

## Chapter 5

# Cross-Cultural Ethnobotany of the Sharr Mountains (Northwestern Macedonia)

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### 5.1 Introduction

In very recent years, the South Balkan region has become the focus of a number of ethnobotanical studies (Jarić et al. 2007; Redzic 2007; Pieroni 2008; Nedelcheva and Dogan 2009; de Boer 2010; Pieroni 2010; Redzic 2010; Šarić-Kundalić et al. 2010; Menković et al. 2011; Mustafa et al. 2011; Nedelcheva and Dogan 2011; Šarić-Kundalić et al. 2011; Mustafa et al. 2012; additionally, see the other chapters in this volume, and references therein). One of the reasons for this increase in interest is related to the historical appeal that this area has had to the Western herbal

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market. In fact, the Balkans have served as the primary European “sanctuary” of wild and cultivated medicinal and aromatic plants for a few centuries, and this is a tradition that continues today. This has recently raised concerns about the long-term sustainability of this exploitation, and an issue, which has emerged as a point of great interest among modern ethnobiologists, is that perspectives of the local populations regarding natural resources must be carefully considered in order to successfully implement bioconservation initiatives. These emic perspectives embrace a broad set of skills, beliefs, and practices that concern a significant portion of the traditional ecological knowledge (TEK).

### **5.1.1 Floristic Diversity of the Sharr Mountain Range**

Nevertheless, in the Republic of Macedonia, no field studies concerning the relationship between plants and humans were conducted until 2009. This study was conceived and focused on the local plant knowledge within one of the highest and largest mountainous ranges of the South Balkans: the Sharr Mountains (in Macedonian better known as Šar Planina). The Sharr Mountain range is a zone of sub-Mediterranean and continental climate and has many plant endemisms, relictual, rare, and endangered species in the Republic of Macedonia. According to the results of research on the floral diversity, this mountain range harbors over 2000 vascular plant species and approximately 150 endemic species. A significant portion of plants have pan-Balkan distribution (e.g., *Lilium albanicum* Griseb., *Sideritis scardica* Griseb., *Geum coccineum* Sibth. & Sm., *Trifolium noricum* Wulf.), while some other 20 species are limited only to this region (*Achillea alexandri-regis* fo. *holosericiformis* N. Diklic, V. Stevanovic & M. Niketic, *Anthyllis scardica* Wettst., *Crocus scardicus* Kosanin, *Onobrychis montana* subsp. *scardica* (Griseb.) P.W. Ball, *Sideritis scardica* Griseb., *Verbascum scardicola* Bornm., *Viola schariensis* Erben, etc.). As can be seen from the aforementioned taxa, a significant proportion of endemic plants in the scientific terminology are reported as *scardica*, which refers to the old name of this mountain, which appears on the ancient maps as “Scardus.”

According to UNEP Feasibility Study (UNEP 2010), 32 plant species found on the Sharr Mountains are listed on the International Union for conservation of Nature and Natural Resources (IUCN) Red List of Threatened Plants, while 26 species are included on the European Red List. If the flora of the Sharr Mountains (Fig. 5.1) is considered to be the richest on the Balkan Peninsula, the same can be said for its cultural diversity. Thus, the intent of the present study was to explore the medicinal perceptions of local plants among three ethnic groups living in the villages on the Macedonian side of the Sharr Mountains: Macedonians, Albanians, and Gorani.

### **5.1.2 Cultural and Linguistic Diversity in South-Western Balkans**

Macedonians—the main ethnic group of the country—are Slavs who descended from the peoples who arrived in the Balkans in the sixth and seventh centuries and

**Fig. 5.1** Sharr Mountains as seen from Macedonia. (Photo courtesy of B. Rexhepi)



currently the large majority of this group has a Christian Orthodox faith. Albanians in Republic of Macedonia are native people who trace their ancestry from the ancient Illyrians. Actually, they represent the largest ethnic minority in Macedonia, in agreement to the date of the national census 2002. The Gorani people represent instead a tiny ethnic South-Slavic minority of Muslim faith, spread among a few dozen mountainous villages in Albania, Kosovo, and Macedonia. The Gorani speak a unique dialect, defined locally as “našinski,” which is a Torlakian transitional dialect between the Bulgarian/Macedonian language group and the Serbo-Croatian language.

Both Albanians and Gorani are bilingual in Macedonian; Macedonian and Gorani community understand each other in their own languages, given their similarity, while Albanians—especially the elderly and mid-generation—are bilingual in Macedonian. Many socio-political changes have occurred in this region over the last decade, and these have caused a rapid decline in the number of farmers in this zone and a massive phenomenon of migration to urban centers. However, there are still a small number of local people who pursue a traditional way of life and currently reside in mountainous villages located at elevations greater than 1000 m.a.s.l.

