from all ethnic groups being more than 60 years of age.

Participants were asked about local uses of: wild food plants; medicinal plants (wild, semi-domesticated, and cultivated) in both the human and the veterinary medicine; semi-domesticated and cultivated food plants used in “unusual” ways (i.e. diverging from what those cultivated plants in Europe and in Western Countries are normally used for); edible or medicinal mushrooms, if any; and other domestic re-medies pertaining to the medicinal domain. Specifically, local name(s) of each reported taxon, the plant part(s) used, details about their pre-parations and food, medicinal, or other domestic uses were recorded. Uses were broken down into generic use categories for data analysis ([Table 2](#page4)).

Study participants were asked to report current uses considered “traditional”, i.e. considered part of the perceived cultural heritage, as well as uses they could recall from their childhood, which may no longer be exploited. Interviews were conducted in the Albanian and Serbian languages. Informed consent from all participants was verbally obtained prior to conducting interviews and ethical guidelines pre-scribed by the International Society of Ethnobiology (ISE, 2008) were followed. During the interviews, informants were always asked to show the reported plants (fresh or dried), whenever available. Voucher spe-cimens were collected and stored at the Herbarium of the Biology De-partment of the University of Prishtina (voucher codes listed in [Table 3](#page5)).

Taxonomic identification followed relevant standard botanical lit-erature of the area (Paparisto et al., 2000; Pajazitaj, 2004; [Demiri,](#page19) [1981](#page19); Tutin et al., 1964). Botanical nomenclature and family assign-ments followed The Plant List database (2013) and the Angiosperm Phylogeny Group III (Stevens, 2016), respectively. Local plant names were transcribed following the rules of standard Albanian and Serbian languages. Serbian plant names are written in the Latin alphabet.

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**Table 2**

Comparison of Albanian and Serbs plant use by informant consensus factor (Fic) analysis.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Category of Use | Number of taxa (*Nt*)\* |  |  | Number of Use Citations (*Nuc*) | | |  | Informant Consensus Factor (*Fic*) | | |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  | Albanian | Serbs |  |  |  | Albanian | Serbs | Albanian | | Serbs |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| **FOOD** | 8 | 4 | 60 | | | | 21 | 0.88 | | 0.85 |  |
| Lactic or Acetic Acid Fermentation |  |
| Alcoholic Fermentation | 2 | 6 | 4 | | | | 80 | 0.67 | | 0.94 |  |
| Jam | 16 | 13 | 72 | | | | 64 | 0.79 | | 0.81 |  |
| Savoury pie filling (Pita/Burek) | 8 | 5 | 97 | | | | 33 | 0.93 | | 0.88 |  |
| Recreational beverage | 22 | 18 | 104 | | | | 154 | 0.80 | | 0.89 |  |
| Salad ingredient | 4 | 7 | 18 | | | | 38 | 0.82 | | 0.84 |  |
| Sarma ingredient | 4 | 3 | 45 | | | | 6 | 0.93 | | 0.60 |  |
| Seasoning | 9 | 7 | 22 | | | | 31 | 0.62 | | 0.80 |  |
| Snacks | 14 | 5 | 86 | | | | 23 | 0.85 | | 0.82 |  |
| ***Subtotal*** | *87* | *68* | *508* | | | | *450* | *0.83* | | *0.85* |  |
| **MEDICINE** | 1 | 3 | 10 | | | | 2 | 1.00 | | 0.86 |  |
| Anti-Cancer |  |
| Cardiovascular | 14 | 4 | 126 | | | | 82 | 0.84 | | 0.98 |  |
| Culture Bound Syndrome | 5 | 3 | 13 | | | | 14 | 0.69 | | 0.85 |  |
| Dermatological | 22 | 15 | 92 | | | | 58 | 0.63 | | 0.88 |  |
| Endocrine | 6 | 7 | 62 | | | | 39 | 0.87 | | 0.92 |  |
| Gastrointestinal | 19 | 20 | 109 | | | | 67 | 0.73 | | 0.89 |  |
| General Health | 12 | 17 | 87 | | | | 58 | 0.81 | | 0.87 |  |
| Neuromuscular | 9 | 10 | 51 | | | | 38 | 0.78 | | 0.86 |  |
| Ophthalmological | 2 | 2 | 12 | | | | 8 | 0.86 | | 0.94 |  |
| Oral Health | 6 | 3 | 10 | | | | 17 | 0.69 | | 0.91 |  |
| Otolaryngological | 7 | 3 | 26 | | | | 27 | 0.77 | | 0.94 |  |
| Respiratory | 18 | 17 | 118 | | | | 96 | 0.82 | | 0.89 |  |
| Urological | 14 | 8 | 42 | | | | 44 | 0.70 | | 0.84 |  |
| Veterinary Health | 11 | 8 | 59 | | | | 58 | 0.82 | | 0.88 |  |
| Women’s Health | 6 | 6 | 4 | | | | 14 | 0.62 | | 0.78 |  |
| ***Subtotal*** | *152* | *126* | *821* | | | | *622* | *0.76* | | *0.89* |  |
| **OTHER** | 5 | 2 | 14 | | | | 7 | 0.69 | | 0.83 |  |
| Cosmetic |  |
| Household | 7 | 3 | 32 | | | | 18 | 0.81 | | 0.88 |  |
| ***Subtotal*** | *12* | *5* | *46* | | | | *25* | *0.76* | | *0.83* |  |
| **OVERALL TOTAL** | **251** | **199** | **1176** | | | | **1579** | **0.79** | | **0.87** |  |

\* Individual taxa may be listed in multiple use categories.

* A high Fic value indicates a high rate of agreement between the informants regarding plants used for the corresponding category of use; a low value indicates a low level of agreement.

*2.3. Data analysis*

*2.3.1. Informant consensus factor*

The Informant Consensus Factor (Fic) for Albanian and Serb parti-cipants is provided for use categories in Table 2. Informant consensus factor was calculated per each category of use, using the following formula:

* *= Nuc*  *Nt* ic *Nuc* 1



where *Nuc* is the total number of use citations in each category and *Nt* is the number of taxa used in that category. High Fic values (near 1.0) are obtained when one, or a few species, is reported to be used by a large proportion of informants for a particular category, whereas lower Fic values indicate that informants disagree over which taxa to use ([Quave](#page20) and Pieroni, 2015).

*2.3.2. Significance of plant uses*

We employed Fisher’s exact test to determine the significance of differences in the number of use citations (*Nuc*) for each unique plant use between cultural groups of the informants. We followed previously described methods for this test (Quave and Pieroni, 2015). P-values were calculated using a two-tailed method and the difference in *Nuc* between groups was considered significant for P < 0.05, and reported in Table 3.

*2.3.3. Fidelity level analysis*

The Fidelity Level (FL) percentage measure was applied to assess the

key use of each reported taxa, as agreed upon by both groups (Albanians and Serbs) (Friedman et al., 1986). The FL represents the ratio of the total number of informants that independently cited a specific plant use (*Np*) and the total number of informants use citations for any use (*N*), calculated as:

*FL =* *Np* *×* 100



*N*

Any species with three or less use citations were excluded from this analysis.

*2.3.4. Use-value analysis*

The use-value citation (*UVc*) analysis for each species was calculated for each ethnic group in the study (de Albuquerque et al., 2007). It is calculated as the sum of independent use citation reports (*Uis*) for a particular group (Serbs or Albanians) and for a particular species. This is then divided by the total number of informants within the group (*N*):

*UVc =*  *Uis*



*N*

This assessment offers insight into the relative importance of each species. To further assess how this importance ranking compares across ethnic groups, the use-value matrix analysis as previously described (Quave and Pieroni, 2015) was applied. Briefly, *UVc* values were plotted on an x-y axis and quadrants aligned at an intersection point of the maximum *UVc* value (*UVmax*) divided by two. Quadrants were assigned based on the overlay plot, with Quadrant V representing those species

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|  |
| --- |
| 5 |

**Table 3**

Medicinal and wild food plant uses recorded in the study area.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Botanical or Fungal Taxon and Herbarium | Local folk plant nameb | UVAlb | UVSerb | UVQ | Parts of the plant | Preparation | Local recorded usesc | *Nuc* | *Nuc* | FL |  |
| Accession Codea |  |  |  |  | used |  |  | Albd | Serbd |  |  |
| ***Achillea millefolium* L.** | Bar i hajnaveA, | 0.12 | 0.99 | II | Flowers | Tea | Med: improve general health | 1 | 0 | 1% |  |
| **(Asteraceae)** | BarpezmiA |  |  |  |  |  | Med: hypertension | 0 | 11 | 10 % |  |
| 79/GO/09 | Çaj maliA |  |  |  |  |  | Med: stomach-ache, diarrhoea | 0 | 11 | 10 % |  |
|  | Hajdutčka travaS |  |  |  | Leaves | Fresh leaves squeezed and topically | Med: anti-diabetic | 0 | 11 | 10 % |  |
|  |  |  |  |  | Med: skin wounds | 2 | 2 | 4% |  |
|  |  |  |  |  |  | applied | Med: laceration (hemostatic) | 3 | 0 | 3% |  |
|  |  |  |  |  |  | Mixed with milk fat (mehlem), | Med: earache | 3 | 0 | 3% |  |
|  |  |  |  |  |  | Med: acne | 3 | 0 | 3% |  |
|  |  |  |  |  |  | topically applied | Food: recreational tea | 0 | 20† | 19 % |  |
|  |  |  |  |  |  | Tea |  |
|  |  |  |  |  |  |  | Med: rheumatism | 0 | 20† | 19 % |  |
| *Aesculus hippocastanum* L. (Sapindaceae) 29/ | Gishtaja e egerA | 0.01 | 0.00 | V | Fruits | Tincture, topically applied | Med: diabetes | 1 | 0 | 19 % |  |
| Med: anti-rheumatic | – |  |
| GO/09 | Puqurka e kuqeA | 0.03 | 0.00 | V | Fruiting body | Cooked | Food: seasoning and food additive | 3 | 0 | – |  |
| *Agaricus* sp. |  |
| (Agaricaceae) | VirakS | 0.00 | 0.02 | V | Whole plant | Tea | Med: for menstrual problems, menopause | 0 | 2 | – |  |
| *Alchemilla* sp. |  |
| (Rosaceae) | PurrinjA, | 0.04 | 0.03 | V | Leaves | Squeezed and applied in ear | Med: earache | 17 | 0 | 71% |  |
| *Allium ampeloprasum* L. |  |
| (Amaryllidaceae) 09/DE/10 | PreshA |  |  |  |  | Tea | Med: cough | 1 | 0 | 4% |  |
|  | PurriniA |  |  |  |  | Eaten before breakfast, for 40 days | Med: kidney stones | 1 | 0 | 4% |  |
|  |  |  |  |  | Whole plant | Cooked | Food: savoury pie filling | 3 | 0 | 13% |  |
| ***Allium cepa* L.** | KepaA, | 0.08 | 0.01 | V | Fresh | Med: ear infection | 1 | 1 | 8% |  |
| Bulb | Boiled until turns light brown in color | Med: antitussive | 1 | 0 | 10 % |  |
| **(Amaryllidaceae)** 11/DE/10 | QepaA, |  |  |  |  | Mixed with other ingredients and | Food: sarma | 0 | 1 | 10 % |  |
|  | LlukS |  |  |  |  | cooked | Med: hematoma | 1 | 0 | 10 % |  |
|  |  |  |  |  |  | Cut into small pieces and mixed with |  |
|  |  |  |  |  |  | salt | Med: cough and lung diseases | 2 | 0 | 20 % |  |
|  |  |  |  |  | Outer skin | Tea |  |
|  |  |  |  |  | Tea | Other: hair colouring | 1 | 0 | 20 % |  |
|  |  |  |  |  | Leaves | Squeezed, a drop added in ear | Med: abortifacient | 1 | 0 | 10 % |  |
| *Allium sativum* L. | HudraA | 0.09 | 0.03 | V | Med: earache | 2 | 0 | 20 % |  |
| Bulbs | Eaten fresh | Med: hypertension | 0 | 3 | 50% |  |
| (Amaryllidaceae*)* 10/DE/10 | Beli lukS |  |  |  |  | Tea | Med: anthelminthic | 2 | 0 | 33% |  |
| *Allium ursinum* L. (Amaryllidaceae) | Hudra e egerA | 0.19 | 0.29 | V | Whole plant | Med: toothache | 1 | 0 | 17% |  |
| Dried/Fresh | Med: cultural bound syndrome (Evil Eye) | 2 | 8 | 24 % |  |
|  | SemušS |  |  |  |  | Fresh | Food: salad | 6 | 6 | 29% |  |
|  | Divlji lukS |  |  |  |  | Tincture, mixed with alcohol for 140 | Med: to lower cholesterol | 0 | 2 | 5% |  |
|  |  |  |  |  |  | days | Med: hypertension | 0 | 1 | 2% |  |
|  |  |  |  |  |  | Fresh |  |
|  |  |  |  |  | Bulbs | Fresh | Food: for animals to produce better milk | 0 | 1 | 2% |  |
|  |  |  |  |  | Grind (dried) | Food: seasoning | 1 | 0 | 2% |  |
|  |  |  |  |  | Leaves | Tea | Med: improve general health | 0 | 3 | 7% |  |
|  |  |  |  |  |  | Fresh | Food: salad | 4 | 1 | 12% |  |
|  |  |  |  |  |  | Pie (fresh) | Med: improve general health | 4 | 1 | 12% |  |
| *Alnus glutinosa* (L.) Gaertn. (Betulaceae) 05/ | VerriA | 0.01 | 0.00 | V | Leaves | Food: pie filling | 1 | 0 | 2% |  |
| Tea | Med: abortifacient | 1 | 0 | – |  |
| DE/10 | Beli slezS | 0.00 | 0.07 | V | Flowers | Tea | Med: bronchitis, coughing | 0 | 6 | 100% |  |
| *Althaea officinalis* L. (Malvaceae) 07/DE/10 |  |
| *Arctostaphylos uva-ursi* (L.) Spreng. | Uvin čajS | 0.00 | 0.14 | V | Aerial part | Tea | Med: urinary system inflammations | 0 | 3 | 27% |  |
| (Ericaceae) 02/Pz/2013 | Medvedje ušiS, |  |  |  | Leaves | Tea | Med: good for general health | 0 | 4 | 36% |  |
|  | Crna travaS |  |  |  |  |  | Med: inflamed tonsils | 0 | 4 | 36% |  |



