

Short report (ethno)

Traditional phytotherapy of the Albanians of Lepushe, Northern Albanian Alps

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Abstract

An ethnobotanical and ethnopharmacognostic survey has been carried out in one of the most isolated mountainous area in Europe: the village of Lepushe and its surrounding territory, in the Northern Albanian Alps. Approximately 70 botanical taxa and 160 preparations, mainly derived from plants, but also derived from animal products or minerals, have been recorded. The archaic belief of the signature still plays a very important role in the present ethnomedicine of the Albanians of Lepushe. As a consequence, aerial parts of *Chelidonium majus* are used to treat jaundice; leaves of the fern *Phyllitis scolopendrium* are thought to be able to treat every respiratory and lung affection; the bulbs of *Lilium martagon* are used to treat liver diseases; jasper is rubbed into milk and given to sheep to drink and, the membrane of a hen's muscular stomach is used to treat human kidney stones. A current common ethnomedical use of *P. scolopendrium* and *L. martagon* is recorded for the first time in Europe.

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1. Study area

The area investigated in this ethnobotanical field study is located in the Northern Albanian Alps, and belongs to the Northern Albanian Commune of Kelmend in the District of Malësi e Madhe (Fig. 1). The area is mountainous, with an average temperature in summer of 16 °C. In winter, there are frequent large snowfalls, and the average temperature is −3 °C. The landscape is characterized by Alpine pastures and beech forests.

2. Population

At 1260 m above sea level, Lepushe is the highest village in Albania. It is also one of the most isolated in the entire Albanian Alps. Situated in a small glacial valley bordering Montenegro, it consists nowadays of 25 households, with an overall population of approximately 100 units. Official local demographic data [1] report a larger population size, but in the last 10 years diverse migration waves, mainly to Italy, Greece, UK and USA, have taken approximately 15% of the youngest inhabitants abroad.

The first inhabitant of Lepushe settled in the present area at the beginning of the 20th century, having moved up farther the mountains from the nearby villages of Vukël and Nikç. During the four centuries of Ottoman–Turkish presence in Albania, the people of



Fig. 1. The studied area.

Kelmend have retained their original Catholic religion, and they speak the northern Albanian language, Gheg, which is also spoken in Kosovo.

The economy of Lepushe is based on self-sufficiency: each household has a few animals, generally two or three cows, one pig, and perhaps a few sheep. The villagers cultivate their own potatoes, cabbages for the production of sauerkraut, and corn, as staples. The daily diet is based on potatoes, pork, and dairy products including a diverse range of cheeses, yoghurt, and cream.

Proper medical care is practically nonexistent at the moment in Lepushe. The nearest GP is in Tamara, which is more than an hour's drive by car. Also, from November until April communications between Lepushe and Tamara are often blocked for many weeks because of the snow.

3. Aim of the study

The aim of this field research has been to document traditional ethnobotanical knowledge related to the use of local medicinal plants.

4. Previous knowledge of local folk medicine

No ethnobotanical work has been carried out in Albania so far. The only existing reference literature is about a linguistic literature survey on botanical folk names in diverse areas of the Albanian-speaking Balkans [2].

5. Methodology

The field work was conducted in July 2004. *Each* household of Lepushe was visited and information about the scope of this study was explained in a preliminary way. Prior Informed Consent (PIC) was requested verbally and when obtained, information on local traditionally used remedies and local food products was gathered using a semi-structured interview. Six settlements of shepherds surrounding Lepushe (Vajush, Brizhdol, Koprrishti i sirm, Koprrishti poshtëm, Trojan, Dobk) and inhabited only during the summertime were visited as well. Interviews were carried out with the help of a simultaneous translator, who is a Gegh native speaker. Botanical nomenclature follows the standard works of the Albanian flora [3,4]. A transcription of the folk names of plants quoted during the interview has been drafted directly by the translator in the Gheg dialect that is spoken locally in Lepushe. Voucher specimens are deposited at the first author's address.

6. Results

Biological remedies of the folk pharmacopoeia of Lepushe are reported in Table 1 (plants) and Table 2 (animal and other natural ingredients). As “nutraceuticals,” we have indicated in the table food plants that are eaten because thought to be “healthy”.

