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RESEARCH ARTICLE

An ethnobotanical study among Albanians and Aromanians living in the Rraicë and Mokra areas of Eastern Albania

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Abstract Ethnobotanical research in South-Eastern Europe is crucial for providing the baseline data needed for both implementing community-based management of the local natural resources and (further) developing small-scale markets of local herbal and food products. An ethnobotanical study was carried out among (Muslim) Albanians and (Christian Orthodox) Aromanians living in the Rraicë and Mokra areas of Eastern Albania. The survey was conducted by interviewing 36 local, elderly individuals from five villages regarding the traditional uses of wild food plants, medicinal foods, and home-made medical remedies devoted to both humans and animals. Thirty-six plant taxa were found to comprise the local wild food cuisine as well as the cuisine of *medicinal foods* and cultivated plants prepared in unusual ways; 59 plant taxa were used in human folk medicine and 20 plant taxa in local ethnoveterinary practices. In total, 221 preparations, the large majority plant-based, were recorded. Among the findings, the uncommon food uses of potato leaves as a vegetable and lacto-fermented potato tubers (until the recent past), the widespread use of *Chenopodium* and *Rumex* spp. as wild vegetables, as well as the leaves of *Ilex aquifolium* as a diuretic remedy, dried wild orchid tubers to treat cough and helminthiasis, and elderberry flowers to treat wounds, deserve further investigation. Approximately half of the plant uses reported by Aromanians were not recorded among Albanians, thus suggesting divergent ethnobotanical pathways, perhaps due to the different religious faiths of the two communities, which have prevented intermarriage over the last few centuries.

Keywords Albania · Albanians · Aromanians · Ethnobotany · Ethnobiology

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Introduction

In recent years, the entire Balkans (defined as the South-Eastern European region located south of the Danube-Sava-Kupa river systems line) has been the focus of several ethnobiological studies intended to record a specific section of the bio-cultural heritage, which is represented by Traditional Ecological/Environmental Knowledge (TEK) related to the

perceptions and uses of plants (Łuczaj et al. 2013; Luczaj et al. 2013; Menković et al. 2011; Mustafa et al. 2012a, b; Nedelcheva 2013; Nedelcheva and Dogan 2011; Pieroni et al. 2011, 2012, 2013, 2014a, b; Pieroni and Quave 2014; Quave and Pieroni 2014; Rexhepi et al. 2013; Savikin et al. 2013; Zlatković et al. 2014) and animals (Lescureux and Linnell 2010; Lescureux et al. 2011a, b).

In Albania, in particular, given its complex historical vicissitudes during the past several centuries, the fact that the country remained largely isolated for most of the twentieth century and that small-scale agro-pastoral activities still represent the lynch-pin of subsistence economies for many people living in mountainous and rural areas, TEK-centred studies are not only important for understanding local perceptions and uses of plants, but also for providing baseline data that can be "used" in projects intended to foster truly sustainable rural development programs.

On the other hand, the Balkans has 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 (Kathe et al. 2003; Londoño et al. 2008).

However, the use and management of local plant genetic resources need to be culturally sensitive; in other words, the "emic" perceptions that local populations have towards their natural environment must be taken into account in order to successfully implement bio-conservation initiatives.

The goal of the present study, therefore, was to further document TEK related to plants in the mountainous and rural regions of Albania, focusing on two areas—the territories of Rrajcë and Mokra—located in the east of the country, which are largely unknown in both the historical-folkloric literature and the new, increasing eco-tourist trajectories.

Moreover, the Mokra area is the home of a small community (Llengë/Lunca) belonging to one of the endangered linguistic minorities of Europe (Lewis 2014): the Aromanians, who define themselves in the study are as *Rrămeni (Rrămâni)*, while Albanians name them using the term *Çobanë*.

They are a Latin population of (mainly) Orthodox Christian faith, which traditionally practiced a trans-humant pastoralism in SE Europe and lives now scattered throughout the southern Balkans. Their ethnogenesis is still disputed; they may represent the descendants of ancient Latin speakers or "latinicized"

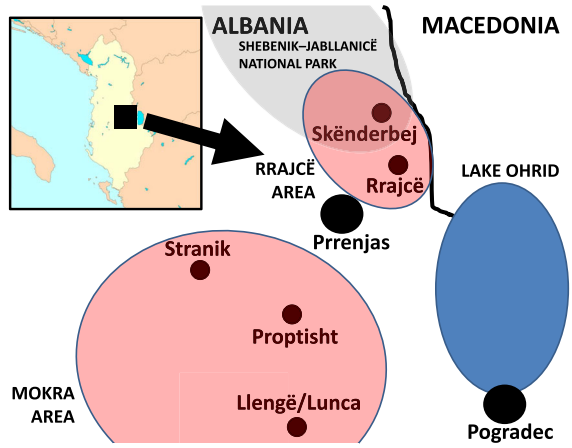

Fig. 1 The study sites

autochthonous Balkan populations—Greeks, Illyrians, and Trakians, or even of Romanian populations, who moved southwards (Burileanu 1912; Dahmen 2005; Kahl 1999; Schwandner-Sievers 1999; (Trifon 2013); Wace 1914; Weigand 1894; Winnifrith 1987).

They still speak nowadays a language (Aromanian) belonging to the Romanian group; all over Albania there are probably still only five scattered tiny villages, which are entirely inhabited by Aromanians (Kahl 1999).

Thus, the objectives of this study were: (a) to document the ethnobotanical knowledge related to plant-based wild food cuisine, medicinal foods, and domestic remedies for humans and animals in the Rrajcë and Mokra areas, among the elderly population of both Albanians and Aromanians; (b) to compare the collected data between the two linguistic communities; and (c) to compare these with the findings of other ethnobotanical surveys recently conducted in the Western Balkans in order to assess novel and promising plant uses.

Methods

Study areas

The Rrajcë and Mokra areas are located in Eastern Albania (Fig. 1).

The Rrajcë area is located close to the town of Prrenjas, within the Shebenik–Jabllanicë National Park. The park, which borders the Republic of Macedonia, was established in 2008 and is one of the sanctuaries in Europe for the brown bear and the Balkan lynx.

The Mokra area in contrast is a mountainous territory located to the South of Rrajcë and to the West of Lake Ohrid in the district of Pogradec, which is considered one of the most economically disadvantaged areas of the country (INSTAT 2012).

In particular, the study was conducted in five villages, four of them inhabited by Muslim Albanians, including Rrajcë (662 m a.s.l.) and Skënderbej (976 m a.s.l.) which are located in the Rrajcë area, and Stranik (769 m a.s.l.) and Proptisht (557 m a.s.l.) which are located in the Mokra area. The last village, also located in the territory of Mokra, was Llengë (in Rrămâni/Aromanian known as Lunca, 968 m a.s.l.), which is inhabited by Orthodox Aromanians only. The overall permanent estimated population of the five villages is approximately 1,500 people, and circa 40 of them represent the last remaining Aromanians living in Lunca.