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**Table 3** (*continued*)

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Botanical or Fungal Taxon and Herbarium | Local folk plant nameb | UVAlb | UVSerb | UVQ | Parts of the plant | Preparation | Local recorded usesc | *Nuc* | *Nuc* | FL |  |
| Accession Codea |  |  |  |  | used |  |  | Albd | Serbd |  |  |
| *Atriplex hortensis* L. | LabodaA | 0.01 | 0.10 | V | Leaves | Cooked (fresh) | Food: savoury pie filling (mixed with onions, |  | 8 | 89% |  |
| (Amaranthaceae) |  |  |  |  |  | Topically applied (fresh) | cream milk) | 1 | 0 | 11% |  |
| *Avena sativa L.* | Thekna A | 0.02 | 0.00 | V | Seeds | Med: laceration |  |
| Animal food (dried) | Food: used for increasing milk production | 2 | 0 | – |  |
| (Poaceae) 15/Pz/2013 | LulebardhaA | 0.03 | 0.00 | V | Flowers | Tea | Med: diarrhoea | 1 | 0 | 33% |  |
| *Bellis perennis* L. |  |
| (Asteraceae) 94/GO/09 |  |  |  |  |  | Decoction (dried) | Med: respiratory disease | 1 | 0 | 33% |  |
| *Beta vulgaris* L. | Kaqana te kuqeA | 0.06 | 0.00 | V | Fruits | Med: diarrhoea | 1 | 0 | 33% |  |
| Tea | Med: anti-anaemic | 1 | 0 | 17% |  |
| (Amaranthaceae) 17/DE/10 | Kaqani i kuqA |  |  |  | Storage root | Grinded | Food: seasoning | 2 | 0 | 33% |  |
|  | Rrepa e kuqeA |  |  |  | Eaten (fresh) | Med: antiemetic | 2 | 0 | 33% |  |
|  | Rrepa e sheqeritA |  |  |  | Aerial parts | Fresh | Med: Veterinary, cultural bound syndrome | 1 | 0 | 17% |  |
| *Betula pendula* Roth, | Bello brezaS | 0.01 | 0.05 | V | Sap is tapped | The sap is drunk | (Evil Eye) | 0 | 2 | 40% |  |
| Med: urinary systems |  |
| (Betulaceae) 94/GO/09 | BrezaS |  |  |  | from the trunk | Tea | Med: for urinary systems | 0 | 2 | 40% |  |
|  | FshisaA |  |  |  | Fruits |  |
| ***Boletus* sp.** | Kërpudhat e njerzveA | 0.08 | 0.32 | V | Leaves and twigs | Tea | Med: bladder | 1 | 0 | 20 % |  |
| Fruiting body | Eaten | Food: seasoning, pickles | 4 | 9 | 38% |  |
| **(Boletaceae)** | VrganS |  |  |  |  |  | Food: seasoning, pickles | 4 | 9 | 38% |  |
| *Bovista dermoxantha* Pers. (Lycoperdaceae) | Kpurdha verganaA | 0.04 | 0.00 | V | Powder (spores) | Typically applied | Med: good for general health | 0 | 8 | 24 % |  |
| Pequrka e arushesA, | Med: lacerations, bleeding | 4 | 0 | 100% |  |
| *Brassica oleracea* L. | Fenë arusheA | 0.01 | 0.00 | V | Flowers | Squeezed (fresh) | Other: hair colouring | 1 | 0 | – |  |
| LulekaneA |  |
| (Brassicaceae) | (cultivated) | 0.07 | 0.00 | V | Fruits | Squeezed, topically applied | Med: anti-rheumatism | 3 | 0 | 38% |  |
| *Bryonia cretica* subsp. *dioica* (Jacq.) Tutin | RrushqeniA |  |
| (Cucurbitaceae) 64/GO/09 | KaqaniA |  |  |  | Storage root | Topically applied (fresh) | Med: anti-rheumatic | 2 | 0 | 25% |  |
|  | Kunglli i egerA |  |  |  |  | Eaten (fresh) | Med: abortifacient | 1 | 0 | 13% |  |
| *Calendula officinalis* L., (Asteraceae) 28/DE/10 | Bar tlyniA | 0.00 | 0.01 | V | Aerial part, | Fresh | Food: yogurt starter | 1 | 0 | 13% |  |
| NevenS | Mehlem (mixed with pig’s fat) | Med: laceration. skin infections | 0 | 1 | – |  |
| *Cannabis sativa* L. | Barqja e konopitA | 0.01 | 0.00 | V | Aerial part | Placed in water for 10 days | Other: rope (konop) | 1 | 0 | – |  |
| (Cannabaceae) | LisičarkaS LisiçarkaA Kpurdha | 0.03 | 0.09 | V | Fruiting body | Fresh and dried | Food: as salad | 3 | 1 | 40% |  |
| *Cantharellus cibarius* Fr. (Cantharellaceae) |  |
|  | liseqarkaA |  |  |  |  |  | Food: soup | 0 | 3 | 30% |  |
| *Capsicum annuum* L. | Divlji papricS | 0.00 | 0.01 | V | Leaves | Tea | Food: savoury pie filling | 0 | 3 | 30% |  |
| Med: against gastritis | 0 | 1 | – |  |
| (Solanaceae) | KaqaniA | 0.07 | 0.00 | V | Storage roots | Snacks | Food: snack | 7 | 0 | 100% |  |
| *Carlina acaulis* L. |  |
| (Asteraceae) | Žutice travaS ŽtravaS | 0.00 | 0.17 | V | Leaves | Dried as tea | Med: against hepatitis | 0 | 1 | 7% |  |
| ***Chelidonium majus* L. (Papaveraceae)**96/ |  |
| GO/09 | KiticaS | 0.00 | 0.27 | V | Latex | Fresh | Med: against wats | 0 | 13 | 93% |  |
| *Centaurium erythraea* Rafn (Gentianaceae) 21/ | Aerial parts | Tea | Med: stomach-ache, diarrhoea, vomit | 0 | 10 | 43% |  |
| De/10 | KičicaS |  |  |  |  |  | Med: antipyretic | 0 | 10 | 43% |  |
|  | Crveni kantarijonS |  |  |  |  | Tincture | Food: tea | 0 | 1 | 5% |  |
|  |  |  |  |  |  | Food: flavouring for alcohol (raki) | 0 | 1 | 5% |  |
| *Ceterach officinarum* Willd. (Aspleniaceae) | Fieri i egerA | 0.03 | 0.00 | V | Aerial parts | Tea | Med: for stomach ache | 1 | 0 | 25% |  |
| Med: kidney |  |
|  | Fieri i guritA |  |  |  |  | Decoct | Med: anticancer | 1 | 0 | 25% |  |
|  |  |  |  |  | Roots | Tea | Med: respiratory diseases | 1 | 0 | 25% |  |
| *Citrullus lanatus* (Thunb.) Matsum. & Nakai | BostanA | 0.01 | 0.00 | V | Med: prostate | 0 | 0 | 25% |  |
| Fruits | Squeezed and topically applied in ear | Med: earache | 1 | 0 | – |  |
| (Cucurbitaceae) 33/DE/10 | Puqurka me kapuqA Kërpudha te | 0.02 | 0.00 | V | Fruiting body | Topically applied (dried, softened in | Med: furuncles | 2 | 0 | – |  |
| *Coprinus* sp. |  |
| (Agaricaceae) | gjataA |  |  |  |  | milk prior to application) |  |  |  |  |  |



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**Table 3** (*continued*)

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Botanical or Fungal Taxon and Herbarium | Local folk plant nameb | UVAlb | UVSerb | UVQ | Parts of the plant | Preparation | Local recorded usesc | *Nuc* | *Nuc* | FL |  |
| Accession Codea |  |  |  |  | used |  |  | Albd | Serbd |  |  |
| ***Cornus mas* L.** | ThanaA | 0.25 | 0.40 | V | Fruits | Tea (fresh) | Med: hypertension | 1 | 2 | 2% |  |
| **(Cornaceae)** 35/GO/09 | Divlji drenS |  |  |  |  | Fresh | Food: snacks | 1 | 2 | 5% |  |
|  | DrenS, |  |  |  |  |  | Food: drink | 11 | 10 | 38% |  |
|  |  |  |  |  |  |  | Food: jam | 11 | 10 | 38% |  |
|  |  |  |  |  |  |  | Food: food colorant and flavouring for | 0 | 1 | 2% |  |
|  |  |  |  |  |  | Decoction | alcohol (raki) | 0 | 2 | 4% |  |
|  |  |  |  |  |  | Med: stomach ache |  |
|  |  |  |  |  | Fruits and leaves | Tea | Med: improving health | 0 | 2 | 4% |  |
| *Corylus avellana* L. | LajthiaA | 0.04 | 0.03 | V | Med: improving health | 1 | 3 | 7% |  |
| Fruits | Fresh or dried | Food: snacks | 3 | 2 | 86% |  |
| (Betulaceae) 15/GO/09 | MurriziA, | 0.23 | 0.35 | V | Leaves | Fresh | Food: as a yogurt and cheese starter | 1 | 0 | 14 % |  |
| ***Crataegus monogyna* Jacq. (Rosaceae)**48/ | Flowers or Fruits | Tea | Med: blood circulation, flu, hypertension | 2 | 7 | 18% |  |
| GO/09 | Murrizi i kuqA GllogS |  |  |  | Spine | Fresh (used to sting the warts) | Med: warts | 0 | 1 | 2% |  |
|  |  |  |  |  | Flower and | Dried as tea | Food: recreational tea | 9 | 9 | 35% |  |
|  |  |  |  |  | Leaves |  | Med: hypertension | 9 | 9 | 35% |  |
|  |  |  |  |  | Fruits | Tea |  |
|  |  |  |  |  | Med: headache | 3 | 0 | 6% |  |
| *Cucurbita pepo* L. (Cucurbitaceae) 66/GO/09 | KungulliA, | 0.09 | 0.00 | V | Leaves | Tea | Med: for lungs/respiratory complaints | 0 | 2 | 4% |  |
| Fruits | Cooked (mixed with milk, sugar, salt | Food: savoury pie filling | 3 | 0 | 33% |  |
|  | KungiA |  |  |  |  | and flour) | Food: Jam (reqel) | 2 | 0 | 22% |  |
|  | Kungull stambolliA |  |  |  | Fruits cortex | Cooked |  |
| *Cydonia oblonga* Mill. | FtoniA | 0.06 | 0.09 | V | Piece of fruit cortex | Med: Msysh (protect from evil eye) | 4 | 0 | 44% |  |
| Leaves | Tea | Med: cough, respiratory system | 0 | 3 | 20 % |  |
| (Rosaceae) 23/DE/10 | FtoiA |  |  |  | Fruits | Fermented | Food: pickles | 2 | 0 | 27% |  |
|  | DunjaS |  |  |  |  | Boiled | Food: jam | 3 | 1 | 27% |  |
|  |  |  |  |  |  | Compote | Food: beverage | 1 | 0 | 7% |  |
| *Datura stramonium* L. | MatraganA | 0.05 | 0.00 | V | Seeds | Raki (fermented for 21 days) | Food: beverage | 0 | 3 | 20 % |  |
| Smoke (Inhalation of smoke from | Med: toothache | 3 | 0 | 60% |  |
| (Solanaceae) |  |  |  |  |  | seeds heated with charcoal). | Med: toothache | 2 | 0 | 40% |  |
| *Daucus carota* L. | ŠargarepS | 0.00 | 0.01 | V | Storage root | Inhalation of seeds and tea |  |
| Fresh, usually, mixed with peppers, | Food: pickles | 0 | 1 | – |  |
| (Apiaceae) | Bishti i kalitA KonjurepS | 0.02 | 0.03 | V | Aerial part | tomato | Med: for urinary systems | 0 | 2 | 50% |  |
| *Equisetum arvense* L. (Equisetaceae) 40/GO/ | Tea |  |
| 09 | Sitna mlječikaS | 0.02 | 0.00 | V | Aerial part | Tea | Food: drinks | 2 | 0 | 50% |  |
| *Euphorbia cyparissias* L. (Euphorbiaceae) 18/ | Med: for prostate problems | 2 | 0 | – |  |
| GO/09 | Vid vidaS | 0.00 | 0.04 | V | Leaves | Fresh | Med: external use for eye inflammation | 0 | 3 | – |  |
| *Euphrasia officinalis* L. |  |
| (Orobanchaceae) | AhuA, | 0.01 | 0.00 | V | Timber | Firewood | Other: Firewood | 1 | 0 | – |  |
| *Fagus sylvatica* L. |  |
| (Fagaceae) | FiqA | 0.01 | 0.01 | V | Latex | Topically applied | Med: warts | 0 | 1 | – |  |
| *Ficus carica* L. |  |
| (Moraceae) | SmokvaS | 0.01 | 0.00 | V | Fruits | Boiled | Food: jam | 1 | 0 | – |  |
| *Fomes* sp. | EshkaA | Fruiting body | Dried | Bee repellent | 1 | 0 | – |  |
| (Polyporaceae) |  |  |  |  |  |  |  |  |  |  |  |