## 5.2 The Field Study

The main authors of this chapter conducted an ethnobiological study (recently published in Rexhepi et al. 2013) with the following objectives: (1) document and explore the ethnobotanical knowledge related to the use of plants in local folk medical practices and eventually local wild plants used in the diet, (2) compare the data gathered within the three ethnic groups, and (3) compare the collected data with those found in a few other ethnobotanical surveys recently conducted in the Western Balkans in order to assess commonalities and disparities in current patterns of plant use.

The field study was conducted by selecting participants from among local farmers, healers, and elderly people who still retain traditional knowledge concerning medicinal plants. The majority of the youngest and mid-aged population has already

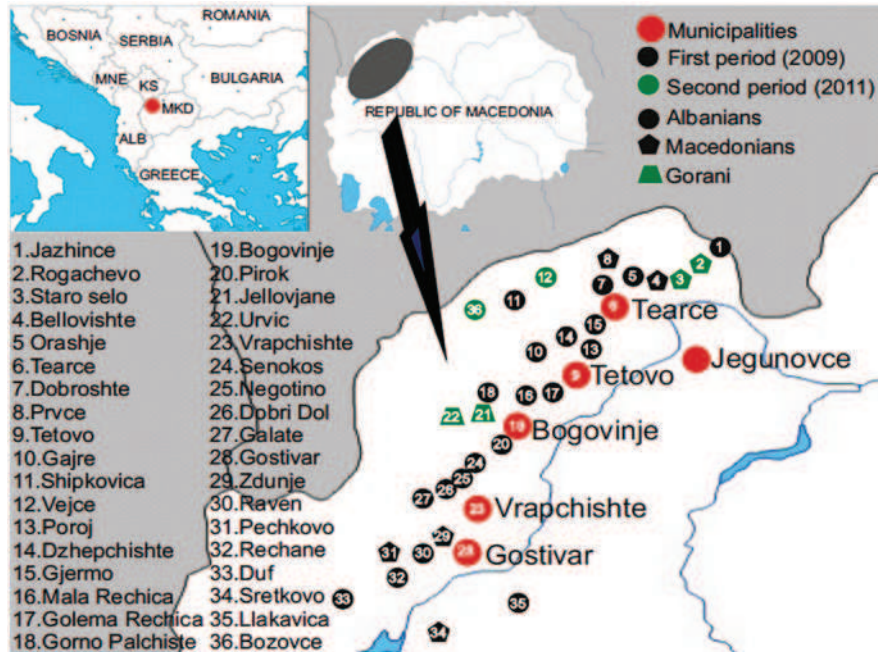


Fig. 5.2 Map of the study area and villages

left the villages due to difficult economic situations and has either settled into larger towns or gone abroad. The study was carried out over two periods: The first field work was undertaken from March to September 2009, and interviews were conducted in 35 villages (Fig. 5.2), each of which is home to a few hundred inhabitants. The survey was conducted by administering a questionnaire to 221 locals over 55 years old and of diverse ethnicity: 160 were (Muslim) Albanians, 35 (Orthodox) Macedonians, and 26 were (Muslim) Gorani. The number of the participants reflected the proportion of the three ethnic groups in the study area. However, in order to compare the plant knowledge of the three communities, a second field study took place in 2011 in six villages and was conducted by performing 30 in-depth interviews with ten members of the (Muslim) Albanian community, ten (Orthodox) Macedonians, and ten Gorani. In both studies, approximately one-third of the selected villages are located in the higher elevations of the mountains.

Informants were asked about their age and ethnicity, while for each quoted plant, local names and exact details about its preparation, and local medicinal or food uses were recorded. Moreover, informants were asked about food uses of wild species, as well as their perceived vulnerability (i.e., informants were asked if they thought that the plant was endangered or threatened due to over-collection), and the eventual occurrence of a trade of the plants in local or larger markets.

Prior informed consent was obtained for all interviews, and the field studies followed the Code of Ethics of the International Society of Ethnobiology (ISE 2006). Taxonomic identification of plants follows standard references for the Macedonian

flora and mushrooms (Micevski 1985–2005; Karadelev 2001). Plant family assignments follow the current guidelines of the Angiosperm Phylogeny Group (III). Voucher specimens were collected, deposited, and entered into a database at the State University of Tetova (Republic of Macedonia).

## 5.3 Results and Discussion

### 5.3.1 Medicinal Plant Uses in the Sharr Mountains

Table 5.1 (extracted from Rexhepi et al. 2013) reports the results of the recorded medicinal plants quoted by the study participants. Seventy-six species (belonging to 34 families), mainly wild, were found. Of these, a couple dozen (*Achillea millefolium* L., *Castanea sativa* Mill., *Centaureum umbellatum* Gilib., *Cornus mas* L., *Fragaria vesca* L., *Hypericum perforatum* L., *Helianthus tuberosus* L., *Juglans regia* L., *Juniperus communis* L., *Malva sylvestris* L., *Matricaria recutita* L., *Mentha piperita* L., *Morus nigra* L., *Ocimum basilicum* L., *Origanum vulgare* L., *Rosa canina* L., *Rubus ulmifolius* Schott., *Sambucus nigra* L., *Sideritis scardica* Griseb., *Tilia cordata* Mill., *Urtica dioica* L. and *Vaccinium myrtillus* L.) were cited by more than half of the informants. The most frequently cited families were Lamiaceae (15.7%), Asteraceae (14.4%), Rosaceae (5.2%), Malvaceae (5.2%), and Fabaceae (5.2%). The most frequently cited medicinal uses referred to treatment of respiratory system conditions (46%). This may also account for the most common diseases (cold, flu, bronchitis), which are related to the harsh winter climate of this region.