Field study

The field study was conducted in April 2014; the sampling was conducted identifying study participants from among elderly individuals who retain traditional knowledge concerning plants. In-depth open and semi-structured interviews were then conducted with 36 selected villagers (26 Albanians and 10 Aromanians). The participants, including 12 women and 24 men, were between the ages of 37 and 95 years, with the majority of the informants from both communities above 65 years of age. Study participants were asked about traditional uses of plants and other domestic remedies in the food and medicinal domains (for both humans and animals). Specifically, local name(s) of each reported taxon, the plant part(s) used, and in-depth details about their manipulation/preparation and food or medicinal use(s) were recorded. 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 native languages of the participants (Albanian among Albanians and Aromanian among Aromanians) with the help of two bilingual simultaneous translators. Prior informed consent from all participants was verbally obtained prior to conducting interviews and ethical guidelines prescribed 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). As with the previous fieldwork we conducted in the neighboring Gollobordo area (Pieroni et al. 2014b), voucher specimens and photographs were taken. Taxonomic identification follows the official Flora of Albania (Paparisto et al. 1988; Qosja et al. 1992, 1996; Vangjeli et al. 2000), while for *Crataegus* spp. we referred to the Rosaceae's taxonomy in Euro+Med PlantBase (Raimondo 2011). Local plant names were transcribed following the rules of standard Albanian and Romanian languages.

Data analysis

The collected field data were compared with the ethnobotanical literature of Albania (Pieroni 2008, 2010; Pieroni et al. 2005; 2014a, b; Quave and Pieroni 2014; Sejdiu 1984) and surrounding countries located in the southern part of the Balkans: Macedonia (Pieroni et al. 2013; Rexhepi et al. 2013), Kosovo (Mustafa et al. 2012a, b), Bulgaria (Ivancheva and Stantcheva 2000; Kültür and Sami 2009; Leporatti and Ivancheva 2003; Nedelcheva 2013; Nedelcheva and Dogan 2009, 2011), Romania (Borza 1968; Butura 1979; Drăgulescu 2006; Pieroni et al. 2012); and Greece (Pindus Mt.) (Bara 2005; Vokou et al. 1993).

Results and discussion

Wild food plant uses and uncommon cultivated plants/uses

Table 1 presents the recorded data concerning wild foods and medicinal foods (i.e. foods perceived to have a beneficial effect on health), as well as those cultivated plants and uses which diverge from the mainstream uses that are known in the fields of economic/food botany and commodity science. In the same table, those taxa and uses that were mentioned by more than half of the study participants are indicated in bold type.

Thirty-six plant taxa and 47 overall preparations were recorded.

As in many other mountainous areas of Albania (Pieroni 2008, 2010; Pieroni et al. 2005; Pieroni et al. 2014a, b), the most important wild vegetables in the

Table 1 Wild foods, medicinal foods, and uncommon cultivated food plants/uses recorded in the study area

Ingredient/food plant taxon	Recorded folk name(s) of the plant/animal/ingredient	Food use(s)	(Eventual) reported beneficial effect(s) or other notes	ALB	RRĂ
Almond (*Prunus dulcis* (Mill.) D.A. Webb) seeds	Bajame[ALB]	Filling for wheat-flour based salty pies (*peta*)		+	
Badger (*Meles meles* Linnaeus, 1758) meat	Baldosa[ALB]	Consumed cooked	Anti-rheumatic	+	
Bay (*Laurus nobilis* L.) leaves	Dafinë[ALB] Dafin[RRĂ]	Dried, seasoning in diverse food preparations (esp. river fish)		+	+
Bear (*Ursus arctos* Lineaus 1758) meat	Ariu[ALB]	Consumed cooked	Beneficial for those affected by nervous diseases (rare)	+	
Beech (*Fagus sylvatica* L.) seeds	Ahu[ALB]	Consumed raw as a snack	Exaggerated ingestion may cause headaches	+	
Bitter vetch (*Vicia ervilia* Willd.) seeds	Urof[ALB]	Roasted, then in decoction	Digestive	+	
Blackberry (*Rubus ulmifolius* Schott) fruits	Manaferra[ALB]	Fermented and distilled into *raki*		+	
Carline thistle (*Carlina acanthofolia* All.) flower receptacles	Shoshka[ALB] Turtă[RRĂ]	Consumed raw as a snack		+	+
Chamois (*Rupicapra rupicapra balcanica* Bolkay 1925) meat	Dhi e egër[ALB] Kaproll[ALB]	Consumed cooked (rare)		+	+
Cherry-plum (*Prunus cerasifera* Ehrh.) fruits	Kumbull e egër[ALB] Pruna agra[RRĂ]	**Distilled (*raki*[ALB]/*arcie*[RRĂ])**		+	+
Chickpea (*Cicer arietinum* L.) seeds	Qiqër[ALB] Zezera[RRĂ]	Flour obtained from the dried seeds is used to bake bread (mixed together with wheat flour)		+	+
Cornelian cherry (*Cornus mas* L.) fruits	Thana[ALB] Cor[RRĂ]	**Distilled into *raki* (*arcie*[RRĂ])** Consumed raw as a snack or cooked with sugar to obtain jams or compotes	Cardiotonic[ALB] Anti-diabetic, appetite stimulant, anti-hypertensive, anti-rheumatic[ALB]; anti-headache[RRĂ]	+ +	+ +
Crab apple (*Malus sylvestris* Miller) fruits	Diviaçka[ALB] Mollë e egër[ALB] Gormni[RRĂ]	**Dried and consumed as a snack or boiled in water (*hoshaf*) and consumed (also as a recreation tea)**; fermented and distilled into *raki*[ALB]		+	+
Dandelion (*Taraxacum officinale* Weber) leaves	Lule gomari[ALB]	Consumed raw in salad	"New" use, probably imported via back migration from Greece?	+	
Dock (*Rumex patientia* L. and *R. alpinus* L.) leaves	Liakra e egër[ALB] Rëpic[ALB] Kruçë[ALB] Ştei[RRĂ]	**Filling for wheat-flour and corn-flour based pies** (*peta*[ALB] and *pipeq*[ALB]; *pita*[RRĂ] and *pispelita*[RRĂ]); boiled with corn flour and milk soups (often in milk)	Blood depurative	+	+
Fat hen (*Chenopodium album* L.) leaves	Lobtu[RRĂ]	Filling for wheat-flour and corn-flour based pies (*pita*[RRĂ] and *pispelita*[RRĂ])			+

Table 1 continued

Ingredient/food plant taxon	Recorded folk name(s) of the plant/animal/ingredient	Food use(s)	(Eventual) reported beneficial effect(s) or other notes	ALB	RRĂ
Fox grape (*Vitis labrusca* L.) ripe fruits and branches	Rrush[ALB]	Fruits used for seasoning lacto-fermented vegetables; branches—woven into crowns—are put on the top of the barrels of the lacto-fermented vegetables	Beneficial for the conservation of lacto-fermented pickles (branches)	+	
Good King Henry (*Chenopodium bonus-henricus* L.) leaves	Lëpjeta[ALB] Lepitka[ALB] Quen[ALB]	**Filling for wheat-flour and corn-flour based pies** (*peta*[ALB] and *pipeq*[ALB])		+	
Hare (*Lepus europaeus* Pallas 1778) meat	Lepur[ALB] Lepru[RRĂ]	Consumed cooked (often)		+	+
Hare bomasus		Used as rennet		+	
Hawthorn (*Crataegus monogyna* L. and *C. sericea* Dzekov) fruits	Murriz[ALB] (*C. monogyna*: Murriz e vogël; *C. sericea*: Murriz e madhe)	Consumed raw as a snack		+	
Hazelnut (*Corylus avellana* L.) seeds	Lajthia[ALB] Alun[RRĂ]	Consumed raw or dried as a snack		+	+
Hedgehog (*Erinaceus europaeus* Linnaeus 1758) meat	Iriq[ALB, RRĂ]	Consumed cooked	Anti-rheumatic	+	+
Jerusalem artichoke (*Helianthus tuberosus* L.) tubers	Shalganë[ALB] Mere di tere[RRĂ]	Consumed raw as a snack		+	+
Juniper (*Juniperus oxycedrus* L. and *J. communis* L.) cones	Genep[RRĂ]	Distilled into *arcie*[RRĂ]			+
Lettuce (*Lactuca sativa* L.) leaves	Sallatë[ALB]	Filling for pies		+	
Milk		Drunk	Galactagogue	+	
Mulberry (*Morus alba* L. and *M. nigra* L.) fruits	Man[ALB]	Fermented and distilled into *raki*		+	
Nettle (*Urtica dioica* L.) leaves	Hithra[ALB] Urzaz[RRĂ] Urzic[RRĂ] Ruzica[RRĂ] Ruzaci[RRĂ]	**Filling for wheat-flour and corn-flour based pies** (*peta*[ALB] and *pipeq*[ALB]; *pita*[RRĂ] and *pispelita*[RRĂ]); boiled with corn flour and milk soups (often in milk)	Blood depurative; anti-rheumatic	+	+
Orache (*Atriplex hortensis* L.) leaves	Laboda[ALB] Labot[ALB]	Filling for pies		+	
Oregano (*Origanum vulgare* L.) flowering aerial parts	Rigoni[RRĂ]	Dried, seasoning in diverse food preparations and particularly potatoes			+
Owl (*Asio otus* Linnaeus 1758) meat	Buf[ALB]	Consumed cooked (rare)		+	