Table 1
Medicinal plants gathered by the inhabitants of Lepushe

Botanical taxa, families and voucher specimen codes	Albanian folk names	English names	Ethnoecological status	Parts used	Administrations	Folk medicinal uses	Frequencies of quotation
<i>Acer monspessulanum</i> L. (Aceraceae)	Paj	Maple	W	Leaves	Decoction	Antihelmintic	x
				Wood	Decoction; in washes Burned, and the cold ashes mixed with water, then drunk	Dyeing hair To treat the evil eye in children and animals	x x
<i>Achillea millefolium</i> L. (Asteraceae) LEP-ACH	Lule e bardhe	Yarrow	W	Flowers, dried	Unknown ^b	Unknown ^b	x
<i>Allium triquetrum</i> L. (Alliaceae) LEP-ALL	Lertha	Wild garlic	W	Aerial plants	Eaten raw or cooked in soups; used as a filling in pies [<i>burek</i>])	Nutraceutical	xx
<i>Allium cepa</i> L. (Alliaceae)	Qep	Onion	C	Bulb, fresh	Crushed and mixed with salt. Applied externally	Vulnerary	x
<i>Allium sativum</i> L. (Alliaceae)	Hudra	Garlic	C	Bulb, fresh	One garlic clove is wrapped in a very small piece of cloth with two coffee beans and two grains of salt	To prevent the evil eye in humans and animals (<i>syni i keq</i>)	x

					Eaten raw with home-made yogurt (<i>kos</i>) ^a , or ingested with <i>raki</i>	Antihelmintic (children ^a)	x
<i>Anchusa italica</i> Retz. (Boraginaceae) LEP-ANC		Alkanet	W	Flowers, fresh	Sucked	Consumed as a snack	x
<i>Arctium lappa</i> L. (Asteraceae) LEP-ARC	Fioga	Great burdock	W	Root, dried	Unknown ^b	Unknown ^b	x
<i>Asplenium trichomanes</i> L. (Aspleniaceae) LEP-ASP	Fier guri	Maidenhairs pleenwort	W	Aerial parts, dried	Decoction	To treat kidney stones	xx
<i>Bellis perennis</i> L. (Asteraceae) LEP-BEL	Lule e bardh	Daisy	W	Aerial parts, fresh	Fresh juice of leaves is applied to the eyes	To treat eye inflammations	x
<i>Beta vulgaris</i> L. spp. <i>vulgaris</i> var. <i>rapacea</i> Koch. (Chenopodiaceae)	Pangjari	Beet	C	Roots, fresh	Fodder	Nutraceutical for pigs	xxx
<i>Brassica oleracea</i> L. (Brassicaceae)	Lakër	Cabbage	C	Liquid portion of what remained after fermenting the leaves with salt (producing Sauerkraut [<i>lakër e regjun</i>])	Drunk	Appetizer, used to 'clean blood', or as a reconstituent	xx
				Sauerkraut (<i>lakër e regjun</i>)	Eaten	Appetizer, nutraceutical	xxx
<i>Carlina</i> sp. (Asteraceae) LEP-CAR		Carline	W	Flower receptacles, fresh	Eaten raw	Consumed as a snack	xx
<i>Chamomilla recutita</i> (L.) Rauschert (Asteraceae)	Lule e bardhe	Camomile	W	Flowers, dried	Decoction	To treat abdominal pains (especially in children)	xx

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Table 1 (continued)

Botanical taxa, families and voucher specimen codes	Albanian folk names	English names	Ethnoecological status	Parts used	Administrations	Folk medicinal uses	Frequencies of quotation
<i>Chelidonium majus</i> L. (Papaveraceae)	Bar saralleku / Bar verrçi	Greater celandine	W	Aerial parts, fresh	Decoction, drunk with sugar in small portions (half coffee cup), eventually increasing the dose over time eaten cooked	To treat hepatitis (<i>saralleku</i>)	xx
<i>Chenopodium album</i> L. (Chenopodiaceae) LEP-CHE1	Nena e egër / Nena e vrrinit	Fat hen	W	Leaves, fresh	Fodder	Nutrient for a variety of animals Nutraceutical	x xx xxx
<i>Chenopodium bonus-henricus</i> L. (Chenopodiaceae) LEP-CHE2	Nena / Nena e butë / Nena e bjeshkes	Good King Henry	W	Aerial parts, fresh	Eaten cooked, as filling for pies (<i>burek</i>), generally adding various dairy products, especially cream [<i>masa</i>] and preserved butter [<i>klyn</i>]) Unknown ^b	Unknown ^b	x
<i>Colchicum autumnale</i> L. (Colchicaceae) LEP-COL	Gjrokul	Autumn crocus	W	Fruits, dried	Syrup, macerated in <i>raki</i>	Nutraceutical	x
<i>Cornus mas</i> L. (Cornaceae)	Thanak	Cornelian cherry	W	Fruits, fresh			