A few wild or semi-domesticated medicinal plants were quoted also for food purposes. Among these findings, the uncommon uses of *Ballota nigra* L. (leaves) tea as a digestive, of *Convolvulus arvensis* L. (aerial parts) tea for hypertension, of *Chenopodium urbicum* L. leaves (topically applied) for treating hemorrhoids, and *Cornus sanguinea* L. (leaves and fruits) tea against stomachaches could be of interest for further phytopharmacological studies. A large majority of medicinal plants in the Sharr Mountains are used in the form of teas/infusions (85%), thus probably confirming the crucial role played by the period of Ottoman domination in spreading the use of “home-made teas.” These “home-made teas” were used as a substitute for the imported black tea used by the upper classes, whose consumption spread throughout Turkey, especially in the second half of the nineteenth century (Aylangan, 2011).

### 5.3.2 Cross-Cultural Comparison

The overlap of medicinal plants quoted in the second field study, where an equal number of members of the three communities participated in in-depth interviews concerning plant TEK, is illustrated in Fig. 5.3. These findings reflect that the Gorani seem to share nearly all of their medicinal plants in common with Albanians,

**Table 5.1** Local uses of medicinal plants in the Macedonian side of the Sharr Mountain<sup>a</sup>

Botanical taxon/ taxa, family and voucher specimen	Status	Used parts(s)	Preparation and administration	Local medical use(s)	Quota- tion frequency	Vulner- ability of species	Pharma- ceutical market	Local market	Use(s) recorded among		
									Albanian	Mace- donian	Gorani
<i>Achillea mille- folium</i> L. (Asteraceae) MSHACMI055	W	APd	I: tea E: directly to wound as hemo- styptic powder for hemorrhoids	E: wound healing (ulcers) I: internal and exter- nal hemorrhoids	***	–	+	+	+	+	+
<i>Allium ursinum</i> L. (Amaryllidaceae) MSHALUR111	C	L; Fl	I: macerated in raki	Cardiovascular sys- tem (to improve blood flow)	*	–	–	+	–	–	+
<i>Althaea officinalis</i> L. (Malvaceae) MSHALOF211	W	APd	I: tea	Respiratory system problems (fever, cold, influenza)	***	–	+	+	+	+	+
<i>Althaea rosea</i> (L.) Cav. (Malvaceae) MSHALRO115	W	APf	I: tea	For respiratory system problems (bronchitis and asthma)	*	–	–	–	+	–	+
<i>Arctium lappa</i> L. (Asteraceae) MSHARLA311	W	L; S; R; Se	I: prepared in mixed dishes with fruits and meat	To improve health in general, urinary tract disorders	**	–	–	–	+	+	–
<i>Ballota nigra</i> L. (Lamiaceae) MSHBANI065	W	Lf	I: tea	Vomiting and digestive problems (gastritis)	**	–	–	–	+	–	–
<i>Bellis perennis</i> L. (Asteraceae) MSHBEPE411	W	Fl	I: tea E: directly applied to stop bleeding	Antitussive	***	–	–	–	+	+	–
<i>Brassica nigra</i> (L.) W.D.J. Koch (Brassicaceae) MSHBRNI511	W	Fl	I: paste is prepared	To help body in general	*	+	–	–	+	–	–

**Table 5.1** (continued)

Botanical taxon/ taxa, family and voucher specimen	Status	Used parts(s)	Preparation and administration	Local medical use(s)	Quota- tion frequency	Vulner- ability of species	Pharma- ceutical market	Local market	Use(s) recorded among		
									Albanian	Mace- donian	Gorani
<i>Calamintha grandiflora</i> Pursh. (Lamiaceae) MSHCAGR611	W	L	I: tea	Antitussive and febrifuge	*	+	-	-	+	-	-
<i>Capsella bursa-pastoris</i> (L.) Medik (Brassicaceae) MSHCABUP405	W	APd	I: tea	To treat hypertension and also for respiratory problems (cough, influenza)	**	+	-	+	+	+	+
<i>Carlina acaulis</i> L. (Asteraceae) MSHCAAC711	W	Fl; R; S	E: decoction	E: to treat eczema and acne	*	-	-	-	+	+	-
<i>Castanea sativa</i> Mill. (Fagaceae) MSHCASA125	C; W	L; Fr	I: tea	Antitussive	***	-	-	-	+	+	+
<i>Centaurium umbellatum</i> Gilib. (Gentianaceae) MSHCAUM435	W	APd	I: tea	Digestive system problems and to treat anemia	***	-	-	+	+	+	-
<i>Chelidonium majus</i> L. (Papaveraceae) MSHCHMA811	W	APd	E: extract applied directly to wound	E: skin infections	*	-	-	-	+	+	-
<i>Chenopodium urbicum</i> L. (Amaranthaceae) MSHCHUR911	W	L	E: directly to wound	E: used to heal external hemorrhoids	**	-	-	-	+	+	-
<i>Cichorium intybus</i> L. (Asteraceae) MSHCIIN007	W	APD; APf	I: tea	Abdominal pain (stomach ache)	***	-	-	-	+	-	-