Table 1 continued

Ingredient/food plant taxon	Recorded folk name(s) of the plant/animal/ingredient	Food use(s)	(Eventual) reported beneficial effect(s) or other notes	ALB	RRĂ
Pigweed (*Amarathus retoflexus* L.) leaves	Nanë[ALB] Nenza[ALB] **Ştir[RRĂ]**	Filling for pies		+	+
Potato (*Solanum tuberosum* L.) tubers	Kompirë[ALB]	Lacto-fermented in water and salt or in cheese and its brine (also 1 year long), then consumed		+	
		Boiled and then lacto-fermented in water and salt		+	
Potato leaves		Filling for pies (normally mixed with onions; used in the past)		+	
Sloe (*Prunus spinosa* L.) fruits	Kulumbri[ALB]	Consumed raw as a snack		+	
Snail (*Helix pomatia* Linnaeus 1758) meat	Chernaş[RRĂ]	Consumed cooked with eggs, leek and onions			+
Whey	Hirra[ALB]	**Drunk**	**Beneficial to the kidneys, and for stomach-ache and ulcers; depurative for all organs**	+	
Wild boar (*Sus scrofa* Linnaeus 1758) meat	Derri i egër[ALB] Porc[RRĂ]	Consumed cooked	Beneficial for stomach-ache and ulcers (rare)	+	+
Wild leek (*Allium scordoprasum* L.) aerial parts	Purri e egër[ALB]	Filling for wheat-flour and corn-flour based pies (*peta*[ALB] and *pipeq*[ALB])		+	
Wild pear (*Pyrus pyraster* Burgsd.) fruits	Gorrica[ALB]	Consumed as a snack after letting them ripen on straw; or cooked with sugar to obtain a thickened juice (*pekmez*); fermented and distilled in *raki*[ALB]		+	
Wild strawberry (*Fragaria vesca* L.) fruits	Luleshtrydhe[ALB]	Consumed raw as a snack		+	
Wild thyme and savory (*Thymus pulegioides* L. and *Satureja montana* L.) flowering aerial parts	Listër[ALB] Rigoni alba[RRĂ] (only *Satureja montana*)	Seasoning in diverse culinary preparations	Honey deriving from its flowers considered very healthy	+	+
Yogurt ricotta (from cow milk)	Gjizë[ALB]	Consumed fresh, without salt	Beneficial to the spleen	+	

ALB: name(s) or use(s) recorded among Albanians

RRĂ: name(s) or use(s) recorded among Rrămâni (Aromanians)

In bold: taxa and uses mentioned by at least half of the participants

local cuisine were represented by *Urtica, Chenopodium* and *Rumex* spp., while the most commonly mentioned wild fruits were *Cornus mas* and *Malus sylvestris*.

In addition to a few wild animals, consumed in the study areas for the most part in the past and during times of famine, a number of uncommon uses of wild and cultivated plants emerged from the interviews:

- almonds in savory pies, in the lower part of the Mokra area;
- chickpea flour—mixed with wheat flour—in baking bread;
- fox grapes as a seasoning, and grapevine branches as a preservative in lacto-fermented, pickled vegetables;
- wild pears, for preparing both *pekmez* (a kind of concentrated juice) and, via a preliminary fermentation, *raki* (distillate);
- potato leaves (until the recent past) as a filling for savory pies, which confirms our previous ethnobotanical findings from Albanians living on the Macedonian side of Mt. Korab and Macedonians of Gollobordo (Pieroni et al. 2013; Pieroni et al. 2014b), as well as the tradition of lacto-fermenting potatoes, in both salted water and cheese brine.

The latter uncommon folk uses of potatoes, which share commonalities with those we recorded among Slavs in surrounding mountainous areas, as well as the fact that in the study area Albanians name the potato plant with a Slavic term, could suggest that these customs have been acquired by neighboring Slav populations.

We observed similar linguistic patterns for *Malus sylvestris*, *Atriplex hortensis*, and, to a minor extend, *Rosa canina*, which, in the Rraicë area, are traditionally named by Slavic phytonims.

These findings could re-address the open question of a possible Slavic influence or even origin of the Rraicë area, as suggested in the past by a few Slavic historians and geographers (Tomić 1936; Trifunoski 1992).

Folk plant uses in human medicine

Table 2 presents the domestic folk remedies mentioned by the informants; as in the previous table, those taxa and uses that were reported by more than half of the study participants are indicated in bold type. Sixty-three plant folk taxa (59 identified, 4 unidentified) and 140 preparations were recorded.

The most commonly used teas mentioned by the study participants included *Rosa*, *Tilia*, *Oreganum*, *Ilex* and *Sideritis* spp., which, with exception of the last two genera, also represent the most common infusions in the mountainous regions of North and Northeast Albania.

The case of *Ilex aquifolium* is particularly interesting given that the diuretic use of its leaves in teas, which is extremely widespread in the two areas investigated here, seems to be completely unknown in South Balkan ethnobotany, as well in Serbian and Bosniak folk and historical phytotherapy (Jarić et al. 2007, 2011; Pieroni et al. 2011; Šarić-Kundalić et al. 2010a, b, 2011; Savikin et al. 2013; Zlatković et al. 2014). This finding, therefore, may warrant further phythochemical and phytopharmacological studies and an eventual clinical/therapeutical assessment.

As for external applications, the most commonly used remedies were fresh onions, *Plantago* leaves, *Ulmus* bark, fruit distillates (raki) and dried tobacco.

Other interesting and "unusual" medicinal plant reports, which may deserve further investigation, include the following:

- *salep* (tea derived from dried wild orchid tubers) used to treat cough and helminthiasis;
- *Petasites* leaves used to treat hemorrhoids;
- *Sambucus nigra* flowers used to treat wounds;
- concentrated mulberry (*Morus alba* and *M. nigra*) juice used to treat hepatitis;
- *Fomes* fungus used to treat burns, wounds, and warts;
- *Artemisia absinthium* used as a cardiotonic.

Veterinary plant uses

Table 3 presents the veterinary remedies mentioned by the informants; again, as in previous tables, those taxa and uses that were reported by more than half of the study participants are in bold type. Twenty plant taxa and 34 remedies represent the surviving ethnoveterinary heritage.