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**Table 3** (*continued*)

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Botanical or Fungal Taxon and Herbarium | Local folk plant nameb | UVAlb | UVSerb | UVQ | Parts of the plant | Preparation | Local recorded usesc | *Nuc* | *Nuc* | FL |  |
| Accession Codea |  |  |  |  | used |  |  | Albd | Serbd |  |  |
| ***Fragaria vesca* L. (Rosaceae)**47/GO/09 | Divlja jagodaS | 0.25 | 0.29 | V | Leaves | Tea, mixed with *Thymus vulgaris* | Med: against diabetes, internal cleaning of | 0 | 2 | 4% |  |
|  | Dredhza e egerA |  |  |  |  |  | organism | 0 | 2 | 4% |  |
|  |  |  |  |  |  |  | Med: for nervous system, insomnia |  |
|  |  |  |  |  | Fruits | Boiled | Med: for stomach | 0 | 1 | 2% |  |
|  |  |  |  |  | Food: jam | 7 | 8 | 30% |  |
|  |  |  |  |  |  | Tea | Food: drinks | 7 | 8 | 30% |  |
|  |  |  |  |  |  | Food: drinks | 2 | 0 | 4% |  |
|  |  |  |  |  |  | Eaten fresh | Med: for hypertension | 0 | 2 | 4% |  |
|  |  |  |  |  |  | Med: mouth disease (usually those | 1 | 0 | 2% |  |
|  |  |  |  |  |  |  | associated with blisters in inner part of the |  |  |  |  |
|  |  |  |  |  |  |  | mouth) | 8 | 0 | 16% |  |
| *Fraxinus excelsior* L. (Oleaceae) | FrashniA | 0.03 | 0.01 | V | Bark | Tea | Food: snacks |  |
| Med: veterinary, Newcastle disease | 3 | 1 | – |  |
| *Fraxinus ornus* L. | FrashniA | 0.12 | 0.01 | V | Wood | Wood pieces in triangle form | Med: Msysh (Protection from evil eye) | 6 | 0 | 46% |  |
| (Oleaceae) |  |  |  |  | Bark | Handcraft | Other: handle of different equipment | 1 | 0 | 8% |  |
|  |  |  |  |  | Tea, mixed with wheat bran | Med: veterinary, Newcastle disease | 2 | 0 | 15% |  |
| *Gentiana lutea* L. (Gentianaceae) 44/DE/10 | Bari i zemresA, RavanjS | 0.01 | 0.16 | V | Aerial part | Tea | Med: anthelminthic, toothache | 3 | 1 | 31 % |  |
| Tea | Med: for blood | 0 | 4 | 22% |  |
|  | LincuraS |  |  |  | Leaves | Dried as tea | Med: ulcer of stomach | 0 | 4 | 22% |  |
|  |  |  |  |  | Med: ulcer of stomach | 0 | 1 | 6% |  |
|  |  |  |  |  | Roots | Tea | Med: heart disorders | 1 | 0 | 6% |  |
| *Helianthus tuberosus* L. (Asteraceae) 82/GO/09 | ArashkaA | 0.06 | 0.00 | V | Tubers | Tincture | Med: for better digestion | 0 | 8 | 44% |  |
| Eaten fresh | Food: snacks | 6 | 0 | 100% |  |
| *Hordeum vulgar*e L. | ElbiA | 0.01 | 0.00 | V | Aerial part | Fodder for animals | Med: veterinary, to increase general health | 1 | 0 | – |  |
| (Poaceae) | Lule e saritA KantarionA KantarijonS | 0.21 | 1.65 | I | Aerial part | Decoct (used before eating) | and strength | 5 | 2 | 4% |  |
| ***Hypericum perforatum* L. (Hypericaceae)** | Med: kidney disorders |  |
| 32/GO/09 | Zuti čajS |  |  |  |  | Extracted with oil for 40 days exposed | Med: skin wounds, burns, skin cuts, skin | 4 | 32‡ | 24 % |  |
|  |  |  |  |  |  | to sun | infections | 0 | 14 | 9% |  |
|  |  |  |  |  |  | Tea | Med: clean eyes, |  |
|  |  |  |  |  |  |  | Med: stomach disorders, hypertension, heart | 0 | 14 | 9% |  |
|  |  |  |  |  |  |  | disorders | 0 | 14 | 9% |  |
|  |  |  |  |  |  |  | Med: hypertension, heart disorders |  |
|  |  |  |  |  | Leaves | Tea | Med: diarrhoea | 2 | 0 | 1% |  |
|  |  |  |  |  | Med: Against gastritis, for warts, earache, | 0 | 17 | 11% |  |
|  |  |  |  |  |  |  | headache | 0 | 17 | 11% |  |
|  |  |  |  |  |  |  | Med: for warts |  |
|  |  |  |  |  |  |  | Med: earache and headache | 0 | 17 | 11% |  |
|  |  |  |  |  |  |  | Med: Against internal inflammation | 0 | 4 | 3% |  |
|  |  |  |  |  |  |  | Med: skin cuts | 2 | 1 | 2% |  |
|  |  |  |  |  |  |  | Med: anaemia | 4 | 0 | 3% |  |
|  |  |  |  |  |  |  | Med: for better digestion, against diarrhoea | 4 | 0 | 3% |  |
| *Juglans regia* L. | ArraA | 0.05 | 0.05 | V | Cortex of fruits | Dye | and anaemia | 2 | 0 | 22% |  |
| Cosm: colouring nail (fresh) |  |
| (Juglandaceae) 22/GO/09 | OrahovouljeS |  |  |  | Unripe fruits | Extracted with oil 30–40 days | Med: Skin burns, hair oil, and protecting skin | 0 | 2 | 22% |  |
|  | OrahoS |  |  |  | Oil of fruits | exposed to sun | for sun burn | 1 | 0 | 11% |  |
|  |  |  |  |  | Squeezed (fresh) | Med: earache |  |
|  |  |  |  |  | Fruits | Tea (fresh) | Med: cough | 1 | 0 | 11% |  |
|  |  |  |  |  | Stem medulla | Additive in aaki | Food: seasoning | 0 | 2 | 22% |  |
| *Juniperus communis* L. | Gllija e zezëA | 0.05 | 0.01 | V | Topically applied in tooth | Med: toothache | 1 | 0 | 11% |  |
| Fruits | Fresh or dried | Food: seasoning | 5 | 0 | 83% |  |
| (Cuepressaceae) 12/GO/09 | Crna smrekaS |  |  |  | Aerial part | Dried as tea | Med: improve general health | 0 | 1 | 17% |  |



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**Table 3** (*continued*)

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Botanical or Fungal Taxon and Herbarium | Local folk plant nameb | UVAlb | UVSerb | UVQ | Parts of the plant | Preparation | Local recorded usesc | *Nuc* | *Nuc* | FL |  |
| Accession Codea |  |  |  |  | used |  |  | Albd | Serbd |  |  |
| *Juniperus oxycedrus* L. | Dllinja e kuqeA | 0.13 | 0.06 | V | Fruits | Tea | Med: kidney disorders | 6 | 0 | 33% |  |
| (Cuepressaceae) LEB/2012/5 | GllijaA |  |  |  |  | Tea (drunk as a tea, before breakfast) | Med: cough | 1 | 1 | 11% |  |
|  | Crvena smrekaS |  |  |  | Leaves | Med: kidney stones | 4 | 1 | 28% |  |
|  |  |  |  |  | Oil | Med: warts | 2 | 0 | 11% |  |
| *Lathyrus aphaca* L. | Pasuli i egerA | 0.01 | 0.00 | V | Aerial part | Tea | Med: gynaecological problems of women | 0 | 3 | 17% |  |
| Seeds | Dried | Food: seasoning | 1 | 0 | – |  |
| (Fabaceae) | Arashka e zezeA | 0.05 | 0.00 | V | Tubers | Eaten fresh | Food: snacks | 5 | 0 | 100 |  |
| *Lathyrus tuberosus* L. |  |
| (Fabaceae) | SunčanicaS | 0.00 | 0.06 | V | Body fruits | Fresh and dried | Food: as salad | 0 | 5 | 50% |  |
| *Macrolepiota procera* (Scop.) Singer (1948) |  |
| (Agaricaceae) | MollaA | 0.05 | 0.39 | V | Fruits | Fermented (for 21 days) | Food: additive in other foods | 0 | 5 | 50% |  |
| *Malus domestica* Borkh. (*Rosaceae*) | Food: raki (alcoholic beverage) | 0 | 15 | 42% |  |
| CAME-26236 | JabukaS |  |  |  |  | Jam | Med: toothache | 0 | 15 | 42% |  |
| *Malus* sp. (Rosaceae) | Mollat xufeA | 0.01 | 0.00 | V | Fruits | Food | 5 | 1 | 17% |  |
| Eaten (fresh) | Med: antihypertension | 1 | 0 | – |  |
| ***Malus sylvestris* (L.) Mill. (Rosaceae)**59/ | Molla e egerA | 0.49 | 0.48 | VI | Fruits | Eaten (fresh) | Food: beverage | 0 | 1 | 1% |  |
| GO/09 | Molla turrshiA Divljačka jabukaS |  |  |  |  |  | Food: snacks | 5 | 0 | 6% |  |
|  | Divla jabukaS |  |  |  |  |  | Med: antihypertension | 5 | 1 | 7% |  |
|  |  |  |  |  |  | Fermented (for 21 days) | Med: diarrhoea | 1 | 0 | 1% |  |
|  |  |  |  |  |  | Food: vinegar | 21 | 10 | 36% |  |
|  |  |  |  |  |  | Tea | Med: increase general health especially for | 4 | 7 | 13% |  |
|  |  |  |  |  |  | Pickle (fresh) | blood | 10 | 0 | 11% |  |
|  |  |  |  |  |  | Food: pickles |  |
|  |  |  |  |  |  | Boiled and topically applied | Med: measles | 1 | 0 | 1% |  |
|  |  |  |  |  |  | Fermented | Food: alcoholic beverage (raki) | 0 | 14 | 16% |  |
|  |  |  |  |  |  | Dried (Ashaf) | Food: beverage (compote) | 2 | 1 | 3% |  |
| *Malva sylvestris* L. | MullagaA | 0.01 | 0.00 | V | Stem | Tincture | Med: rheumatism | 0 | 4 | 1% |  |
| Fresh | Food: yogurt starter | 1 | 0 | – |  |
| (Malvaceae) 90/GO/09 | KamomiliA KamelicaA | 0.10 | 0.54 | V | Flowers | Tea | Med: diarrhoea | 1 | 0 | 2% |  |
| ***Matricaria chamomilla* L. (Asteraceae)**99/ |  |
| GO/09 | Divlja kamilicaS |  |  |  |  |  | Med: to clean eyes | 4 | 2 | 12% |  |
|  | KamilicaS |  |  |  |  |  | Med: relaxing, headache, | 1 | 1 | 4% |  |
|  |  |  |  |  |  |  | Med: stomachache, | 1 | 1 | 4% |  |
|  |  |  |  |  |  |  | Med: urinary system, eyes, ears | 1 | 10 | 22% |  |
|  |  |  |  |  |  |  | Med: eyes | 1 | 10 | 22% |  |
|  |  |  |  |  |  |  | Med: ears | 1 | 10 | 22% |  |
|  |  |  |  |  |  |  | Food: tea Med: good for general health | 0 | 3 | 5% |  |
|  |  |  |  |  |  |  | especially for cold and flu | 0 | 3 | 5% |  |
|  |  |  |  |  |  |  | Med: good for general health |  |
| *Melissa officinali*s L. (Lamiaceae) 58/DE/10 | Bari i bletësA MatičnjakS | 0.14 | 0.06 | V | Leaves | Dried as tea | For cold and flu | 0 | 3 | 5% |  |
| Med: heart diseases | 6 | 2 | 42% |  |
|  |  |  |  |  |  | Fresh | Med: for nervous system | 6 | 2 | 42% |  |
| *Mentha longifolia* (L.) L. (Lamiaceae) 63/DE/ | Konjski bosiljakS | 0.00 | 0.10 | V | Leaves | Vet: bee attractant | 2 | 1 | 16% |  |
| Tea | Med: against bronchitis, headache, for lungs | 0 | 8 | 100% |  |
| 10 | NanaS | 0.03 | 0.13 | V | Aerial part | Tea | inflammation | 3 | 6 | 69 % |  |
| ***Mentha × piperita* L.** | Med: improving general health, better |  |
| **(Lamiaceae)** |  |  |  |  |  |  | breathing (lungs) | 0 | 4 | 31 % |  |
| *Mespilus germanica* L. | MushmollaA | 0.03 | 0.00 | V | Leaves | Tea | Med: stomach-ache, relaxing |  |
| Med: diarrhea | 1 | 0 | – |  |
| (Rosaceae) LEB/2012/5 |  |  |  |  |  |  | Med: good for general health | 1 | 0 | – |  |
| *Morchella* sp. | SmrčakS | 0.00 | 0.08 | V | Body fruits | Fresh and dried | Med: Food: tea | 1 | 0 | – |  |
| Food: as salad | 0 | 6 | 100% |  |
| (Morchellaceae) |  |  |  |  |  |  |  |  |  |  |  |