<i>Euphorbia helioscopia</i> L. (Euphorbiaceae) LEP-EUP	Rrjoll	Madwoman's milk	W	Aerial parts, fresh	Fodder	Self-medication for cats that are bitten by snakes; ichthyotoxic in fishing	x
<i>Fagus sylvatica</i> L. (Fagaceae) LEP-FAG	Ahu	Beech	W	Very young leaves Branches	Eaten raw Used for beating on the ear of an animal (previously cut)	Consumed as a snack To heal animals from non-specified diseases (sheep, cattle, goats)	x xx
<i>Ficus carica</i> L. (Moraceae)	Fiq	Fig tree	W ^c	Leaves, dried	Macerated, or boiled, and fermented for 5 days, then added to fresh milk ^d	As rennet ^d	x
<i>Fragaria vesca</i> L. (Rosaceae) LEP-FRA	Drethi	Wild strawberry	W	Fruits, fresh	Eaten raw or in jams	Nutraceutical	xxx
<i>Gentiana lutea</i> L. (Gentianaceae) LEP-GEN	Kshanza	Gentian	W	Leaves, dried Roots	Unknown ^b Macerated in wild plum distillate (<i>raki</i>) for 1–2 days in cold water	Unknown ^b As prevention against heart disease	xx xxx
<i>Helleborus odoratus</i> Waldst. et Kit (Ranunculaceae)	Shpenz	Hellebore	W	Aerial part	Avoided	Considered very toxic	x

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Table 1 (continued)

Botanical taxa, families and voucher specimen codes	Albanian folk names	English names	Ethnoecological status	Parts used	Administrations	Folk medicinal uses	Frequencies of quotation
<i>Heracleum sphondylium</i> L. (Apiaceae) LEP-HER	Barovina	Cow parsnip	W	Leaves, fresh and dried	Fodder	To strengthen pigs and as a galactagogue for cows	xx
<i>Hieracium pilosissimum</i> Friv. (Asteraceae) LEP-HIE	Vesh ljeporit	Hairy hawkweed	W	Leaves, fresh	Applied externally	Haemostatic	x
<i>Hypericum maculatum</i> Crantz (Hypericaceae) LEP-HYP	Balsam / Caj verdhë / Bar pezmet / Caj bjeshke	Imperforate St. John's wort	W	Aerial parts, dried	Decoction	To treat digestive troubles and anti-diarrhoea (also used as a veterinary preparation, especially for sheep); to treat stomach ache; as a tranquillizer; drunk every morning as a diuretic; to treat flu, sore throat, coughs and bronchitis; as an antihelmintic (used as a veterinary preparation for calves)	xxx
					Oleolite	To treat burns	x

<i>Juglans regia</i> L. (Juglandaceae)	Arra	Walnut tree	W	Leaves, fresh	Decoction	For dyeing hair (especially for giving a lucent black to women's hair)	x
<i>Juniperus communis</i> L. (Cupressaceae)	Dili	Juniper	W	Fruits	Applied externally Distilled and applied externally Boiled with sugar and eaten	Anti-rheumatic Anti-rheumatic “To eliminate fats from the blood”	x x x
<i>Lilium martagon</i> L. (Liliaceae) LEP-LIL	Bar tamthi	Turk's cap lily	W	Tubers, dried	Decoction	To treat every liver disease (also as veterinary preparation)	xxx
<i>Lycopersicon esculentum</i> Mill. (Solanaceae)	Domate	Tomato	C	Unripe fruits, fresh	Preserved in salted water with chilli	Appetizer	xx
<i>Lycopodium calvatum</i> L. (Lycopodiaceae)	Lisni	Club moss	W	Aerial parts	Unknown ^b	Unknown ^b	
<i>Medicago sativa</i> L. (Fabaceae)	Jonxhë	Alfalfa	W	Aerial parts, fresh	Fodder	Galactagogue for animals	x
<i>Meum athamanticum</i> Jacq. (Apiaceae) LEP-MEU	Karaifil	Spiguel	W	Aerial parts, dried	Macerated in oil, used externally as a lotion	Used to perfume hair	x
<i>Orchis</i> ssp. pl. (Orchideaceae)	Salepi	Wild orchids	W	Tubers, dried (at least 1 month!)	Beverage Unknown ^c	Reconstituent; tranquillizer Unknown ^c	x xxx
<i>Origanum vulgare</i> L. (Lamiaceae) LEP-ORI	Caj malhit	Wild oregano	W	Aerial parts (including flowers)	Infusion	Originally used to treat coughs; nowadays drunk as a recreational beverage, and also as diuretic and digestive	xxx

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Table 1 (continued)