While most of the remedies have a sporadic use, and were used mainly in the past, the widespread veterinary use of dried *Helleborus* roots and stems and its application (inserted in the animal's ear) confirm what is widely known also in the South-European

Table 2 Folk remedies recorded in the study area for treating human diseases

Remedy/medicinal plant taxon	Recorded folk name(s) of the plant/animal/ingredient	Preparation	Administration	Reported local use(s) or treated disease(s)	ALB	RRĂ
Apple (*Malus domestica* Borkh.) fruits	Molla[ALB]	Fermented and distilled into *raki*	Drunk hot with sugar (*ponçë*) and inhaled or rubbed on the chest	Cough	+	
Ash	Hi[ALB]	Boiled in water	Drunk	Diarrhoea (kids)	+	
Barley (*Hordeum vulgare* L.) fruits	Elbi[ALB]	Roasted	Decoction	Digestive	+	
Bean (*Phaseolus vulgare* L.) seed	Fasole[RRĂ]	Burned	Mixed with oil and externally applied with a hen's feather	Skin inflammations in babies and kids		+
	Fasulja[ALB]	Cut in half	Externally applied for 30 min, then eventually adding melted cheese	Dog bite	+	+
Bear (*Ursus arctos* Linnaeus 1758) fat	Ariu[ALB]	Fresh	Externally applied	**Burns; wounds**	+	
Birch (*Betula pendula* Roth) leaves	Mështekër[ALB]	Tea	Drunk	Diuretic	+	
Blackberry (*Rubus ulmifolius* Schott) leaves	Manaferra[ALB]	Tea	Drunk	Stomach-ache, diarrhoea, cough	+	
Box (*Buxus sempervirens* L.) branches	Bush[ALB]	On 13 March in the evening it is put with other wild branches and flowers under a person's pillow (together with one apple and one walnut); on 14 March in the morning a warm water bath with all of these plants is taken	Ritual use (*halaturka/lule ditvere* feast)	Considered apotropaic, good for the individual's general health	+	
Bran	Krunde[ALB]	Mixed with warm water	Externally applied under the ears	Mumps	+	
Butter	Gjalpë[ALB]	Fresh	Inserted into the ear with a small piece of burning cotton (intended to "take out" the infection)	Ear inflammations	+	
		Cooked with wheat flour	Consumed	Galactagogue	+	
Butterbur (*Petasites hybridus* G. Gaertn., B. Mey. et Scherb.) leaves	Panacucu[RRĂ]	Fresh	Externally applied or consumed	Haemorrhoids		+

Table 2 continued

Remedy/medicinal plant taxon	Recorded folk name(s) of the plant/animal/ingredient	Preparation	Administration	Reported local use(s) or treated disease(s)	ALB	RRĂ
Candle smoke	Tymi i qirit[ALB]	As such	Externally applied	Eye inflammations	+	
Charcoal	Qymyr druri[ALB]	Wood burned to produced charcoal on which sugar together with small pieces of the (presumed) gazer's belongings are thrown	Child exposed to the resulting vapours; the charcoal is eventually put in water and the water used to wash the child's face, and then thrown away; in other versions, the leftover charcoal has to be put on the feet of a tree on the morning following the procedure described above	**Evil Eye**	+	
Cheese	Djathë[ALB] Kaş[RRĂ]	Melted on fire	Externally applied	Tooth-ache[ALB]; Dog bite[RRĂ]	+	+
Chicken feces	Glasa[ALB]	Dried	Hung on dress	Amulet against the Evil Eye (children)	+	
Child feces	Mut fëmije[ALB]	Fresh	Externally applied	Eye inflammation		+
Chili pepper (*Capsicum annuum* L.) fruits	Biber[RRĂ]	Fresh	Externally applied with home-made distillate (*arcie*[RRĂ]) and covered by hare skin	Bruises		+
Coffee beans (dried and roasted)	Kokrra kafeje[ALB]	As such	Dressed	Amulet against the Evil Eye	+	
		As such	Decoction	Digestive	+	
Cold water	Ujë i ftohtë[ALB]	Fresh	Externally applied	Burns	+	
Cornelian cherry (*Cornus mas* L.) fruits	Thana[ALB]	Tea	Drunk	**Diarrhoea**	+	
		Fermented and distilled into *raki*	Drunk hot with sugar (*ponçë*) and inhaled or rubbed on the chest	Cough	+	
		Cooked in water to obtain a concentrated juice (*narden*)	Externally applied or drunk	Antispasmodic for pains caused by insect bites; diarrhoea	+	
Cornelian cherry fruits	Cor[RRĂ]	Fresh or dried	Tea	Cough, cardiotonic[RRĂ]		+

Table 2 continued

Remedy/medicinal plant taxon	Recorded folk name(s) of the plant/animal/ingredient	Preparation	Administration	Reported local use(s) or treated disease(s)	ALB	RRĂ
Cornelian cherry flowering branches	Thana[ALB]	On 13 March in the evening it is put with other wild branches and flowers under a person's pillow(together with one apple and one walnut); on 14 March in the morning a warm water bath with all of these plants is taken	Ritual use (*halaturka/lule ditvere* feast)	Considered apotropaic, good for the individual's general health	+	
Cornelian cherry tree bark	Thana[ALB]	Decoction	Drunk	Diarrhoea	+	
Cow milk	Qumësht i lopës[ALB]	Fresh	Drunk	Galactagogue	+	
Cowslip (*Primula veris* L.) aerial parts	Sgrafete[ALB]	Tea	Drunk	Cough	+	
Crab apple (*Malus sylvestris* Miller) fruits	Diviaçka[ALB]	Tea	Drunk	Appetite stimulant	+	
Cups	Kupa[ALB]	As such	Externally applied; suction is creating using fire primarily generated by matches	Bronchitis	+	
Dew	Vesë[ALB]		Externally applied	Warts	+	
Dog feces	Mut qeni[ALB]	Mixed with flower and baked into a small bread	Given to the affected person to consume (the affected person is not supposed to know about the exact nature of the bread)	Hepatitis	+	
Dog rose (*Rosa canina* L.) pseudofruits	Trëndafil i egër[ALB], Kermyth[ALB] Gogolena[ALB] Curbiz[RRĂ]	Tea	Drunk	**Diarrhoea (esp. for children), fever,** haemorrhoids, fatigue, stomach-ache, cough, fatigue, diuretic, **panacea[ALB]; recreative[RRĂ]**	+	+
Egg	Vezë[ALB]	Fresh	Eaten raw	Stomach-ache	+	
		Fresh	Externally applied	Burns	+	
		Mixed with flour	Consumed	Anaemia	+	
		Mixed with soap and wool	Externally applied	Fractures	+	