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**Table 3** (*continued*)

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Botanical or Fungal Taxon and Herbarium | Local folk plant nameb | UVAlb | UVSerb | UVQ | Parts of the plant | Preparation | Local recorded usesc | *Nuc* | *Nuc* | FL |  |
| Accession Codea |  |  |  |  | used |  |  | Albd | Serbd |  |  |
| *Morus alba* L. (Moraceae) LEB/2012/5 | Mani i bardhëA DudS | 0.04 | 0.08 | V | Leaves | Fresh | Med: veterinary, against diarrhoea in | 0 | 4 | 40% |  |
|  |  |  |  |  | Fruits | Juice | animals | 2 | 1 | 300% |  |
|  |  |  |  |  | Food: beverage |  |
| *Morus nigra* L. | Mani i ziA | 0.06 | 0.03 | V | Fruits | Jam (Pekmez) | Food: jam | 2 | 1 | 30% |  |
| Eaten fresh | Med: mouth disease | 2 | 0 | 25% |  |
| (Moraceae) 01/GO/09 | DudiA |  |  |  |  | Juice | Food: beverage | 2 | 1 | 38% |  |
| *Nicotiana tabacum* L. | DuhanA, | 0.01 | 0.05 | V | Leaves | Jam (Pekmez) | Food: jam | 2 | 1 | 38% |  |
| Dried, topically applied | Med: skin cuts, stop bleeding | 1 | 4 | 100% |  |
| (Solanaceae) | DuvanS | 0.01 | 0.00 | V | Leaves | Carried with clothes (dried) | Med: Msysh (people believe that it helps | 1 | 0 | – |  |
| *Nymphaea alba* L. | HelmatumA |  |
| (Nymphaeaceae) | Almatum A | 0.04 | 0.06 | V | Aerial parts | Tea | those who can't get pregnant) | 2 | 0 | 25% |  |
| *Ocimum basilicum* L. (Lamiaceae) 51/Pz/2013 | PasolegA | Med: cultural bound syndrome |  |
|  | BosolegA |  |  |  |  |  | Med: for nervous system | 0 | 2 | 25% |  |
|  | BosiljakS R |  |  |  |  |  | Food: seasoning | 2 | 0 | 25% |  |
| ***Origanum vulgare* L.** | Divlji bosiljekS | 0.50 | 0.95 | II | Flowers | Tea | Med: respiratory system | 0 | 3 | 25% |  |
| LuleqajiA | Med: kidney, Diuretic | 3 | 0 | 2% |  |
| **(Lamiaceae)** 74/GO/ | Çaj luleshA |  |  |  |  |  | Med: general health | 8 | 7 | 12% |  |
| 09 | Çaj mAiA, |  |  |  |  |  | Med: for gynaecological problems to women | 3 | 2 | 4% |  |
|  | Planinska čajS Vranilova travaS |  |  |  | Aerial parts | Tea | Med: good for cold and flu | 16 | 27 | 36% |  |
|  |  |  |  |  | Med: improving general health | 5 | 7 | 9% |  |
|  |  |  |  |  |  |  | Med: for flu and respiratory system | 5 | 7 | 9% |  |
|  |  |  |  |  |  |  | Med: urinary system, | 5 | 7 | 9% |  |
|  |  |  |  |  |  |  | Med:, toothache | 5 | 7 | 9% |  |
|  |  |  |  |  |  |  | Med: relaxing, nervous disorders | 0 | 5 | 4% |  |
|  |  |  |  |  |  |  | Med: hypertension | 0 | 5 | 4% |  |
| *Petroselinum crispum* (Mill.) Fuss (Apiaceae) | PeršunS | 0.00 | 0.08 | V | Aerial parts | Fresh and dry | Med: For cleaning internal organism | 0 | 2 | 2% |  |
| Med: hypertension, urinary system | 0 | 4 | 67% |  |
| 70/DE/10 | PasuliA | 0.02 | 0.00 | V | seeds | Burned and topically applied | Food: seasoning | 0 | 2 | 33% |  |
| *Phaseolus vulgaris* L. | Med: wound caused by bite of a dog | 1 | 0 | – |  |
| (Fabaceae) 62/Pz/2013 | LulebozhuriA | 0.02 | 0.00 | V | Seeds | Boiled | Food: yogurt started | 1 | 0 | – |  |
| *Papaver rhoeas* L. | Tea | Med: given to young children for sleeping | 2 | 0 | – |  |
| (Papaveraceae) 14/GO/09 | PishaA | 0.01 | 0.10 | V | Young twigs | Add water and sugar, like honey | Med: respiratory disorders. | 1 | 3 | 44% |  |
| *Pinus* sp. |  |
| (Pinaceae) | BorovinaS |  |  |  | Young cones | Fresh | Med: increase immunity | 0 | 4 | 44% |  |
|  | Igliče od borovaS ŠišarkaS |  |  |  | Med: asthma and respiratory system | 0 | 1 | 11% |  |
| ***Plantago major* L.** | Lapa e oborritA | 0.11 | 0.11 | V | Leaves | 20-50 young cones mixed with honey | Med: skin wounds, furuncle, skin cut | 5 | 8 | 65% |  |
| Fresh, topically applied |  |
| **(Plantaginaceae)** 04/GO/09 | Lapa e oborritA, |  |  |  |  |  | Med: skin burns | 1 | 0 | 5% |  |
|  | GjethemadhoriA |  |  |  |  | Tea | Med: skin eczema | 1 | 0 | 5% |  |
|  | ŽivolakS |  |  |  |  | Med: antipyretic | 0 | 1 | 5% |  |
|  | ŽivovlakaS |  |  |  |  | Dried and smoke | Med: earache, antimicrobial | 3 | 0 | 15% |  |
| *Plantago lanceolata* L. (Plantaginaceae) 03/ | Bima për me lan duhaninA | 0.00 | 0.03 | V | Leaves | Med: anti cigarettes | 1 | 0 | 5% |  |
| BokvicaS | Fresh, topically applied | Med: stop bleeding | 0 | 2 | – |  |
| GO/09 | – | 0.16 | 0.24 | V | Aerial parts | Dried | Med: veterinary, food for animal in the | 16 | 19 | 100% |  |
| Poaceae (various unidentified species) |  |
| ***Primula veris* L.** | AguliçjaA | 0.18 | 1.49 | I | Flowers | Tea | winter | 6 | 36‡ | 31 % |  |
| Med: respiratory disease, cough, asthma, |  |
| **(Primulaceae) 56/Pz/2013** | Lule me gishtaA JagličeS |  |  |  |  |  | throat ache | 6 | 36‡ | 31 % |  |
|  |  |  |  |  |  |  | Med: Improving general health |  |
|  |  |  |  |  | Leaves | Tea | Med: hypertension | 6 | 36‡ | 31 % |  |
|  |  |  |  |  | Food: tea | 0 | 11 | 8% |  |



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**Table 3** (*continued*)