**Table 5.1** (continued)

Botanical taxon/ taxa, family and voucher specimen	Status	Used parts(s)	Preparation and administration	Local medical use(s)	Quota- tion frequency	Vulner- ability of species	Pharma- ceutical market	Local market	Use(s) recorded among		
									Albanian	Mace- donian	Gorani
<i>Clematis vitalba</i> L. (Ranunculaceae) MSHCLVI1011	W	L	E: directly to wound	E: skin infections	*	–	–	–	+	–	+
<i>Convolvulus arvensis</i> L. (Convolvulaceae) MSHCOAR485	W	APf	I: tea	For hypertension and to strengthen immunity	**	–	–	+	+	–	–
<i>Coriandrum sati- vum</i> L. (Apiaceae) MSHCOSA1111	C	L	I: eaten	To improve health in general	*	–	–	–	+	+	–
<i>Cornus mas</i> L. (Cornaceae) MSHCOMA010	C; W	Fr	I: juice (hoshaf)	To treat diarrhea in children and to increase appetite	***	–	–	–	+	–	+
<i>Cornus sanguinea</i> L. (Cornaceae) MSHCOSA445	W	L; Fr	I: tea	Abdominal pain (stomach ache)	***	+	–	+	+	–	–
<i>Corylus avellana</i> L. (Betulaceae) MSHCOAV135	C; W	L; Fr	I: strong tea	To reduce menstrual pain	***	–	–	–	+	–	+
<i>Cynara carduncu- lus</i> L. (Asteraceae) MSHCYCA1211	C	APf	I: tea	Cardiovascular system (to treat ane- mia) and to improve appetite	**	–	–	–	+	+	–
<i>Daucus carota</i> L. (Apiaceae) MSHDACA006	W	R; Fl; S	I: tea	To treat gastric ulcers and dysentery	***	–	+	+	+	+	+



Table 5.1 (continued)

Botanical taxon/ taxa, family and voucher specimen	Status	Used parts(s)	Preparation and administration	Local medical use(s)	Quota- tion frequency	Vulner- ability of species	Pharma- ceutical market	Local market	Use(s) recorded among		
									Albanian	Mace- donian	Gorani
<i>Equisetum arvense</i> L. (Equisetaceae) MSHEQAR145	W	H	I: tea E: to stop internal bleeding directly to wound	Urogenital disorders and to stop internal bleeding E: applied directly to wound as hemostatic	*	+	-	+	-	+	-
<i>Euphorbia cyparissias</i> L. (Euphorbiaceae) MSHEUCY515	W	L	E: directly to warts	To remove warts from eyelid	**	-	+	+	+	-	-
<i>Fragaria vesca</i> L. (Rosaceae) MSHFRVE155	W	Fr; L	I: tea, juice E: directly to inflamed place	Digestive problems (gastritis) E: to treat external hemorrhoids as hemo- styptic powder	***	+	-	+	+	+	-
<i>Fraxinus angustifo- lia</i> Vahl (Oleaceae) MSHFRAN495	W	L	E: directly to wound	Wound healing	*	-	-	-	+	-	-
<i>Galega officinalis</i> L. (Fabaceae) MSHGAOF004	W	Fl	I: tea	Diabetes	**	-	+	-	+	+	-
<i>Galium verum</i> L. (Rubiaceae) MSHGAVE019	W	APd	I: tea	Kidney and urinary problems	**	-	-	+	+	-	-
<i>Gentiana lutea</i> L. (Gentianaceae) MSHGELU1311	W	R; L; Fl	I: tea	To regulate tem- perature, respiratory system problems (influenza, cough)	**	+	+	-	+	-	+