Table 2 continued

Remedy/medicinal plant taxon	Recorded folk name(s) of the plant/animal/ingredient	Preparation	Administration	Reported local use(s) or treated disease(s)	ALB	RRĂ
Egg albumen	Bardhë veze[ALB]	Fresh	Externally applied	Eye inflammations	+	
		Cooked	Externally applied	Eye inflammations	+	
Egg yolk	Verdhë veze[ALB]	Mixed with soap	Topically applied with a bandage	Bruises	+	
Elderberry tree (*Sambucus nigra* L.) cambium	Shtog[ALB]	Fresh	Externally applied with honey	Skin inflammations	+	
Elderberry tree flowers	Shtog[ALB]	Fresh	Externally applied	Wounds	+	
Elm (*Ulmus* sp.) bark	Vidh[ALB], Vith[ALB]	Decoction	Externally applied	**Wounds, burns**	+	
Ewe (*Ovies aries* Linnaeus 1758) thickened yogurt	Arm[RRĂ]	Fresh	Consumed	Reconstituent		+
Fig (*Ficus carica* L.) latex	Fik[ALB]	Fresh	Externally applied	Bee sting	+	
Fox grape (*Vitis labrusca* L.) fruits	Rrush[ALB]	Cooked with sugar and lime water to obtain a thickened juice (*pekmez*)	Consumed	Reconstituent for facing the cold winter temperatures, cardiotonic	+	
Fox grape unripe fruit juice	Rrush[ALB]	Fresh	Externally applied	Bee sting	+	
Fox grape fruits and fruit stalks	Rrush[ALB]	Fermented and distilled into *raki*	Drunk hot with sugar (*ponçë*) and inhaled or rubbed on the breast	Cough, flu	+	
			Externally applied	Wounds, bruises, rheumatisms	+	
Garlic (*Allium sativum* L.) Bulb	Hudhëra[ALB]	In necklaces	Dressed	Amulet against the Evil Eye (children)	+	
	Ai[RRĂ]	Macerated in cold water	One drop applied on the child's eyes	Evil Eye (children)		+
Gentiane (*Gentiana lutea* L.) aerial parts	Bar zemër[ALB]	Tea	Drunk	Cardiotonic	+	
Greater celandine (*Chelidonium majus* L.) aerial parts	Lule verdhë[ALB]	Fresh	Burned on charcoal; the resulting vapours are inhaled	Evil Eye	+	
Greater celandine latex	Lule verdhë[ALB]	As such	Externally applied	Warts		+

Table 2 continued

Remedy/medicinal plant taxon	Recorded folk name(s) of the plant/animal/ingredient	Preparation	Administration	Reported local use(s) or treated disease(s)	ALB	RRĂ
Greater plantain (*Plantago major* L.) leaves	Lapëdelli[ALB] Şirişiri[RRĂ]	Fresh	External application	**Wounds (suppurative)[ALB,RRĂ]**	+	+
			Vein of the head is cut and the plant is externally applied	Hepatitis	+	
Gunpowder	Barut[ALB]	As such	Topically burned	Wounds	+	
Hawthorn (*Crataegus monogyna* L. and *C. sericea* Dzekov) leaves and fruits	Murriz[ALB] (*C. monogyna*: Murriz i vogël; *C. sericea*: Murriz e madhe)[ALB] Murris[RRĂ]	Tea	Drunk	Cough, fatigue, recreational[ALB]; headache [RRĂ]	+	+
Hellebore (*Helleborus* odorus Waldst. et Kit. ex Willd.) **aerial parts**	Kukurak[ALB]	On 13 March in the evening it is put with other wild branches and flowers under a person's pillow (together with one apple and one walnut); on 14 March in the morning a warm water bath with all of these plants is taken	Ritual use (*halaturka/lule ditvere* feast)	**Considered apotropaic, good for the individual's general health**	+	
Hen (*Gallus gallus domesticus* Linnaeus 1758)	Pulë[ALB]	Living animal	Hen's ass lying on the area of skin bitten by a snake, when the hen dies, the patient will be healed; in other versions the hen has to be slaughtered and immediately applied	Snake bite	+	
Holly (*Ilex aquifolium* L.) leaves	Gjemb ariu[ALB] Pernare[RRĂ]	Tea	Drunk	**Diuretic, kidney stones,** stomach-ache (rare), panacea	+	+
Horse feces		Dried and burned		Insect repellent	+	

Table 2 continued

Remedy/medicinal plant taxon	Recorded folk name(s) of the plant/animal/ingredient	Preparation	Administration	Reported local use(s) or treated disease(s)	ALB	RRĂ
Horsetail (*Equisetum arvense* L.) aerial parts	Bishtkali[ALB]	On 13 March in the evening it is put with other wild branches and flowers under a person's pillow (together with one apple and one walnut); on 14 March in the morning a warm water bath with all of these plants is taken	Ritual use (*halaturka/lule ditvere* feast)	Considered apotropaic, good for the individual's general health	+	
		Tea	Drunk	Diuretic	+	
Houseleek (*Sempervivum* sp.) leaf juice	Ierba da orechie[RRĂ]	Fresh	Inserted in the ear	Earache		+
Human urine	Urinë[ALB]	Fresh	Drunk	Hepatitis	+	
			Externally applied	Toothache, wounds	+	
			Drunk	Hepatitis	+	
Juniper (*Juniperus oxycedrus* L. and *J. communis* L.) cones	Dëllinja[ALB]	Tea	Drunk	Diuretic	+	
Juniper cones	Genep[RRĂ]	Fermented in water to obtain a beverage	Drunk	Stomach-ache		+
Juniper branches		Decoction	Externally applied	Perfuming agent	+	
Leather belt	Rrip lekurë[ALB]	Scraped	Externally applied	Wounds (haemostatic)	+	
Leech (*Hirudo medicinalis* Linnaeus 1758)	Piavica[ALB]	As such	Externally applied to the anus	Haemorrhoids	+	
			Externally applied	Hepatitis, varicose veins, swollen lips, headache	+	
Leek (*Allium porrum* L.) aerial parts	Pras[ALB] Purri[ALB]	Fresh juice or decoction	Inserted in the ear	Earache	+	
		Fresh	Externally applied	Wounds (suppurative)	+	
Lemon balm (*Melissa officinalis* L.) aerial parts	Çaj blete[ALB]	Tea	Drunk	Digestive, cardiotonic ("modern" use)	+	
Lime	Ilaç[ALB]	Dissolved in water and emulsified with oil	Externally applied	Burns	+	
Lime tree (*Tilia cordata* Mill.) flowers	Çaj bliri[ALB] Ciai blini[RRĂ]	Tea	Drunk	**Cough, headache, fever,** hypertension[RRĂ]; **panacea[ALB]**	+	+

Table 2 continued

Remedy/medicinal plant taxon	Recorded folk name(s) of the plant/animal/ingredient	Preparation	Administration	Reported local use(s) or treated disease(s)	ALB	RRĂ
Maidenhair spleenwort (*Asplenium trichomanes* L.) aerial parts	Fier guri[ALB] Fir i egër[ALB] Therka agra[RRĂ]	Tea	Drunk	Diuretic[ALB,RRĂ]; back pain[ALB]	+	+
Mallow (*Malva sylvestris* L.) leaves	Mëllagë[ALB]	Fresh	External application	Wounds	+	
Milk	Qumësht[ALB]	Fresh	Externally applied	Burns	+	
Mountain tea (*Sideritis raeseri* Boss. et Heldr.) flowering aerial parts	Çaj[ALB] Çaj mali[ALB]	Tea	Drunk	**Cough, flu, digestive troubles, panacea, recreatiional;** at higher doses considered tranquillising	+	
Mud	Baltë[ALB]	Fresh	Externally applied	Burns	+	
Mulberry (*Morus alba* L. and *M. nigra* L.) fruits	Man[ALB]	Fruits cooked to obtained thick, concentrated juice (*permez*)	Drunk (diluted with water)	Hepatitis	+	
Nettle (*Urtica dioica* L.) aerial parts	Hithra[ALB] Urzaz[RRĂ] Urzic[RRĂ] Ruzica[RRĂ] Ruzaci[RRĂ]	Fresh, sometimes mixed with salt	Externally applied	**Rheumatisms,** bruises	+	
		Tea	Drunk	Haemorrhoids	+	
Not unambiguously identified (*Eryngium* sp.?) (branches)	Gjemb i egër[ALB]	On 13 March in the evening it is put with other wild branches and flowers under a person's pillow (together with one apple and one walnut); on 14 March in the morning a warm water bath with all of these plants is taken	Ritual use (*halaturka/lule ditvere* feast)	Considered apotropaic, good for the individual's general health	+	
Not unambiguously identified (*Juncus* sp.?) (aerial parts)	Kulmak[ALB]	Tea	Drunk	Helminthiasis	+	
Not identified (aerial parts)	Nataciok[RRĂ]	Fresh	Externally applied	Wounds		+
Not identified (aerial parts)	Bar zemër[ALB]	Tea	Drunk	Cardiotonic	+	
Old coin	Monedhë e vjetër[ALB]	As such	Worn	Amulet against the Evil Eye (children)	+	