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Botanical or Fungal Taxon and Herbarium | Local folk plant nameb | UVAlb | UVSerb | UVQ | Parts of the plant | Preparation | Local recorded usesc | *Nuc* | *Nuc* | FL |  |
| Accession Codea |  |  |  |  | used |  |  | Albd | Serbd |  |  |
| ***Primula vulgaris* Huds.** | JagorčevinaS | 0.12 | 0.65 | V | Aerial parts | Tea | Med: stomach ulcer, to increase appetite | 0 | 7 | 11% |  |
| **(Primulaceae) 30/GO/** |  |  |  |  |  |  | Med: Bronchitis, for cough of children | 4 | 15 | 30% |  |
| **09** |  |  |  |  |  |  | Med: for stones in kidneys | 4 | 15 | 30% |  |
| *Prunus avium* (L.) L. | BojliaA | 0.04 | 0.03 | V | Fruits | Bioled | Med: for liver | 4 | 15 | 30% |  |
| Food: jam | 1 | 2 | 50% |  |
| (Rosaceae) 71/DE/10 | QershiA |  |  |  |  | Dried (Ashav) and then dried | Food: compote | 3 | 0 | 50% |  |
| ***Prunus cerasifera* Ehrh. (Rosaceae)**51/GO/ | VishnjeS | 0.12 | 1.13 | I | Fruits | Eaten (fresh) | Food: snacks | 4 | 11 | 14 % |  |
| KojsiaA, |  |
| 09 | KajsijaA |  |  |  |  | Fermented for 21 days | Food: alcoholic beverage (raki) | 1 | 40‡ | 41 % |  |
|  | GjenerikeA |  |  |  |  | Compote | Food: beverage: | 2 | 21† | 23 % |  |
|  | ŠliveS, |  |  |  |  | Boiled until get consistency mass is | Med: anti-constipation | 5 | 15 | 19 % |  |
|  | Divlje šljiveS |  |  |  |  | Food: jam |  |
|  | Suve sljiveS |  |  |  |  | obtained | Med: against constipation | 0 | 3 | 3% |  |
| ***Prunus domestica* L.** | KumbullaA | 0.11 | 0.05 | V | Fruits | Decoction |  |
| Jam (pistil) | Food: jam | 7 | 0 | 50% |  |
| **(Rosaceae)** 68/DE/10 | ŠlivaS |  |  |  |  | Dried (Ashaf) and then compote | Food: beverage | 4 | 0 | 29% |  |
| ***Prunus spinosa* L.** | KulumriaA | 0.18 | 0.08 | V | Fruits | Fermented for 21 days | Food: alcoholic beverage (raki) | 0 | 4 | 21% |  |
| Tea | Med: antidiabetic | 3 | 0 | 14 % |  |
| **(Rosaceae)** 49/GO/09 |  |  |  |  |  |  | Med: antihypertensive | 4 | 0 | 19 % |  |
|  |  |  |  |  |  |  | Med: stone kidney | 1 | 0 | 5% |  |
|  |  |  |  |  |  | Eaten fresh | Food: drinks | 1 | 3 | 19 % |  |
|  |  |  |  |  |  | Med: antidiabetic | 4 | 0 | 19 % |  |
| *Pyrus amygdaliformis* Vill. (Rosaceae) | KruškeS, | 0.02 | 0.09 | V | Fruits | Fermented for 21 days | Food: snacks | 5 | 3 | 24 % |  |
| Food: alcoholic beverage (raki) | 0 | 7 | 78% |  |
|  | DardhaA |  |  |  |  | Compote | Food: beverage | 1 | 0 | 11% |  |
| ***Pyrus communis* L.** | Dardha egërA | 0.16 | 0.04 | V | Fruits | Med: anti constipation | 1 | 0 | 11% |  |
| Dardha turrshiA Dardha ujseA | Pickle | Food: pickles | 10 | 0 | 61% |  |
| **(Rosaceae)** | Dardha kakiqkeA, Dardha polloshkaA |  |  |  |  | Jam (pekmez) | Food: jam | 6 | 3 | 39% |  |
| **(local variety)** 56/ |  |  |  |  |  |  |  |  |  |  |  |
| Pz/2013 | Divlja kruskaS | 0.07 | 0.15 | V | Fruits | Fermented | Food: alcoholic beverage (raki) | 7 | 5 | 63% |  |
| *Pyrus pyraster* (L.) Burgsd. (Rosaceae) 78/DE/ |  |
| 10 | BagremitA | 0.02 | 0.00 | V | Flowers | Jam | Food: jam | 0 | 7 | 37% |  |
| *Robinia pseudoacacia* L. (Fabaceae) 62/GO/09 | Nectar | Other: food for bees | 2 | 0 | – |  |
| *Rosa canina* L. | KaçaA | 0.29 | 0.26 | V | Fruits | Tea | Med: flue, immunity, cold Food: Beverage | 8 | 16 | 48% |  |
| (Rosaceae) 50/GO/09 | ŠipurakS. |  |  |  |  |  | Med: cough | 9 | 0 | 18% |  |
|  | ŠipkinjeS |  |  |  |  | Eaten | Med: stone kidney | 2 | 0 | 4% |  |
|  |  |  |  |  |  | Food: snacks | 5 | 0 | 10 % |  |
|  |  |  |  |  | Roots | Mixed with sugar and boiled | Food: jam | 4 | 5 | 18% |  |
| ***Rubus fruticosus* L.** | ManzaA | 0.17 | 0.06 | V | Decoct | Med: good for kidneys stones | 1 | 0 | 2% |  |
| Leaves | Tea | Food: drinks | 2 | 1 | 14 % |  |
| **(Rosaceae)** 43/GO/09 | ManaA KupinaS |  |  |  | Fruits | Dried fruits | Med: good for kidneys | 5 | 0 | 23 % |  |
|  |  |  |  |  |  | Eaten fresh | Med: for bronchitis, cough | 5 | 0 | 23 % |  |
|  |  |  |  |  |  | Food: snacks | 3 | 0 | 14 % |  |
|  |  |  |  |  |  | Mixed with sugar and boiled | Food: jam | 2 | 0 | 9% |  |
|  |  |  |  |  |  | Dried (ashaf) and then boiled | Food: beverage | 0 | 4 | 18% |  |
|  |  |  |  |  |  | (compote) |  |  |  |  |  |



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**Table 3** (*continued*)

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Botanical or Fungal Taxon and Herbarium | Local folk plant nameb | UVAlb | UVSerb | UVQ | Parts of the plant | Preparation | Local recorded usesc | *Nuc* | *Nuc* | FL |  |
| Accession Codea |  |  |  |  | used |  |  | Albd | Serbd |  |  |
| ***Rubus idaeus* L.** | Divlje malineS MalinaS | 0.17 | 0.06 | V | Fruits | Dried (ashaf) and then boiled | Food: beverage | 4 | 10 | 20 % |  |
| **(Rosaceae)** 80/DE/10 | Divlje kupineS MjedraA |  |  |  |  | (compote) | Food: alcoholic beverage (raki) | 0 | 3 | 4% |  |
|  |  |  |  |  |  | Fermented |  |
|  |  |  |  |  |  | Tincture | Med: regulate the menstrual cycle | 0 | 3 | 21% |  |
|  |  |  |  |  |  | Mixed with sugar and boiled | Food: jam | 7 | 8 | 21% |  |
|  |  |  |  |  |  | Eaten (fresh) | Food: snacks | 1 | 0 | 1% |  |
|  |  |  |  |  |  | Eaten fresh | Med: regulator of hypertension | 9 | 6 | 20 % |  |
|  |  |  |  |  |  | Eaten fresh | Med: against cancer | 0 | 2 | 3% |  |
|  |  |  |  |  | Leaves | Tea | Med: general health, get stronger | 0 | 4 | 6% |  |
| ***Rumex acetosa* L. (Polygonaceae)**71/GO/09 | UfllaA | 0.55 | 0.10 | V | Dried as tea | Med: tea that is good for general health | 0 | 2 | 3% |  |
| Leaves | Fresh leaves mixed with cheese, or | Food: savoury pie filling | 24 | 6 | 47% |  |
|  | Uflla e malitA DrastafiqaA |  |  |  |  | with onions and milk cram | Food: kids use as snacks | 15 | 2 | 27% |  |
|  | KiselicaS |  |  |  | Aerial parts | Fresh leaves |  |
|  |  |  |  |  | Eaten (fresh) | Food: snacks | 16 | 0 | 25% |  |
| ***Rumex patientia* L. (Polygonaceae)** | LepjetaA | 0.80 | 0.09 | V | Stem | Snack (fresh) | Food: snack | 1 | 0 | 2% |  |
| Leaves | Dried | Food: seasoning | 4 | 1 | 5% |  |
| **CAME-26285** | LepjetraA |  |  |  |  | Fresh leaves mixed with cheese, or | Food: Filling for savoury pie and sarma | 40‡ | 3 | 46% |  |
|  | Rraj kuqeA LepedraA |  |  |  |  | onions, cream milk | Food: Filling for savoury pie and sarma | 40‡ | 3 | 46% |  |
|  | ŠtaviljakS |  |  |  |  | To roll sarma |  |
|  | ŠtavinjakS |  |  |  |  | Topically applies (fresh) | Med: warts | 0 | 1 | 2% |  |
| *Sagittaria sagittifolia* L. (Alismataceae) | Purri gjarpniA | 0.01 | 0.03 | V | Leaves | Tea | Med: kidney | 1 | 0 | 1% |  |
| Fresh leaves mixed with cheese, or to | Food: savoury pie to roll sarma | 1 | 2 | – |  |
| *Salix alba* L. | VrboS | 0.00 | 0.05 | V | Aerial parts | roll sarma | Med: cultural bound syndrome (Evil Eye) | 0 | 4 | 100% |  |
| ShelguA | Added at the doors on St. George’s |  |
| (Salicaceae) 70/ |  |  |  |  |  | Day |  |  |  |  |  |
| Pz/2013 | ŽalfiaS | 0.03 | 0.05 | V | Aerial parts | Eaten (dried) | Vet: pasture bloat in cattle | 3 | 0 | 50% |  |
| *Salvia officinalis* L. |  |
| (Lamiaceae) | XhymezhdeA | 0.00 | 0.01 | V | Leaves | Dried as tea | Med: for respiratory inflammations | 0 | 3 | 50% |  |
| *Salvia* sp. | Aerial parts | Dried | Med: cough | 0 | 1 | – |  |
| (Lamiaceae) | KinlaA | 0.06 | 0.00 | V | Leaves | Fresh | Med: For lacerations | 1 | 0 | 20 % |  |
| *Sambucus ebulus* L. |  |
| (Adoxaceae) 28/GO/09 |  |  |  |  | Leaves | Topically applied | Med: to treat wounds caused by poisonous | 4 | 0 | 80 % |  |
| ***Sambucus nigra* L.** | ShtoguA | 0.21 | 0.29 | V | and flowers | Fresh, topically applied | snakes | 1 | 0 | 3% |  |
| Fruits | Med: anti-rheumatic |  |
| **(Adoxaceae)** 26/GO/09 | BozaS |  |  |  | Cortex | Mixed with sugar and boiled | Food: for jam | 0 | 3 | 8% |  |
|  | ZovaS |  |  |  | Mixed with milk cream | Other: cosmetics | 6 | 0 | 16% |  |
|  | RrushqeniA |  |  |  | Leaves | Extracted with fat | Med: acne and face diseases, against burns | 1 | 11 | 8% |  |
|  |  |  |  |  | Tea | Med: headache | 5% |  |
|  |  |  |  |  | Flowers | Tea, 41 flowers added in hot water, | Med: anti-rheumatic | 1 | 1 | 5% |  |
|  |  |  |  |  | Med: respiratory diseases | 4 | 2 | 16% |  |
|  |  |  |  |  |  | with 3 lemons and 3 kg sugar | Med: good for general health | 4 | 2 | 16% |  |
|  |  |  |  |  |  | Tea |  |
|  |  |  |  |  |  | Med: anti-asthmatic, general health, | 2 | 1 | 8% |  |
|  |  |  |  |  |  | Juice, fresh flower mixed with sugar | bronchitis | 2 | 3 | 14 % |  |
|  |  |  |  |  |  | Food: beverage |  |
| *Satureja montana* L. | ČubricaS | 0.01 | 0.01 | V |  | and water | Food: seasoning | 1 | 0 | % |  |
|  | Dried |  |
| (Lamiaceae) 19/Pz/11 | ThekraA | 0.02 | 0.00 | V | Aerial parts | Fodder for animals | Med: stomach-ache, anti-constipation | 0 | 1 | % |  |
| *Secale cereale* L. | Vet: increasing production of milk | 1 | 0 | – |  |
| (Poaceae) |  |  |  |  | Seeds | Boiled (fresh) | Med: anthelminthic | 1 | 0 | – |  |



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**Table 3** (*continued*)