**Table 5.1** (continued)

Botanical taxon/ taxa, family and voucher specimen	Status	Used parts(s)	Preparation and administration	Local medical use(s)	Quota- tion frequency	Vulner- ability of species	Pharma- ceutical market	Local market	Use(s) recorded among		
									Albanian	Mace- donian	Gorani
<i>Hedera helix</i> L. (Araliaceae) MSHHEHE165	W	L	E: applied directly as a compress	E: rheumatic disorder (rheumatisms)	***	+	-	-	+	+	-
<i>Helianthus tuberosus</i> L. (Asteraceae) MSHHEHU1411	C	R	I: cooked dishes	To stimulate appetite and to improve heart contractility (cardio- vascular system)	***	+	+	+	+	-	-
<i>Helleborus odorus</i> Waldst. & Kit. exWilld. (Ranunculaceae) MSHHEOD1511	W	APf	I: juice E: directly to the wound as a compress	E: Musculoskeletal system (rheumatism) I: juice to heal wounds in sheep	***	-	-	+	-	-	+
<i>Hypericum perforatum</i> L. (Hypericaceae) MSHHYPE075	W	APd	I: tea E: powder directly to wound, oil for hemorrhoids	I: general kidney pains (and to remove kidney stones), to treat internal and external hemorrhoids	***	-	+	+	+	+	+
<i>Juglans regia</i> L. (Juglandaceae) MSHJURE175	C	Fr; L	I: tea E: directly in to the wound	I: anti-anemic, diges- tive system problems (constipation) E: dermatological system (eczema, shingles and skin inflammation)	***	+	-	+	+	+	+
<i>Juniperus communis</i> L.(Cupressaceae) MSHJUCO185	W	Fr; L	I: tea E: directly	I: renal system (remove kidney stones) E: rheumatic disor- ders (rheumatisms)	***	+	+	+	+	-	+

**Table 5.1** (continued)

Botanical taxon/ taxa, family and voucher specimen	Status	Used parts(s)	Preparation and administration	Local medical use(s)	Quota- tion frequency	Vulner- ability of species	Pharma- ceutical market	Local market	Use(s) recorded among		
									Albanian	Mace- donian	Gorani
<i>Juniperus oxycedrus</i> L. (Cupressaceae) MSHJUOX1611	W	Fruit	I: tea, tincture, oil	Dermatological sys- tem (skin infections)	***	+	+	+	+	+	+
<i>Ligustrum vulgare</i> L. (Oleaceae) MSHLIVU195	W	APd	I: tea mixed with chamomile	Respiratory problems (cough and influenza)	*	+	+	+	+	-	-
<i>Lythrum salicaria</i> L. (Lythraceae) MSHLYSA205	C; W	AP	I: tea mixed with <i>Hypericum perforatum</i>	Internal hemorrhoids and to treat anemia	*	+	+	+	+	-	-
<i>Malva sylvestris</i> L. (Malvaceae) MSHMASI085	W	L	I: tea	Respiratory problems (bronchitis, asthma, emphysema)	***	-	-	-	+	+	+
<i>Marrubium vulgare</i> L. (Lamiaceae) MSHMAVU015	W	APd	I: tea	Appetite stimulant	*	-	-	+	+	-	-
<i>Matricaria recutita</i> L. (Asteraceae) MSHMARE057	W	APd	I: tea E: applied directly to the wound as extract	E: wound healing (ulcers of the skin and soft tissues) I: abdominal pain (stomachache), I: to reduce menstrual pain	***	-	-	-	+	+	+
<i>Medicago sativa</i> L. (Fabaceae) MSHMESA020	C	L	I: tea and tincture	Galactagogue	*	-	+	+	+	+	-
<i>Melissa officinalis</i> L. (Lamiaceae) MSHMEOF1711	SC	L	I: tea, oil	Cardiovascular sys- tem (heart problems), headaches	***	-	-	+	+	+	-

**Table 5.1** (continued)

Botanical taxon/ taxa, family and voucher specimen	Status	Used parts(s)	Preparation and administration	Local medical use(s)	Quota- tion frequency	Vulner- ability of species	Pharma- ceutical market	Local market	Use(s) recorded among		
									Albanian	Mace- donian	Gorani
<i>Mentha longi- folia</i> (L.) Huds. (Lamiaceae) MSHMELO003	C; SC; W	APd	I: tea	To strengthen immu- nity and “health” in general, especially for children and for respiratory problems (cold)	**	+	–	–	+	–	+
<i>Mentha piperita</i> L. (Lamiaceae) MSHMEPI095	C	L; Fr	I: tea	Digestive problems (gastritis and gastric ulcers), respiratory problems (cough)	***	–	+	–	+	–	+
<i>Morus alba</i> L. (Moraceae) MSHMOAL1811	C	Fr	I:tea, jam, “pyte”	To treat cough, headache, fever, and hypertension	***	+	–	+	+	+	+
<i>Morus nigra</i> L. (Moraceae) MSHMONI1911	C	Fr L	I: tea, jam	To treat anemia, constipation, appetite stimulant	***	–	–	+	+	+	+
<i>Ocimum basilicum</i> L. (Lamiaceae) MSHOCBA465	C	L	I: tea E: to heal skin from fire	To strengthen immu- nity (especially during pregnancy)	***	–	+	–	+	+	+
<i>Ononis spinosa</i> L. (Fabaceae) MSHONSP215	W	Flr	I: tea	Abdominal pain (gastritis and gastric ulcers)	*	–	–	+	+	–	–
<i>Origanum vulgare</i> L. (Lamiaceae) MSHORVU475	W	APd	I: tea	Respiratory problems (especially cough and bronchitis) and to strengthen the appetite	***	–	–	–	+	–	+