Table 2 continued

Remedy/medicinal plant taxon	Recorded folk name(s) of the plant/animal/ingredient	Preparation	Administration	Reported local use(s) or treated disease(s)	ALB	RRĂ
Onion (*Allium cepa* L.) bulb	Qepë[ALB]	Cut in half and macerated in cold water	Macerate externally applied for 1 month (every day) on the eye	Eye/vision problems	+	
		Fresh, crushed and mixed with salt	Externally applied	**Bruises**	+	
	Zepa[RRĂ]	Fresh	Consumed raw	To recover after abuse of alcohol		+
Oregano (*Origanum vulgare* L.) flowering aerial parts	Çaj mali[ALB] Rrigon[ALB] Rigoni[RRĂ]	Tea	Drunk	**Digestive, flu, panacea**	+	+
Parsley (*Petroselinum crispus* (Mill.) Fuss) aerial parts	Magdanoz[ALB]	Tea	Drunk	Diuretic, prostatitis	+	
Piece of cloth	Copë leckë[ALB]	Burned	The resulting ash externally applied	Bruises	+	
Pine (*Pinus* spp.) wood	Pishka[ALB]	Burned; the resulting soot is mixed with women milk	Given to children to drink	Cardiotonic	+	
Pine and fir (*Pinus* and *Abies* spp.) resin	Pishë[ALB] Brad[RRĂ]	Warmed	Externally applied	Eye infllammations[ALB]; wounds[ALB,RRĂ]	+	+
Plum and mirabelle (*Prunus domestica* L.) fruits	Kumbull[ALB]	Fermented and distilled into *raki*	Externally applied	**Wounds, bruises rheumatisms, earache**	+	
		Fermented and distilled into *raki*	Drunk hot with sugar (*ponçë*) and inhaled or rubbed on the chest	Cough, flu	+	
		Cooked in water to obtain a concentrated juice (*narden*)	Externally applied or drunk	Antispasmodic for pains caused by insect bites; diarrhoea, cardiotonic	+	
Plum and mirabelle unripe fruits	Pruna[RRĂ]	Fresh	Externally rubbed	Antispasmodic for pains caused by insect bites		+
Potato (*Solanum tuberosum* L.) tuber	Kompirë[ALB]	Fresh, sliced	Externally applied (warm)	Eye inflammations	+	
Quince (*Cydonia oblonga* Mill.) leaves	Ftoi[ALB]	Tea	Drunk	Digestive, cough, fever	+	
Raw wool	Lesh[ALB]	As such	Externally applied	Rheumatisms	+	
Red cloth	Leckë e kuqe[ALB]	As such	Placed on the animal	Evil Eye (esp. as an amulet for donkeys)	+	

Table 2 continued

Remedy/medicinal plant taxon	Recorded folk name(s) of the plant/animal/ingredient	Preparation	Administration	Reported local use(s) or treated disease(s)	ALB	RRĂ
Red ribbon	Fjongo t kuqe[ALB]	As such	Worn	Amulet against the Evil Eye (children)	+	
Ribwort plantain (*Plantago lanceolata* L.) leaves	Bar prrerës[ALB]	Freshly crashed	External application, sometimes with salt	Wounds (also indicated in case of internal haemorrhages)	+	
Salt	Kripë[ALB]	Mixed with water	Gargles	Tooth-ache	+	
		Thrown on fire	Ritual use	Evil Eye (gazer's eye would have been destroyed)	+	
		Mixed with water	Footbath	Chilblains	+	
		Dissolved in water	Solution given to children to drink and also used to wash the child's face	Eyil Eye	+	
Sheep sweat	Dierse dele[RRĂ]	"Collected" externally on the sheep belly	Externally applied	Tooth-ache		+
Skin of a just slaughtered lamb or goat	Lëkurë e kafshëve[ALB]	Fresh	"Worn" on the body; externally applied (2 days)	Flu; broken bones (this procedure is believed to "soften" the bones—after that folk surgeons may operate/manipulate bones)	+	
Sloe (*Prunus spinosa* L.) fruits	Kullumbri[ALB] Zapri[RRĂ]	Tea	Drunk	Recreational (rare)[ALB]; stomach-ache, "healthy"[RRĂ]	+	+
Spurge (*Euphorbia* spp.) latex	Shpendra[ALB]	Crashed	Externally applied	Hair dyeing	+	
St. John's Wort (*Hypericum perforatum* L.) flowering aerial parts	Lule balsami[ALB,RRĂ] Çaj moskovë[ALB] Lule breshke[ALB]	Tea	Drunk	Digestive[ALB]; Stomach-ache[RRĂ]	+	
	Erbe di taiura[RRĂ]	Olelite	Externally applied	Wounds		+
Stone	Gur[ALB]	Heated	Externally applied to the ear	To eliminate water in the ear	+	
		As such	Pressed on the skin immediately after an insect bite	Inhibits swelling from insect bites	+	

Table 2 continued

Remedy/medicinal plant taxon	Recorded folk name(s) of the plant/animal/ingredient	Preparation	Administration	Reported local use(s) or treated disease(s)	ALB	RRĂ
Sugar	Sheqer[ALB]	Thrown on burning charcoal together with small pieces of the (presumed) gazer's belongings	Child exposed to the resulting vapours; the leftover charcoal has to be put on the feet of a tree on the following morning	Eyil Eye	+	
		Dissolved in water to obtain a syrup (*sherbet*)	Drunk	Cardiotonic, laxative	+	
Tinder fungus (*Fomes fomentarius* (L.) Fr.) fruiting body	Eshkë[ALB]	Dried, as such; or boiled in water and ashes, then the resulting paste is dried	Externally applied and burned	Warts, wounds, burns	+	
Tobacco (*Nicotiana tabacum* L.) leaves	Duhan[ALB]	Dried, chopped	Externally applied	**Wounds (haemostatic)**	+	
Tomato (*Solanum lycopersicum* L.) aerial parts	Domate[ALB]	As such	Hanging	Insect repellent	+	
Turkey and Italian oak (*Quercus cerri* L. and *Q. frainetto* Ten.) branches	Dushk[ALB]	On 13 March in the evening it is put with other wild branches and flowers under a person's pillow (together with one apple and one walnut); on 14 March in the morning a warm water bath with all of these plants is taken	Ritual use (*halaturka/lule ditvere* feast)	Considered apotropaic, good for the individual's general health	+	
Veal (*Bos taurus* Linnaeus 1758) spleen	Shpretkë viçi[ALB]	Cooked	Consumed	Anaemia	+	
Walnut (*Juglans regia* L.) seed	Arra[ALB]	Tea	Fumigations	Cough	+	
Wild orchid (*Orchis* spp.) tubers	Salep[ALB] Seca[RRĂ]	Tea	Drunk	Recreational (rare); cough; helmintiasis (children); oedemas	+	+
		Fresh, chopped	Externally applied	Rheumatisms	+	
Wild pear (*Pyrus pyraster* Burgsd.) fruits	Gorrica[ALB]	Tea	Drunk	Diarrhoea	+	
Wild thyme and savory (*Thymus pulegioides* L. and *Satureja montana* L.) flowering aerial parts	Çaj i egër[ALB]	Tea	Drunk	Headache	+	