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Botanical or Fungal Taxon and Herbarium | Local folk plant nameb | UVAlb | UVSerb | UVQ | Parts of the plant | Preparation | Local recorded usesc | *Nuc* | *Nuc* | FL |  |
| Accession Codea |  |  |  |  | used |  |  | Albd | Serbd |  |  |
| *Sempervivum tectorum* L. (Crassulaceae) 87/ | Čuvar kučeS | 0.00 | 0.70 | V | Leaves | Squeezed, topically applied in ear | Med: for earache | 0 | 25‡ | 69 % |  |
| DE/10 |  |  |  |  |  | Tea | Med: eye disorders | 0 | 25‡ | 14 % |  |
|  |  |  |  |  |  | Med: for gynaecological problems | 0 | 3 | 8% |  |
|  |  |  |  |  |  | Eaten fresh | Med: stomachache | 0 | 2 | 6% |  |
|  |  |  |  |  |  | Squeezed, topically applied in | Med: against oedemas in feet | 0 | 1 | 3% |  |
| *Sideritis scardica* Griseb. (Lamiaceae) | Qaj bjeshkeA | 0.06 | 0.00 | V | Aerial parts | oedema area | Med: bronchitis | 1 | 0 | 17% |  |
| Tea |  |
| *Solanum tuberosum* L. | PatatjaA, | 0.22 | 0.00 | V | Tuber | Typically applied around the head | Food: drinks | 5 | 0 | 83% |  |
| Med: fever | 10 | 0 | 45% |  |
| (Solanaceae) | KompiraA |  |  |  |  | Cooked, Mixed with cream milk, | Med: headache | 10 | 0 | 45% |  |
|  |  |  |  |  |  | Food: savoury pie filling | 2 | 0 | 9% |  |
| *Spinacia oleracea* L. | SekllaA | 0.05 | 0.00 | V | Leaves | flour, salt, | Food: savoury pie filling | 5 | 0 | 100% |  |
| Cooked, mixed with cheese, or onions |  |
| (Amaranthaceae) | Lule jargovaniA | 0.02 | 0.01 | V | Aerial parts | Squeezed (Fresh) | Other: bee repellent | 2 | 1 | – |  |
| *Syringa vulgaris* L. |  |
| (Oleaceae) 09/GO/09 | KallumperS KallamferA | 0.01 | 0.05 | V | Leaves | Tea | Med: against diabetes | 0 | 2 | 40% |  |
| *Tanacetum vulgare* L. (Asteraceae) 75/Pz/2013 |  |
|  |  |  |  |  |  | Topically apply, round the head | Med: hypertension | 0 | 2 | 40% |  |
|  |  |  |  |  |  | Med: Headache | 1 | 0 | 20 % |  |
| ***Taraxacum officinale* (L.) Weber ex** | Lule grejzaA, | 1.17 | 1.80 | IV | Flowers | (fresh) | Med: respiratory disease | 9 | 6 | 4% |  |
| Tea |  |
| **F.H.Wigg. (Asteraceae)** 77/GO/09 | Llule mjAtiA, |  |  |  |  | Decoction, topically applied in ear | Med: anti-cancer | 2 | 0 | 1% |  |
|  | lule verdheA |  |  |  |  | Med: earache | 1 | 0 | 1% |  |
|  | Lule e saritA MaslačakS |  |  |  |  | Decoction | Med: against cancer, | 0 | 11 | 4% |  |
|  | Lule verdhaA, |  |  |  |  |  | Med: asthma, respiratory problems | 0 | 11 | 4% |  |
|  | Lule verdhaA, |  |  |  |  | Fresh flower mixed 400 flowers 1 kg | Med:, blood | 0 | 11 | 4% |  |
|  | MaslačakS |  |  |  |  | Food: honey | 15 | 16 | 12% |  |
|  | PipiliaA, |  |  |  |  | sugar and boiled until the honey |  |  |  |  |  |
|  |  |  |  |  |  | consistence | Med: improving general health | 15 | 16 | 12% |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | Med: antidiabetic, | 15 | 16 | 12% |  |
|  |  |  |  |  |  |  | Med: hypertension | 15 | 16 | 12% |  |
|  |  |  |  |  |  | Fresh or dried | Med: stomach | 15 | 16 | 12% |  |
|  |  |  |  |  |  | Food: honey | 9 | 0 | 4% |  |
|  |  |  |  |  |  |  | Med: bronchitis | 9 | 0 | 4% |  |
|  |  |  |  |  |  | Squeezed and topically applied in | Med: skin cuts | 9 | 0 | 4% |  |
|  |  |  |  |  |  | Med: when the skin is dried, | 0 | 1 | 1% |  |
|  |  |  |  |  | Leaves | skin | Food: savoury pie filling | 0 | 7 | 3% |  |
|  |  |  |  |  | Cooked, mixed with mil cream |  |
|  |  |  |  |  |  | Fresh | Food: salad | 1 | 9 | 4% |  |
|  |  |  |  |  | Stem | Dried as tea | Food: additive in different foods | 1 | 9 | 4% |  |
|  |  |  |  |  | Med: for better health of gallbladder | 2 | 0 | % |  |
|  |  |  |  |  | Roots | Decoction | Med: cholesterol | 0 | 1 | 1% |  |
| *Teucrium montanum* L. | Sugreba travaS | 0.00 | 0.01 | V | Latex | Topically applied in warts | Med: warts | 0 | 2 | 1% |  |
| Leaves | Tea (topically applied) | Med: skin problems | 0 | 1 | – |  |
| (Lamiaceae) | Plavo cvetaS | 0.00 | 0.01 | V | Leaves | Tea | Med: stomachache | 0 | 1 | – |  |
| *Teucrium chamaedrys* L. (Lamiaceae) 94/DE/ |  |
| 10 |  |  |  |  |  |  |  |  |  |  |  |



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**Table 3** (*continued*)

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Botanical or Fungal Taxon and Herbarium | Local folk plant nameb | UVAlb | UVSerb | UVQ | Parts of the plant | Preparation | Local recorded usesc | *Nuc* | *Nuc* | FL |  |
| Accession Codea |  |  |  |  | used |  |  | Albd | Serbd |  |  |
| *Thymus serpyllum* L. | Çaj maliA, | 0.55 | 1.75 | I | Aerial parts | Tea | Med: improving general health | 8 | 20\* | 14 % |  |
| (Lamiaceae) 67/GO/ | Majčina dušicaS |  |  |  |  |  | Med: respiratory system | 8 | 20\* | 14 % |  |
| 09 |  |  |  |  |  |  | Med: stomach | 8 | 20\* | 14 % |  |
|  |  |  |  |  |  |  | Med: nervous system (calming) | 8 | 20\* | 14 % |  |
|  |  |  |  |  |  |  | Med: anti-diabetic | 8 | 20\* | 14 % |  |
| ***Tilia platyphyllos* Scop. (Tiliaceae)**06/GO/ | LipaS BliniA | 0.85 | 1.00 | II | Flowers | Tea | Med: skin burns | 8 | 20\* | 14 % |  |
| Med: kidneys, bronchitis, nervous system, | 21 | 19 | 24 % |  |
| 09 |  |  |  |  |  |  | against flu | 21 | 19 | 24 % |  |
|  |  |  |  |  |  |  | Med: kidneys |  |
|  |  |  |  |  |  |  | Med: bronchitis, against flu | 21 | 19 | 24 % |  |
|  |  |  |  |  |  |  | Med: nervous system, | 21 | 19 | 24 % |  |
|  |  |  |  |  | Leaves | To roll sarma | Med: Improving general health | 1 | 4 | 3% |  |
| *Trifolium* sp. | DetelinaS | 0.14 | 0.11 | V | Food: sarma | 1 | 0 | 1% |  |
| Aerial parts | Fresh or dried | Med: veterinary, to increase milk production | 14 | 9 | 100% |  |
| (Fabaceae) | GruriA | 0.01 | 0.00 | V | Seeds | Fodder for animals | Med: veterinary, fodder | 1 | 0 | – |  |
| *Triticum aestivum* L., |  |
| (Poaceae) 9/DE/10 | ShavarA | 0.02 | 0.00 | V | Polen | Typically applied | Med: warts | 1 | 0 | – |  |
| *Typha latifolia* L. (Typhaceae) 82/Pz/2013 | Topically applies | Med: skin cut | 2 | 0 | – |  |
| ***Urtica dioica* L. (Urticaceae)**21/GO/09 | HithiA | 0.64 | 1.40 | II | Leaves | Cooked, mixed with chees | Food: savoury pie fill | 16 | 12 | 16% |  |
|  | KoprivaS |  |  |  |  | Fresh | Food: yogurt starter | 4 | 0 | 2% |  |
|  |  |  |  |  |  | Tea | Med: cough | 10 | 25\* | 20 % |  |
|  |  |  |  |  |  |  | Med: for blood and heart | 10 | 25\* | 20 % |  |
|  |  |  |  |  |  | Young leaves, mixed with olive oil, | Med: stomach | 10 | 25\* | 20 % |  |
|  |  |  |  |  |  | Food: for salad | 0 | 1 | 1% |  |
|  |  |  |  |  |  | onions and vinegar | Med: for anaemic people | 0 | 1 | 1% |  |
|  |  |  |  |  |  | Tea |  |
|  |  |  |  |  |  | Other: cosmetic, hair wash | 3 | 3 | 3% |  |
|  |  |  |  |  |  | Fresh leaves topically used in | Med: vaginal baths | 1 | 6 | 4% |  |
|  |  |  |  |  |  | Med: rheumatic problems | 0 | 6 | 3% |  |
|  |  |  |  |  |  | rheumatic areas | Med: veterinary, to warm cold animals | 0 | 3 | 2% |  |
|  |  |  |  |  | Seed | Eaten fresh |  |
|  |  |  |  |  | Mixed with honey | Med: increase blood (anemia) | 0 | 1 | 1% |  |
|  |  |  |  |  | Roots | Tea, wash hair | Med: hair | 0 | 2 | 1% |  |
|  |  |  |  |  | Aerial parts | Tea, eczemas area | Med: eczemas | 1 | 0 | % |  |
|  |  |  |  |  | Maceration of 1 kg nettle/10 L water | Other: As pesticides | 1 | 0 | 1% |  |
|  |  |  |  |  |  | for 24 hours | Med: anti-anaemic | 4 | 0 | 2% |  |
|  |  |  |  |  |  | Cooked |  |
|  |  |  |  |  |  | Topically part | Med: anti-rheumatic | 3 | 0 | 2% |  |
|  |  |  |  |  |  | Tea | Med: headache | 2 | 0 | 1% |  |
|  |  |  |  |  |  | Fodder | Food: veterinary, food for pigs to produce | 0 | 2 | 1% |  |
| ***Vaccinium myrtillus* L. (Ericaceae)**98/DE/10 | BoronicaA BorovnicaS | 0.24 | 0.41 | V | Fruits | Tea | tastier, healthier meat | 1 | 9 | 17% |  |
| Med: Improving general health, blood |  |
|  |  |  |  |  |  |  | Med: Tea against diarrhoea | 0 | 3 | 5% |  |
|  |  |  |  |  |  | Juice | Food: tea | 2 | 5 | 12% |  |
|  |  |  |  |  |  | Food: beverage | 4 | 3 | 12% |  |
|  |  |  |  |  |  | Eaten fresh | Med: increasing blood | 4 | 3 | 12% |  |
|  |  |  |  |  |  | Food: snack | 4 | 0 | 7% |  |
|  |  |  |  |  |  | Mixed with sugar and boiled | Food: Jam | 2 | 0 | 8% |  |
|  |  |  |  |  | Leaves | Fermented | Food: alcoholic beverage (raki) | 0 | 3 | 5% |  |
|  |  |  |  |  | Tea | Med: for diabetes | 7 | 7 | 23 % |  |



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**Table 3** (*continued*)

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Botanical or Fungal Taxon and Herbarium | Local folk plant nameb | UVAlb | UVSerb | UVQ | Parts of the plant | Preparation | Local recorded usesc | *Nuc* | *Nuc* | FL |  |
| Accession Codea |  |  |  |  | used |  |  | Albd | Serbd |  |  |
| *Veratrum album* L. (Melanthiaceae) 99/DE/10 | ShtaraA | 0.02 | 0.00 | V | Aerial parts | Eaten (fresh) | Med: veterinary, poisonous for cows | 1 | 0 | – |  |
| *Viola odorata* L. (Violaceae) | LjubičicaS | 0.00 | 0.03 | V | Tuber | Ground and topically applied | Med: flu | 1 | 0 | – |  |
| Flower | Mixed with milk cream | Other: cosmetic | 0 | 2 | – |  |
| *Vitis labrusca* L. | MastikaS | 0.00 | 0.01 | V | Leaves | Dried leaves | Food: in pickles as seasoning | 0 | 1 | – |  |
| (Vitaceae) | GrozdjeS | 0.00 | 0.04 | V | Fruits | Fresh fruits added to alcohol | Med: general health, rheumatism | 0 | 3 | % |  |
| *Vitis vinifera* L. (Vitaceae) 90/Pz/2013 |  |
| ***Zea mays* L.** | KollomoqiA | 0.19 | 0.21 | V | Fruits | (mastika) | Food: veterinary, fodder for animals in | 13 | 16 | 81% |  |
| Fresh and dried |  |
| **(Paoaceae)** 14/GO/09 | MisriA, |  |  |  |  |  | winter, for increasing quality and amount of |  |  |  |  |
|  | KukuruzS |  |  |  | Seeds | Tea | meat | 6 | 0 | 17% |  |
|  |  |  |  |  | Med: anthelminthic, antidiarrheal |  |
| Unidentified taxa (Fungus) | BllagabubaS, | 0.01 | 0.00 | V | Stigma of flowers | Tea | Med: for diabetes | 0 | 1 | 3% |  |
| Fruiting body | Fresh fruiting body topically applied | Med: anti acne | 1 | 0 | – |  |
| Unidentified taxa (Fungus) | VllagabubaS, | 0.01 | 0.01 | V | Fruiting body | Fresh fruiting body topically applied | Med: skin burns | 1 | 1 | – |  |
|  | BllagabubaS, |  |  |  |  |  |  |  |  |  |  |
| Unidentified taxa | PuqurkaS, | 0.01 | 0.00 | V | Aerial part | Dried | Med: laceration, warts, skin burns | 1 | 0 | – |  |
| GllababubaA (kerpudhe) |  |
| Unidentified taxa | KollastraA | 0.01 | 0.00 | V | Leaves | Squeezed and topically applied | Med: warts | 1 | 0 | – |  |
| Unidentified taxa | Çaj gruniA | 0.01 | 0.00 | V | Seeds (Seeds are | Tea | Med: kidney diseases | 1 | 0 | – |  |
| Unidentified taxa | VimarkaS | 0.00 | 0.03 | V | brown) | Fresh | Med: veterinary, udder inflammations/ | 0 | 2 | – |  |
| Aerial part |  |
| Unidentified taxa | Boronica večeS | 0.00 | 0.03 | V | Fruits | Fresh | mastitis | 0 | 2 | – |  |
| Med: cancer, stomach, high pressure blood, |  |
|  |  |  |  |  |  |  | blood circulatory disorders |  |  |  |  |



**aBotanical Taxon and Herbarium Accession Code**: The most common plants cited by the study participants are highlighted in bold text.