Table 5.1 (continued)

Botanical taxon/ taxa, family and voucher specimen	Status	Used parts(s)	Preparation and administration	Local medical use(s)	Quota- tion frequency	Vulner- ability of species	Pharma- ceutical market	Local market	Use(s) recorded among		
									Albanian	Mace- donian	Gorani
<i>Parietaria officina- lis</i> L. (Urticaceae) MSHPAOF265	W	L	I: tea, infuse, syrup	Urinary tract prob- lems and kidney inflammations	*	+	-	+	+	-	+
<i>Pinus sylvestris</i> L. (Pinaceae) MSHPISY225	C; SC; W	L	I: tea	Chronic bronchitis	*	-	-	-	+	-	-
<i>Plantago lan- ceolata</i> L. (Plantaginaceae) MSHPLLA235	W	APd	I: tea E: to heal skin from fire directly into the wound	I: Abdominal pain (stomach ache)	**	-	-	+	+	+	+
<i>Plantago major</i> L. (Plantaginaceae) MSHPLMA245	W	APd	I: tea E: to heal eczema directly into the wound	I:abdominal pain (stomach ache)	**	-	-	-	+	+	+
<i>Poterium san- guisorba</i> L. (Rosaceae) MSHPOSA255	W	L	I: tea	To improve appetite	*	-	-	-	+	-	-
<i>Prunella vulgaris</i> L. (Lamiaceae) MSHBRVU012	W	Fl	E: tea in gargles	Against viral infections	**	-	+	+	+	-	-
<i>Rosa canina</i> L. (Rosaceae) MSHROCA275	W	Fl; Fr	I: tea E: to heal wounds directly	Respiratory problems (cough, bronchitis, and cold)	***	-	-	+	+	-	+
<i>Rubus ulmifolius</i> Schott. (Rosaceae) MSHRUUL285	W	L; Fr	I: tea as a substitute for <i>Camellia sinen- sis</i> and to make syrup	Respiratory problems (especially cough and cold) and to strengthen appetite	***	-	-	+	+	-	+

**Table 5.1** (continued)

Botanical taxon/ taxa, family and voucher specimen	Status	Used parts(s)	Preparation and administration	Local medical use(s)	Quota- tion frequency	Vulner- ability of species	Pharma- ceutical market	Local market	Use(s) recorded among		
									Albanian	Mace- donian	Gorani
<i>Sambucus nigra</i> L. (Adoxaceae) MSHSANI295	W	Fl	I: tea mixed with chamomile	Respiratory problems (bronchitis and cold)	***	–	+	–	+	+	+
<i>Saponaria officinalis</i> L. (Caryophyllaceae) MSHSAOF305	SC; W	APd	I: tea	Respiratory problems (bronchitis, cough), digestive problems (gastritis), and urinary tract infections (cystitis)	***	–	–	+	+	–	+
<i>Sideriti scardica</i> Griseb. (Lamiace- ae) MSHSISC315	C; W	APd	I: tea	Abdominal pain (stomachache) and against sore throat (viral infections)	***	+	+	+	+	+	–
<i>Sisymbrium offi- cinale</i> (L.) Scop. (Brassicaceae) MSHSIOF325	W	S; L; Fr	I: tea, infusion	Respiratory system problems (mostly to protect from tuber- culosis, cough and asthma)	**	–	–	–	+	–	–
<i>Tanacetum vulgare</i> L. (Asteraceae) MSHTAVU455	W	L	I: tea	To treat rheumatism	***	–	–	–	+	–	–
<i>Taraxacum officinale</i> F.H. Wigg. (Asteraceae) MSHTAOF415	W	L	I: tea	Cardiovascular problems (to regulate hypertension during pregnancy)	**	–	–	–	+	–	+
<i>Thymus serpyllum</i> L. (Lamiaceae) MSHTHLO505	W	L	I: tea	Respiratory system problems (fever, influenza, cold)	***	–	–	–	–	+	+