Table 2 continued

Remedy/medicinal plant taxon	Recorded folk name(s) of the plant/animal/ingredient	Preparation	Administration	Reported local use(s) or treated disease(s)	ALB	RRĂ
Woman's milk (better if from a young woman[ALB])	Qumësht i gruas[ALB]	Fresh	Externally applied	**Eye inflammation**[ALB,RRĂ], earache[RRĂ]	+	+
Wormwood (*Artemisia absinthium* L.) aerial parts	Fështëms[ALB]	Tea	Drunk	Cardiotonic, fever, malaria	+	
Yellow-legged rooster (*Gallus gallus domesticus* Linnaeus 1758) meat	Gjel këmbët e verdha[ALB]	Roasted in the oven	Fumigation of the vapours arising from the roasted rooster	**Hepatitis**	+	
		Cooked in soup	Consumed	Hepatitis	+	

ALB: name(s) or use(s) recorded among Albanians

RRĂ: name(s) or use(s) recorded among Rrămâni (Aromanians)

In bold: taxa mentioned by at least half of the participants

(Guarrera 2006) and Eastern European (Papp et al. 2014; Péntek and Szabó 1985) folklore.

A substantial number of taxa reported in this section, however, represent ritual plant uses made on 14th March (*Dita e Verës*), the lunar Spring Day celebrated by Albanians.

Albanian versus Aromanian ethnobotany

Although a thorough comparison between the recorded Albanian and Aromanian ethnobotanical data is not feasible, given the tiny sample of Aromanian informants, i.e. the uneven number of informants within the two communities, a general trend can be observed.

Approximately half of the plant reports recorded among the Aromanian participants were not recorded among the Albanian informants, while thus indicating a possible notable divergence of the two plant traditions.

This finding may be easily explained by the isolation of the Aromanian village of Lunca and also the fact that the Albanian and Aromanian communities—both of which presumably represent the most ancient inhabitants of the South Balkans—have been separated for at least four or five centuries by their religious faiths (Albanians are Muslim while Aromanians are Orthodox Christians). Specifically, intermarriage between members of the two communities has not been permitted, even during the recent atheistic Communist period of the twentieth century, due to their different religious affiliations.

This observation may confirm the results of prior field studies, namely the remarkable role played by religious affiliation in the Balkans not only for the construction of ethnic identities but also for the transmission of the knowledge, beliefs, and practices related to the natural world and, in particular, to plants (Pieroni et al. 2011).

Aromanian folk plant names in Lunca

Table 4 shows the comparison between the folk names of the plants recorded in Lunca (and used for food or medicine) and the folk names of the same taxa in Romania (Borza 1968).

A comparison with the folk plant names recorded among the Aromanians of the Pindus Mt. in Greece

Table 3 Folk remedies recorded in the study area for treating animal diseases or for improving animal health

Remedy/veterinary plant taxon	Recorded folk name(s) of the plant/animal/ingredient	Preparation	Administration	Reported local veterinary use(s) or treated animal disease(s)	ALB	RRĂ
Alfalfa (*Medicago sativa* L.) aerial parts	Jonxha[ALB]	Fresh	Fodder	Galactagogue	+	+
Barley (*Hordeum vulgare* L.) fruits	Elbi[ALB]	Boiled	Given to animals to eat	Cardiotonic	+	
Charcoal	Qymyr druri[ALB]	Powdered and mixed with salt	Given to animals to ingest	Diarrhea (ruminants)	+	
Chili (*Capsicum anuum* L.) fruits	Piperkë[ALB]	Dried and powdered	Given to chickens to eat	Diverse diseases affecting poultry	+	
Clove (*Trifolium* spp.) aerial parts	Terfilë[ALB,RRĂ]	Fresh	Fodder	Galactagogue	+	+
Copper sulphate	Gur kali[ALB]	Dissolved in water	External washes	Lameness	+	
Cornelian cherry (*Cornus mas* L.) flowering branches	Thana[ALB]	On 14 March hung on barn walls or animal horns	Ritual use (*Halaturka* feast)	Considered apotropaic, good for the animals' health and a prosperous dairy season	+	
Crab apple (*Malus sylvestris* Miller) fruits	Diviaçka[ALB]	Fermented and distilled into *raki*	Externally applied	Lameness	+	
Daisy (*Bellis perennis* L.) flowering aerial parts	Lule dele[ALB]	On 14 March hung on animal horns	Ritual use (*Halaturka* feast)	Considered apotropaic, good for the animals' health and a prosperous dairy season	+	
Dandelion (*Taraxacum officinale* Weber) aerial parts	Iarva di lepru[RRĂ]	Fresh	Fodder	Galactagogue		+
Fox grape (*Vitis labrusca* L.) fruits	Rrush[ALB]	Cooked with sugar to obtain a thickened juice (*pekmez*)	Give to animals to eat	Lameness	+	
Fox grape fruits and branches	Rrush[ALB]	Fermented and distilled in *raki*	Externally applied	Lameness	+	
Greater plantain (*Plantago major* L.) leaves	Şirişiri[RRĂ]	Fresh	External application	Wounds		+
Hellebore (*Helleborus* **odorus** Waldst. et Kit. ex Willd.) aerial parts	Kukurak[ALB,RRĂ]	On 14 March hung on barn walls	Ritual use (*Halaturka* feast)	Considered apotropaic, good for the animals' health and a prosperous dairy season	+	

Table 3 continued

Remedy/veterinary plant taxon	Recorded folk name(s) of the plant/animal/ingredient	Preparation	Administration	Reported local veterinary use(s) or treated animal disease(s)	ALB	RRĂ
Hellebore stem and root	Kukurak[ALB,RRĂ]	Dried	Inserted in the ear or placed on the neck of animals	**Diverse diseases (sheep); pneumonitis (horses)[ALB]**	+	+
Horse chestnut (*Aesculus hippocastanum* L.) seeds	Castagna agra[RRĂ]	As such	Given to animals to eat	Respiratory diseases		+
		Fresh	Crushed and rubbed on sheep necks	Wolf bites on sheep necks	+	
Lime	Ilaç[ALB]	Dissolved in water	Externally applied	Hoof inflammations	+	
Mud	Baltë[ALB]	As such	Given the animal to ingest	Diarrhoea	+	
Oak (*Quercus frainetto* Ten. and *Q. cerri* L. branches	Dushk[ALB]	On 14 March hung on barn walls	Ritual use (*Halaturka* feast)	Considered apotropaic, good for the animals' health and a prosperous dairy season	+	
Oil	Vaj[ALB]	As such	Given to animals to drink	Constipation	+	
Olive oil	Vaj ulliri[ALB]	As such, or mixed with sugar	Given to the animals to drink	To treat poisonings due to the ingestion of toxic herbs or as a digestive	+	
Pear (*Pyrus communis* L.) fruits	Dardhë[ALB]	Cooked with sugar to obtain a thickened juice (*pekmez*)	Give to animals to eat	Lameness	+	
Plum (*Prunus domestica* L.) flowering branches	Kumbull[ALB]	On 14 March hung on animal horns	Ritual use (*Halaturka* feast)	Considered apotropaic, good for the animals' health and a prosperous dairy season	+	
Spurge (*Euphorbia* spp.) latex	Shpendra[ALB]	Fresh	Externally applied in washes, after the area of the bite is punctured (with a plant thorn or a pointed hare bone) and poison and blood are expelled	Snake bite	+	
Spurge aerial parts	Shpendra[ALB]	As such	On 14 March hung on animal horns (*Halaturka* feast)	Considered apotropaic, good for the animals' health and a prosperous dairy season	+	
Sugar	Sheqer[ALB]	Mixed with water	Given to animals to drink	Constipation	+	
		Dissolved in water	Given to animals to drink	To treat poisonings due to the ingestion of toxic herbs	+	
Sulfur	Squfër[ALB]	Burned in a fire	Animals forced to inhale the resulting vapors	Foot-and-mouth disease (?)	+	
Terracotta pot	Çerepi[ALB]	Powdered	Given to animals to ingest	Diarrhoea	+	