**bLocal folk plant name**: A- Albanian; S- Serbs.

**cLocal recorded uses**: Med – Medicinal. Refer toTable 2for a breakdown of use categories (Food, Medicinal, and Other).

**d*Nuc* Alb:**Number of use citations by Albanian informants.**d*Nuc* Serb:**Number of use citations by Albanian informants. P-values (t-tailed) represented as \* - P < 0.05; † - P < 0.01; and ‡ - P < 0.001 as determined byFisher’s Exact test comparison of the two groups (Albanian vs. Serbs).

**Other abbreviations:** UVAlb- Use-value index for Albanian informants; UVSerb- Use-value index for Serbs informants; UVQ - Use-value analysis quadrant; FL – fidelity level.

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with the lowest relative importance for both comparator groups and Quadrant IV representing the greatest relative importance by both groups. Quadrants I and VIII represent high relative importance for one group, but not the other.

*2.3.5. Qualitative assessment*

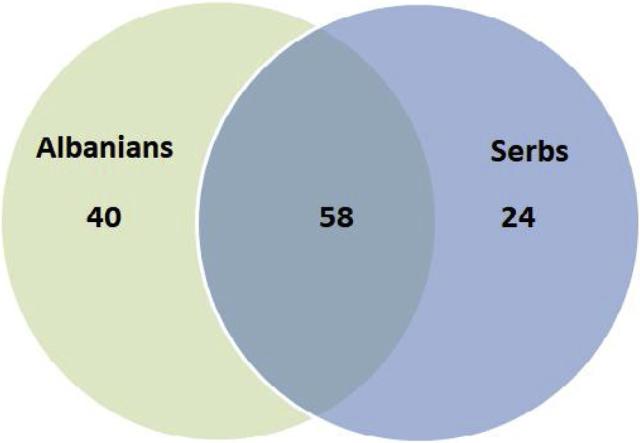
All of the collected field data (cited plants and plant reports, i.e., plant *x* used in way *y*) were compared with the entire ethnobotanical literature of Kosovo (Sejdiu, 1984; Mustafa et al., 2012a, [2012b](#page19), and [2015](#page19); Hajdari et al., 2018), Albania (Pieroni, 2008; Pieroni et al., 2005, [2011](#page19), [2014a](#page19), [2014b](#page20), [2015](#page20), and [2017](#page20); Quave and Pieroni, 2014 and [2015](#page20); Pieroni and Sõukand, 2017), Montenegro (Menković et al., [2011](#page19)), South Serbia (Jarić et al., 2007 and [2015](#page19); Savikin et al., 2013; Zlatković et al., 2014), Bosnia (Redzic, 2006; Sarić-Kundalić et al., 2010 and [2011](#page20)), Macedonia (Pieroni et al., 2013; Rexhepi et al., 2013), and region (Sõukand et al., 2015; Dogan et al., 2015) in order to assess if the recorded reports in the current studies were “new” for the region or had been already reported and known.

**3. Results**

*3.1. Plant use data*

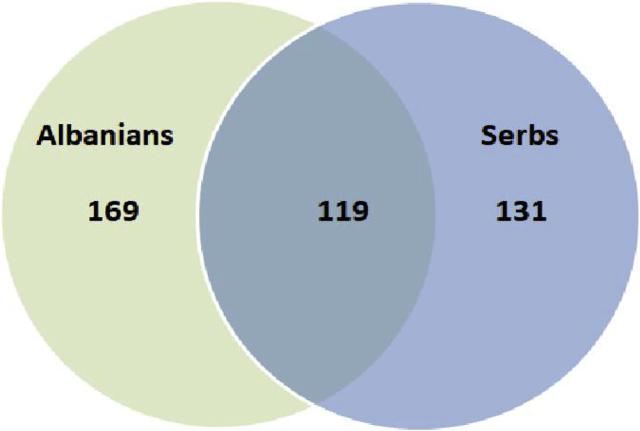
The plant-based domestic, folk medicinal remedies cited by the in-formants, as well as the wild food plants locally gathered and con-sumed, are presented in Table 3. For each cited folk species, we re-ported the botanical taxon and family, voucher code, used plant parts, local folk name, traditional local use(s), citations, and frequency of use for each plant report. A total of 115 plant taxa and seven fungal taxa belonging to 51 families were recorded. Of 122 reported taxa, 40 (32.7 %) were reported only by Albanians, 24 (19.6 %) only by Serbs, while 58 (47.5 %) taxa were used by both Albanians and Serbs (Fig. 2). A total of 419 plant reports were recorded, of them 169 (40.3 %) were reported by Albanians, 131 (31.3 %) by Serbs, while 119 (28.4 %) were reported by both Albanians and Serbs (Fig. 3). The majority of the cited taxa (indicated in boldface in Table 3) were ubiquitously mentioned by members of the two ethnic groups. However, when the specific uses of taxa were taken into consideration, the differences between both groups became larger.

The fidelity level (FL) for every plant use is reported in Table 3 and is based on the combined reports of both groups. As the reported species are commonly prepared in numerous ways for various purposes, the FL for most plant uses is quite low. However, there are a few instances of high FL (> 80 %), and these include the use of *Althaea officinalis* used to treat bronchitis and coughs; *Atriplex hortensis* used as a savoury pie filling (mixed with onions and milk cream); *Bovista dermoxantha* to treat



**Fig. 2.** Venn diagram representing the overlap of taxa cited by Albanians andSerbs for medicinal and food use.

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**Fig. 3.** Venn diagram representing the overlap plant reports recorded byAlbanians and Serbs for medicinal and food use.

lacerations and to stop bleeding; *Carlina acaulis* as a snack; *Chelidonium* *majus* against warts; *Corylus avellana* as a snack; *Helianthus tuberosus* asa snack; *Juniperus communis* as a seasoning; *Lathyrus tuberosus* as a snack; *Malva sylvestris* as a yogurt starter; *Mentha longifolia* against bronchitis and to treat lung inflammation; *Morchella* as salad; *Nicotiana* *tabacum* to treat skin lacerations and stop bleeding; *Salix alba* as acultural bound syndrome (Evil Eye) prophylactic; *Sambucus ebulus* to treat wounds caused by poisonous snakes; *Sideritis scardica* as a re-creational tea; *Spinacia oleracea* as a savoury pie filling; *Trifolium* sp. as fodder to produce higher amount of milk in livestock; and *Zea mays* as fodder for animals in winter to increase the quality and amount of meat produced.

*3.2. Informant consensus on categories of use*

Individual use reports were divided into the generic categories of Food, Medicine, or Other (Tables 2 and 3). Within each broad category, the number of specific use reports and number of taxa are broken down into subcategories of more specific uses, and presented by ethnic group (Table 2). The most use-citations for both Albanians and Serbs was for the category of Medicine, with 821 and 622 use-citations, respectively. The greatest number of taxa was also reported by both groups for the Medicine category as well. Regarding subcategories, the largest number of use citations and taxa for both groups was for gastrointestinal and respiratory ailments.

Regarding informant consensus on taxa for specific categories of use, high consensus (*Fic* ≥ 0.85) among both Albanians and Serbs was observed for the following subcategories of food: lactic or acetic acid fermentation and savoury pie filling. Regarding medicine, only antic-ancer, endocrine, and ophthalmological reached high consensus in both groups. None of the subcategories of the Other category did (Table 2). Fidelity levels for specific use citations for each species are reported in Table 3.

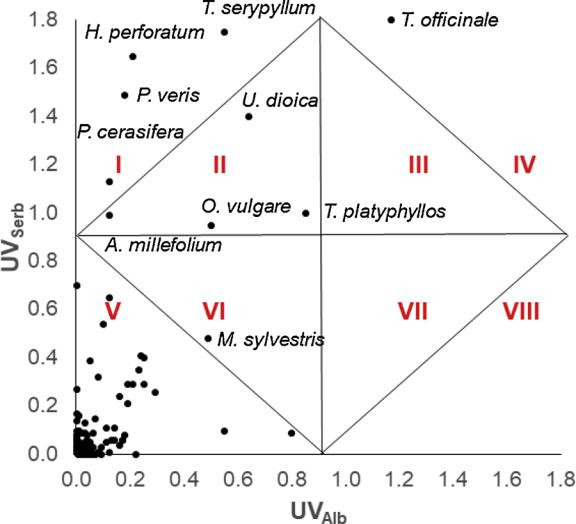
*3.3. Use-value analysis and cultural divergences in plant use*

Statistical analysis of differences in plant use citations by the Fisher’s exact test revealed significant differences in specific plant uses between cultures for the following species: *Achillea millefolium,* *Hypericum perforatum, Primula veris, Prunus cerasifera, Rumex patientia, Sempervivum tectorum, Thymus serpyllum,* and *Urtica dioica* (see[Table 3](#page5)).

The use-value matrix analysis revealed that while the majority of taxa fell in Quartile V, signifying lower use-value indices across both Albanian and Serb informant groups, there were a few that diverged in importance from one group to another (Fig. 4). Quartile I represents those taxa that were considered of high use-value to Serbs, but low to

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**Fig. 4.** Use-value matrix analysis for taxa cited by Albanians and Serbs.

Albanians, and included *Hypericum perforatum, Primula veris, Prunus* *cerasifera,* and *Thymus serpyllum.* Quartile II represents taxa that were ofhigh use-value to Serbs and moderate to Albanians: *Achillea millefolium,* *Origanum vulgare, Tilia platyphyllos,* and *Urtica dioica.* Quartile IV re-presents taxa considered of high importance to both groups, and only one species was found in this group: *Taraxacum officinale.* Lastly, Quartile VI represents taxa of low use-value to Serb informants and moderate to Albanians: *Malus sylvestris.* No taxa were grouped in Quartiles III, VII, or VIII.

*3.4. Comparison of reported plant uses with the ethnobotanical literature*

The most common wild plants mentioned by the study participants (in bold in the table) were: *Achillea millefolium* L., *Allium cepa* L., *Allium* *ursinum* L., *Boletus* sp., *Chelidonium majus* L., *Cornus mas* L., *Crataegus monogyna* Jacq., *Fragaria vesca* L., *Hypericum perforatum* L., *Malus syl-vestris* (L.) Mill., *Matricaria chamomilla* L., *Mentha × piperita* L., *Origanum vulgare* L., *Plantago major* L., *Primula veris* L., *Primula vulgaris* Huds., *Prunus cerasifera* Ehrh., *Prunus domestica* L.*, Prunus spinosa* L., *Pyrus communis* L., *Rosa canina* L., *Rubus fruticosus* L., *Rubus idaeus* L., *Rumex acetosa* L., *Rumex patientia* L., *Sambucus nigra* L., *Taraxacum of-ficinale* (L.) Weber ex F.H. Wigg., *Thymus serpyllum* L., *Tilia platyphyllos* Scop., *Urtica dioica* L., *Vaccinium myrtillus* L. and *Zea mays* L.

Comparison of the ethnobotanical data collected in this field study from the Southwest Balkan ethnobotanical literature revealed that the following plant species are reported for the first time with the following applications:

* *Coprinus* sp. topically applied to treat skin furuncles;
* *Fraxinus excelsior* L. bark prepared as a tea and used to treatNewcastle disease in poultry;
* *Sagittaria*sarma; *sagittifolia* L. used as a savoury pie ingredient and to roll
* *Viloa odorata* L. mixed with milk cream and used in cosmetics:
* *Lathyrus aphaca* L. seeds used for food seasoning; and
* *Macrolepiota procera* (Scop.) Singer body fruits used as salad and as aseasoning additive in other foods.