**Table 5.1** (continued)

Botanical taxon/ taxa, family and voucher specimen	Status	Used parts(s)	Preparation and administration	Local medical use(s)	Quota- tion frequency	Vulner- ability of species	Pharma- ceutical market	Local market	Use(s) recorded among		
									Albanian	Mace- donian	Gorani
<i>Thymus striatus</i> Vahl (Lamiaceae) MSHTHST525	W	L	I: tea	I: dermatological system problems (to minimize the effect of edemas, to remove fluid)	**	-	+	+	-	-	+
<i>Tilia cordata</i> Mill. (Malvaceae) MSHTICO335	C; SC; W	Fl	I: tea	Sleeping difficulties (insomnia), abdomi- nal pain (stomach- ache), respiratory problems (cough, fever)	***	-	-	+	+	+	+
<i>Trifolium</i> spp. (Fabaceae) MSHTRSP425	W	APf	I: tea E: to stop bleeding	Cardiovascular prob- lems (troubles related to the blood pressure)	*	-	-	-	+	-	-
<i>Tussilago farfara</i> L. (Asteraceae) MSHTUFA345	W	L	I: tea	Disambiguation (ulcers), and cardio- vascular problems (to treat open veins)	***	+	-	-	+	+	-
<i>Urtica dioica</i> L. (Urticaceae) MSHURDI355	W	APf; APd	I: tea E: to irritate skin	To improve schedule of the blood and to help people with diabetes	***	-	-	-	+	-	+
<i>Vaccinium myrti- lus</i> L. (Ericaceae) MSHVAMY365	W	Fr; L	I: tea, syrup, tonic	Against viral infec- tion as gargles (throat wash), cardio-vas- cular problems (to regulate schedule of the blood), abdominal pain (stomachache), against diarrhea	***	+	+	+	+	+	+

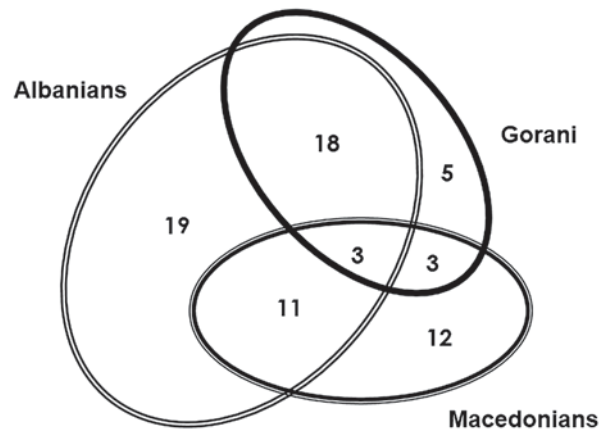
**Table 5.1** (continued)

Botanical taxon/ taxa, family and voucher specimen	Status	Used parts(s)	Preparation and administration	Local medical use(s)	Quota- tion frequency	Vulner- ability of species	Pharma- ceutical market	Local market	Use(s) recorded among		
									Albanian	Mace- donian	Gorani
<i>Vaccinium uliginosum</i> L. (Ericaceae) MSHVAUL565	W	Fr; L	I: tea, syrup, tonic	Abdominal pain (stomachache), food poisoning (diarrhea), cardiovascular problems (to regulate the blood)	***	-	+	+	+	-	+
<i>Verbascum phlomoides</i> L. (Scrophulariaceae) MSHVEPH385	W	Fl	I: tea	Respiratory system problems (chronic bronchitis, asthma, to prevent from tuberculosis, influenza, cold, fever)	***	-	+	+	+	+	-
<i>Verbena officinalis</i> L. (Verbenaceae) MSHVEOF395	W	Fl; L	I: tea	Nervous system (mental problems, against depression), sleeping difficulties, (insomnia), neurological disorder (migraine, headache), respiratory system problems (fever, cold), and to regulate temperature	*	-	-	-	+	-	+

<sup>a</sup> With kind permission from Springer Science+Business Media: Genetic Resources and Crop Evaluation: Traditional medicinal plant knowledge among Albanians, Macedonians, and Gorani in the Sharr Mountains (Republic of Macedonia), 60(7), 2013, Rexhepi et al.  
+ :yes; - :no; \*quoted by less than 10% informants; \*\*quoted by more than 10% and less than 40% informants;  
\*\*\* quoted by more than 40% informants



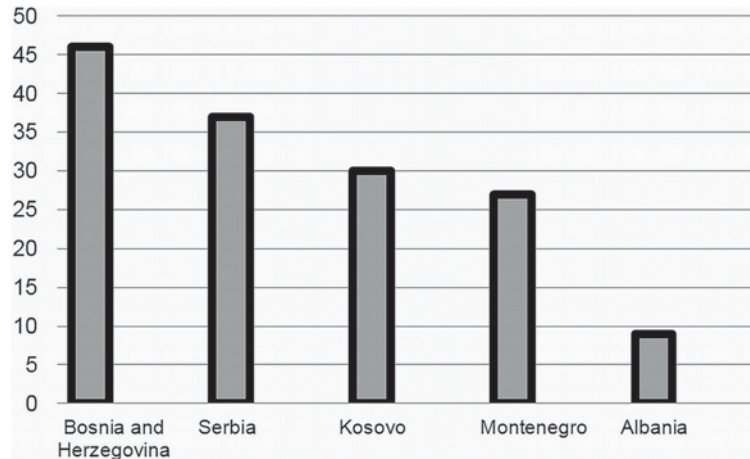
**Fig. 5.3** Comparison among the medicinal plants recorded and used by the three ethnic groups



while a significant portion of plants quoted by Orthodox Macedonians showed an idiosyncratic use. This may be explained by the fact that the Gorani lived very close to the Albanian communities (check trapezoid symbol Nos. 21 and 22 in Fig. 5.2) in the study area over the last century, with marriages between the two communities being commonplace and facilitated by their shared (Muslim) faith.