Table 3 continued

Remedy/veterinary plant taxon	Recorded folk name(s) of the plant/animal/ingredient	Preparation	Administration	Reported local veterinary use(s) or treated animal disease(s)	ALB	RRĂ
Tobacco (*Nicotiana tabacum* L.) leaves	Duhan[ALB, RRĂ]	Dried, in decoction	Externally applied	To stop the fall of wool (sheep)	+	+
Violet (*Viola odorata* L.) flowering aerial parts	Lule manushaqe[ALB]	On 14th March hung on animal horns	Ritual use (*Halaturka* feast)	Considered apotropaic, good for the animals' health and a prosperous dairy season	+	
Wild pear (*Pyrus pyraster* Burgsd.) fruits	Gorrica[ALB]	Fermented and distilled into *raki*	Externally applied	Lameness	+	
Wooden stick	Shkop druri[ALB]	As such	The ear of the animal is cut and then repeatedly beaten with a wooden stick in order to expel blood	Panacea for several animal illnesses	+	

ALB: name(s) or use(s) recorded among Albanians

RRĂ: name(s) or use(s) recorded among Rrămâni (Aromanians)

In bold: taxa and uses mentioned by at least half of the participants

(Bara 2005; Dahmen and Kramer 1985) could not be instead evaluated, given the restricted and different set of plants considered in these studies.

The analysis shows that approx. one third of the recorded folk names related to plants, which were quoted plants by the Aromanians of Lunca, correspond to plant names of the Romanian folklore.

This finding confirms the linguistic patterns of the Aromanian, which does belong to the group of the Romanian languages, as well as its original trajectory in the folk plant nomenclature in the study area that seems to have been also remarkably influenced by the Albanian language.

Ethnobotany and conservation of plant genetic resources in Eastern Albania

The data presented in this study shows that in Eastern Albania there is still a rich bio-cultural heritage related to plants, at least among the elderly population.

This heritage, however, is under threat. Younger community members tend to migrate to Tirana or Western countries for work or to be more and more detached from traditional agro-pastoral activities, thus interrupting the oral transmission of TEK, and subsequently the complex interplay between use and management of the plant world, which in turn may affect plant biodiversity as well.

The conservation of biodiversity in the two study areas can be implemented than only considering also a "dynamic" conservation of TEK.

Moreover, in one of the most economically disadvantaged areas of Albania, and thus Europe, this complex bio-cultural diversity is crucial for developing a potential sustainable future in the region. In fact, rural areas in Albania—in part because of its political and economic developments of the last few decades—have been largely unaffected by industrialization and still offer pristine environments, which in the near future could attract eco-tourism and attached activities.

In order to implement projects in this direction, however, we believe that ethnobotanical baseline data is fundamental for proposing specific traditional crops, wild plants, and products, whose harvesting and gathering could sustain local economies, as they have done for centuries.

Table 4 Comparison between the Aromanian and Romanian folk plant names

Botanical taxon	Folk name(s) recorded among the Aromanians (Rrămâni) in Lunca (Albania)	Folk name(s) reported among the Romanians in Romania
Abies and *Pinus* spp.	**Brad**	**Brad**
Aesculus hippocastanum L.	**Castagna agra**	**Castan sălbatic, Castan porcesc**
Amarathus retoflexus L.	Ştir	**Ştir**
Asplenium trichomanes L.	Therka agra	Straşnic
Capsicum annuum L.	Biber	Ardei
Carlina acanthofolia All.	**Turtă**	**Turtă**
Chenopodium album L.	**Lobtu**	**Lobodă**
Cicer arietinum L.	Zezera	Năul
Cornus mas L.	**Cor**	**Corn**
Corylus avellana L.	**Alun**	**Alun**
Crataegus monogyna L.	Murris	Paducel, Mărăcine
Helianthus tuberosus L.	**Mere di tere**	**Mere de pământ**
Helleborus odorus Waldst. et Kit. ex Willd.	Kukurak	Spînz
Hypericum perforatum L.	Erbe di taiura	Sunătoare
Ilex aquifolium L.	Pernare	Laur
Juniperus oxycedrus L. and *J. communis* L.	Genep	Ienupăr
Laurus nobilis L.	**Dafin**	**Dafin**
Malus sylvestris Miller	Gormni	Mar păduret
Orchis spp.	Seca	Poroinic
Origanum vulgare L.	Rigoni	Sovîrv
Petasites hybridus G. Gaertn., B. Mey. et Scherb.	Panacucu	Brustur
Phaseulus vulgare L.	**Fasole**	**Fasole**
Plantago major L.	Şirişiri	Pătlagină
Prunus cerasifera Ehrh.	Pruna agra	Corcoduş
Prunus domestica L.	**Pruna**	**Prun**
Prunus spinosa L.	Zapri	Parumbar
Rosa canina L.	Curbiz	Măceş, Rug
Rumex patientia L.	Ştei	Ştevie
Satureja montana L.	Rigoni alba	Cimbru
Sempervivum sp.	**Ierba da orechie**	**Urechelniţa**
Taraxacum officinale Weber	Iarva di lepru	Păpădie
Tilia cordata Mill.	Ciai blini	Tei
Trifolium spp.	Terfilë	Trifoi
Urtica dioica L.	**Ruzica, Ruzaci**	**Urzică**

In bold: similar folk names

Conclusions

The traditional knowledge recorded in the Rrajcë and Mokra areas of Eastern Albanian is demonstrative of a remarkable cultural heritage related to plants and other wild foods and domestic remedies as well. The ethnobotanical data recorded in this study provides an important basis for both further phytotherapeutical or nutritional research and possible rural development programs.

Among the findings, the uncommon food uses of potato leaves and lacto-fermented potato tubers, the concentrated juice of wild pears, *I. aquifolium* tea as a diuretic remedy, dried wild orchid tuber tea to treat cough and helminthiasis, and elderberry flowers to treat wounds, deserve further investigation.

Approximately half of the plant uses reported by Aromanians were not recorded among Albanians, thus suggesting divergent ethnobotanical pathways, perhaps due to the different religious faiths of the two communities, which have prevented intermarriage for centuries.

Further studies in South-Eastern Europe and particularly in Albania should try to address the dynamics of spatial and, possibly, temporal changes of folk plant knowledge, as well as investigate in more detail the overlap and exchange of plant knowledge among diverse ethnic communities living in the same environment.

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