On the other hand, the following plant reports emerged as novel or poorly known in the region:

* *Achillea millefolium* L. tea to treat hypertension and fresh leavessqueezed and topically applied in the ear to treat earache;
* *Arctostaphylos uva-ursi* (L.) Spreng. tea as panacea;

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* + *Allium cepa* L. tea prepared from the outer epidermis of the bulb forhair colouring, and drunk as an abortifacient;
  + *Allium ampeloprasum* L. tea prepared from leaves to treat coughs;
  + *Allium ursinum* L. aerial parts as fodder to improve cattle milkquality and a tea of its leaves as panacea and fresh leaves as a savoury pie filling ingredient;
  + *Atriplex hortensis* L. topically applied to treat lacerations of the skin;
  + *Bryonia*starter; *dioica* Jacq. eaten fresh as an abortifacient and as a yogurt
  + *Centaurium erythraea* Rafn, added to alcoholic beverages for fla-vouring and aerial parts in a decoction to treat cancer;
  + *Corylus avellana* L. as a yogurt starter; *Crataegus monogyna* Jacq.spine to prick warts in order to eliminate them;
  + *Cucurbita pepo* L. fruits to make jam (reçel), and the fruit cortexagainst the msysh (protect from Evil Eye);
  + *Datura stramonium* L. (inhalation of seed smoke to treat toothache);
  + *Fraxinus ornus* L. bark to treat Newcastle disease in poultry and as ananthelminthic;
  + *Hypericum*ache; *perforatum* L. tea to treat heart disorders, warts and ear-
  + *Juglans regia* L. fruit oil squeezed and instilled in the ear to treatearache and stem topically applied to the tooth to treat toothache;
  + *Juniperus oxycedrus* L. tea to treat kidney disorders, kidney stonesand to treat women’s gynaecological problems, and oils to treat warts;
  + *Malus domestica* Borkh. fermented to make alcohol for treatingtoothache;
  + *Malva sylvestris* L. as yogurt starter; *Morus alba* L. fresh leaves to treatdiarrhoea in livestock;
  + *Plantago major* L. dried leaves smoked to stop tobacco smoking;
  + *Pyrus amygdaliformis* Vill. fruits fermented to produce an alcoholicbeverage and fruits dried (ashaf) and then used to prepare compote, which is used as beverage and to treat constipation;
  + *Rubus idaeus* L. fruits eaten fresh to treat cancer;
  + *Sambucus nigra* L. fresh fruits topically applied to treat rheumatismand a tea of the leaves used as an anti-rheumatic too, an anti-helminthic;
  + *Sempervivum tectorum* L. squeezed and topically applied in eye totreat eye disorders;
  + *Tanacetum*sion; *vulgare* L. tea of leaves to treat diabetes, and hyperten-
  + *Taraxacum officinale* (L.) Weber ex F.H.Wigg. leaves cooked andthen used as savoury pie filling and latex used topically against warts;
  + *Thymus serpyllum* L. tea of aerial parts as antidiabetic and to treatskin burns;
  + *Typha latifolia* L. pollen topically as cicatrizant;
  + *Urtica dioica* L. fresh leaves as a yogurt starter and in veterinaryapplications, the leaves are fodder to improve the quality of pig meat; and
  + *Veratrum*flu. *album* L. tubers ground and topically applied to treat the

1. **Discussion**

The most common plants species cited by the study participants belong to the Rosaceae, Lamiaceae and Asteraceae families. These same three “top” families were found to also be predominant among the wild medicinal taxa used in the folk medicine in other Balkan countries (Menković et al., 2011; Pieroni et al., 2005, [2008](#page19), [2010](#page19); Mustafa et al., [2012a](#page19), [2012b](#page19), [2015](#page19); Hajdari et al., 2018; Jarić et al., 2018; Žuna-Pfeiffer et al., 2019; Savić et al., 2019; Janaćković et al., 2019), which is not unusual because many of the medicinal plant species in the Balkans belongs to those plant families (Igić et al., 2010). The most common wild plants mentioned by the study participants (in bold in the Table 3) were the most important species used for medicinal purposes in other

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areas of Kosovo as well (Mustafa et al., 2012a, [2012b](#page19), [2015](#page19); [Hajdari](#page19) [et al., 2018](#page19)).

The most frequently cited medicinal uses referred to respiratory, general health, cardiovascular urological, gastrointestinal and derma-tological illnesses. These categories, with slight variation, were also the most frequently cited in other ethnobotanical studies conducted in the region (Mustafa et al., 2012a, [2012b](#page19), [2015](#page19); Pieroni, 2008, [2010](#page19); Menković et al., 2011; Hajdari et al., 2018; Savić et al., 2019; [Janaćković et al., 2019](#page19)).

Compared to previous ethnobotanical studies, a high number of plant species used as yogurt starters were recorded (*Bryonia dioica,* *Corylus avellana, Malva sylvestris, Morus alba, Phaseolus vulgaris* and *Urtica dioica*) and this is related to the pastoralist activities of the localinhabitants. The knowledge regarding plant species used as yogurt starters is declining and those species are no longer used for this pur-pose. The loss of plant based yogurt starters may be due to a decline in pastoralist activities in the region (Pieroni et al., 2017), and improve-ment of infrastructure, which enables the local population to have ac-cess to “modern products” in local shops.

*4.1. Albanian vs. Serbian ethnobotany*

The divergences observed between Serb and Albanian ethnobota-nical knowledge and practice are linked to small differences in house-hold economic strategies. This was most evident upon examination of plants emerging in either quadrants I of the use-value matrix analysis (Fig. 4). This analysis is useful for identifying which taxa are highly valued by one group (for example *Hypericum perforatum, Primula veris,* *Prunus cerasifera,* and *Thymus serpyllum*), but not the others. Further-more, the matrix analysis is useful for identifying taxa that are highly valued by both groups (Quadrant I). In this study, the common food use of the wild edible greens from *Taraxacum officinale,* was important for both Albanians and Serb informant groups.

The uses of plant species cited/practised only by Albanians and quoted by more than 10 informants are: *Allium ampeloprasum* leaves squeezed and instilled in the ear to treat earache; *Malus sylvestris* used as pickles; *Pyrus communis* used as pickles; *Rumex acetosa* used as snacks and *Solanum tuberosum* tubers topically applied to treat fever and headache, while the uses of plant species cited only by Serbs and quoted by more than 10 informants are: *Achillea millefolium* tea used to treat hypertension, rheumatism and diabetes; *Chelidonium majus* latex topi-cally applied to treat warts; *Hypericum perforatum* tea used for stomach disorders, as antipyretic, for hypertension, heart disorders, headache, earache and warts; *Malus domestica* alcoholic fermentation used to treat toothache; *Malus sylvestris* used for alcoholic fermentation (raki); *Primula veris* used as a recreational tea; *Pyrus pyraster* used for alcoholicfermentation (raki); and *Sempervivum tectorum* leaves squeezed and instilled in ear to treat earache.

These differences confirm the importance of cultural, religious and ethnic divisions in shaping divergent traditional uses of natural re-sources. In general, the Albanians use pickles as well as wild plant snacks more than Serbs, while Serbs use more plant ingredients to create alcoholic beverages (raki), as well as plants with yellow flowers, which confirms the particular significance of the yellow colour in South Slavic folklore (Pieroni et al., 2014a). A presumed more “herbophilic” attitude of the Slavic population (pointed out in previous studies) (Mustafa et al., 2012a, [2015](#page19), Pieroni et al., 2014a); could not be con-firmed in this survey, which however represents the most extensive field study (number of the informants = 181) conducted in Southeast Europe in the last two decades. This could be due to the fact that the Serb ethnic group living in the study area was very isolated from most of the mainland Serb territories. Subsequently, the influence of printed media and former Yugoslavian phytotherapy popular books may have been less than in other Slavic areas, where strong herbophilic attitudes emerged in other field studies conducted in the recent years ([Pieroni](#page19) et al., 2014a; Quave and Pieroni, 2015). Popular printed books

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published in several Slavic languages in Eastern Europe may have played in fact during the past Century a crucial role in spreading, re-inforcing and/or popularizing specific medicinal plant uses.

*4.2. Folk herbal traditions in South Kosovo: perspectives for the future*

The data presented in this study demonstrates that a tremendous reservoir of traditional ethnobotanical heritage among the local popu-lation is still present in South Kosovo. However, as many other studies in the Balkans have noted (see Pieroni and Quave, 2014, and references therein), this heritage of plant knowledge and practice, is under threat. Younger community members tend to move to urban centers or abroad and they are more and more detached from traditional agro-pastoral activities, thus interrupting the oral transmission of TEK. Subsequently, daily interactions with the surrounding plant environment are on the decline, which ultimately may influence their level of ethnobotanical knowledge. However, the persistence of some trade of medicinal plants, with families involved in gathering and selling herbs to intermediaries, especially among the Serb ethnic group, supports the importance of these species to the local economy. Moreover, the pristine environment of this area could become of strategic importance for the further de-velopment of sustainable eco-tourism activities and the intensification of small-scale trade of local, common (non-endangered) medicinal herbs and wild food plants for the internal and external markets. The findings of this study may provide baseline data that, appropriately valorized, could help to achieve the goals that the European Union has set in the Western Balkans, where sustainable rural development and reconciliation-based projects may be the pillar of local *circular* econo-mies.

While this study represents the most extensive field study conducted in Southeastern Europe in the last two decades, it has some limitations. During field work, we carried out several interviews in small groups composed of both men and women, limiting our ability to classify and then analyse data on traditional knowledge based on gender. The age of the participants were variable and while most were older than 60 years, uneven age groups limited some of the analyses. Furthermore, the au-thors recruited interview informants who were mainly engaged in agricultural activities and who typically acquired ethnobotanical knowledge from their direct ancestors (parents, grandparents) via oral traditions and excluded educated informants who potentially had contact with modern literature. This approach limited the ability to examine qualitative comparisons of traditional knowledge held based on number of years of formal education.

**5. Conclusions**

The study showed that this area located in southern Kosovo still represents an important reservoir of ethnobotanical knowledge. Some of this traditional knowledge is unique. Specifically, following appli-cations were reported for the first time in the Southwest Balkans: *Coprinus* sp. (topically applied to treat skin furuncles), *Fraxinus excelsior* L. (bark prepared as a tea and used to treat Newcastle disease in poultry), Sagittaria *sagittifolia* L. (used as a savoury pie ingredient and to roll sarma), *Viloa odorata* L. (mixed with milk cream and used in cosmetics), *Lathyrus aphaca* L. (seeds used for food seasoning) and *Macrolepiota procera* (Scop.) Singer (body fruits used as salad and as aseasoning additive in other foods). The majority of the cited taxa were ubiquitously mentioned by members of the two ethnic groups, however, the specific uses of taxa differed between the groups. These differences confirm the importance of cultural, religious and ethnic divisions in shaping divergent traditional uses of natural resources. Unfortunately, these results also indicate a decline in ethnobotanical knowledge and practice in the investigated areas.

Cross-cultural ethnobotanical studies are urgently needed in many parts of the world in order to better understand the cultural factors that may affect plant perceptions and uses. In post-war areas such as the

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Balkans, ethnobotanical studies may also foster reconciliation and in-itiatives aimed at supporting community-centred management of nat-ural resources and celebration of local bio-cultural heritage. The data presented here reflect a highly articulated level of local plant knowl-edge, which merits further valorization.In order to compare informa-tion between different groups based on gender, age and level of edu-cation, further investigation is needed and should be corroborated with more comprehensive statistical analyses.

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**CRediT authorship contribution statement**

**Behxhet Mustafa:** Conceptualization, Methodology, Writing - re-view & editing. **Avni Hajdari:** Conceptualization, Methodology, Software, Formal analysis, Investigation, Writing - original draft, Visualization. **Bledar Pulaj:** Investigation. **Cassandra L. Quave:** Formal analysis, Software, Writing - review & editing, Visualization. **Andrea Pieroni:** Conceptualization, Methodology, Formal analysis,Investigation, Writing - review & editing.

**Declaration of Competing Interest**

We confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome. We confirm that the manuscript has been read and approved by all named authors and that there are no other persons who satisfied the criteria for authorship but are not listed. We further confirm that the order of authors listed in the manuscript has been approved by all of us. We confirm that we have given due consideration to the protection of intellectual property as-sociated with this work and that there are no impediments to pub-lication, including the timing of publication, with respect to intellectual property. In so doing we confirm that we have followed the regulations of our institutions concerning intellectual property.

We confirm that we have provided a current, correct email address, which is accessible.

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