### 5.3.3 Comparison with Other Balkan Ethnobotanies

The medicinal taxa that have also been recorded for the same or similar uses in ethnobotanical studies conducted in other surrounding Balkan areas are reported in Fig. 5.4. More than half of the medicinal plants reported in the current study have been recorded for similar uses in Bosnia and Herzegovina, while remarkable commonalities could also be found in Kosovo, Serbia, and Montenegro. Less than 10% of the medicinal plant reports agree with those found in northern Albania. This picture is similar to what has also recently been found in the Kosovar Alps (Mustafa et al. 2012b), and it underlines the importance of the historical role played by the former Yugoslavia in the last century in “homogenizing” cultural practices of plant use among different ethnic groups. This can be easily understood by tracing the folk heritage in the field of medicine and cuisine within the domestic arena, which was and is managed by women. During the last decades (and especially at the Yugoslavian times), intermarriages between Muslim Slavs (such as Bosniaks, Gorani, and Torbeshi) and Albanians of Muslim faith were quite common, thus resulting in regular exchange of the domestic folk practices managed by the women. This demonstrates that in the Balkans, religious heritage may have played a more crucial role in maintaining or changing folk medical practices within the original communities than linguistic differences. Similarly, a recent study among Orthodox Serbians



**Fig. 5.4** Proportion (in %) of the recorded medicinal plants in the current study, which have also been recorded in recent ethnobotanical surveys conducted in surrounding countries

and Muslim “Bosniakised” Albanians in the Pester Plateau in Serbia would seem to confirm the same phenomenon (Pieroni et al. 2011). Future studies will have to make a more in-depth assessment of this issue, perhaps considering communities that have lived at historical, religious, and ethnic interfaces in the Balkans (i.e., Muslim Slavs in Albania or Catholic Albanians in the former Yugoslavia).

### 5.3.4 Conservation Concerns

The recent overexploitation of local plants for making home-made teas, many of which are often traded to local city markets, may raise serious concerns in a few cases. For example, the endemic species *Sideritis scardica* Griseb. can be found today growing only in the peak of “Ljuboten”—also known in old maps of Ptolomeus as “Monte Argentaro Vulgo Igluboten.” Locals also hold the perception that the ecological availability of *Gentiana lutea* L., *Hypericum perforatum* L., and *Thymus serpyllum* L. has also remarkably decreased over the last decades. Furthermore, a significant portion of the study participants (28%) claimed that medicinal species are under threat, mainly due to the uncontrolled collection devoted to both the local and external (pharmaceutical) markets.

Our observations that only the elder members of these communities are able to identify and use medicinal plants also confirms a negative impact of migration and erosion of TEK. Moreover, the transmission of TEK to younger generations does not appear to be commonplace. Thus, TEK concerning plants may be crucial for serious attempts to implement bioconservation initiatives and environmental education frameworks.

## 5.4 Conclusion

The traditional knowledge recorded in the Sharr Mountains shows the survival of an impressive intangible cultural heritage of TEK related to medicinal and food uses of the local flora. This ethnobotanical data provides an interesting basis for diverse applications, both in community-based bioconservation strategies, and also for further fostering a sustainable small-scale local trade of herbal teas. The cross-cultural comparison of three ethnic groups in this study revealed that the Muslim, Gorani, and Albanian communities share more plant uses in common than with the Orthodox Macedonians. Moreover, comparison with other Western Balkan medicinal plant folk knowledge systems demonstrated that nearly half of the medicinal plants recorded in the study area also share similar uses in Bosnia and Herzegovina and, to a lesser extent, in other former Yugoslavian territories, while the overlap with the ethnobotanies of mountainous areas in Albania is relatively moderate.

With regard to threats to the genetic resources of the Sharr Mountains, some concerns may arise regarding the danger of a potential overexploitation of a few taxa collected for sale on regional trade networks. The sustainable and effective management of wild medicinal plants should be considered as a priority for local rural development agendas, but this has to be addressed always starting from a deep comprehension of the local peoples' perception and habits regarding the plant collection and use.

Traditional management of medicinal plants has been considered by the local communities for a long time as part of the broader management of *common goods*. These communal forms of understanding limitation and benefits arising from renewable natural resources have represented the key issue for fostering resilience and socio-ecological sustainability. Programs aimed at supporting rural development projects will have to therefore seriously consider this aspect. The preservation and especially the "re-activation" of TEK concerning local natural resources should become a focus of highest priority in bioconservation-centered initiatives in this area, as migration trends towards urban centers and abroad by the young and mid-aged members of the population that are contributing to a decline of transmission of TEK regarding plants and ultimately to an impoverished understanding of the dynamic human–plant relations of this region.

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Development and Reconciliation

 Springer

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