Botanical taxa, families and voucher specimen codes	Albanian folk names	English names	Ethnoecological status	Parts used	Administrations	Folk medicinal uses	Frequencies of quotation
<i>Phaseolus vulgare</i> L. (Fabaceae)	Grosh	Bean	C	Seeds, dried	Ground, used as a compress with boiled bran	To treat bruises	xx
<i>Phyllitis scolopendrium</i> (L.) Newman. (Aspleniaceae) LEP-SCO	Bar mushknisë	Hart's tongue fern	W	Leaves, fresh	Roasted and ground Decoction	To heal wounds To treat every respiratory and lung affliction	xx xxx
<i>Plantago major</i> L. (Plantaginaceae) LEP-PLA	Dejča	Plantain	W	Leaf, fresh	Applied topically	Haemostatic, anti-bacterial and suppurative	xx
<i>Portulaca oleracea</i> L. (Portulacaceae)	Molldraga	Purslane	W	Inflorescence, dried Aerial parts, fresh	Decoction Applied externally on the legs	Diuretic Anti-rheumatic	xx x
				Leaf juice	Eaten raw Drunk with milk and sugar	Nutraceutical Anti-rheumatic	x x
<i>Primula veris</i> L. (Primulaceae)	Lulja e goliqit	Primrose	W	Flowers, dried	Decoction	To treat stomach ache and flu ^b	x
<i>Prunus avium</i> L. (Rosaceae) LEP-PRU	Qershia	Cherry	INT	Leaf peduncles, dried	Decoction	To treat kidney stones	xx
<i>Prunus domestica</i> L. (Rosaceae) LEP-PRU	Kumbull e egër	Wild plum	INT	Fruits, fresh	Fermented and distilled→ <i>raki</i> , drunk Fermented and distilled→ <i>raki</i> , used as a compress on chest Fermented and distilled→ <i>raki</i> , applied to the ear	To treat diverse illnesses in animals Against fever To heal earache in children	xx xxx x

					Fermented and distilled→ <i>raki</i> , applied externally (often mixed with novalgin [metamizole sodium] ^{f)})	To treat wounds in animals	xx
<i>Pteridium aquilinum</i> (L.) Kuhn. (Pteridiaceae)	Fjer	Bracken Fern	W	Aerial parts, dried	Put in stables	Antiseptic for animals	x
<i>Punica granatum</i> L. (Punicaceae)	Shegga	Wild pomegranate	W ^c	Roots	Decoction	Anti-diarrhoeal	x
<i>Rhamnus alpinus</i> L. (Rhamnaceae) LEP-RHA	Rrush qenit / Arrç / Arrç e egër	Buckthorn	W	Fruit juice, fresh	Decoction	As a dye	x
				Bark and wood, fresh	Decoction, used externally in washes	To heal eczemas in pigs	x
<i>Rosa canina</i> L. (Rosaceae) LEP-ROS	Kaça	Dog rose	W	Pseudo-fruits	Decoction	Digestive and to treat flu; anti-rheumatic; used to prevent various illnesses	xx
					Decoction, applied externally	To heal eczema	xx
<i>Rubus idaeus</i> L. (Rosaceae)	Mjedër	Raspberry	W	Fruits, fresh	Syrup	Nutraceutical	xx
<i>Rubus ulmifolius</i> Schott (Rosaceae) LEP-RUB	Manaferra / Ferlaksa	Bramble	W	Leaves	Applied externally	Vulnerary	xx
<i>Rumex acetosa</i> L. (Polygonaceae) LEP-RUM2	Thapërcinë	Sorrel	W	Young stems and leaves	Eaten raw	Used to quench thirst	xxx
<i>Rumex alpinus</i> L. (Polygonaceae) LEP-RUM1	Pieta / Nena elpiet	Alpine dock	W	Leaves, fresh	Fodder	Nutraceutical for pigs	xx

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Table 1 (continued)

Botanical taxa, families and voucher specimen codes	Albanian folk names	English names	Ethnoecological status	Parts used	Administrations	Folk medicinal uses	Frequencies of quotation
<i>Rumex alpinus</i> L. (Polygonaceae) LEP-RUM1					Medicinal food, eaten cooked	Nutraceutical	x
<i>Salix cinerea</i> L. (Salicaceae) LEP-SAL	Mrina	Willow	W	Aerial parts	Unknown ^b	Unknown ^b	xxx
<i>Salvia officinalis</i> L. (Lamiaceae) LEP-SAL2	Medër	Wild sage	W ^c	Leaves, dried	Decoction	To treat sore throats, flu, tonsillitis and cough; “good for the health”; “to strengthen the stomach”; digestive	xxx
<i>Sambucus nigra</i> L. (Caprifoliaceae)	Shtog	Elder	W	Flowers, dried	Unknown ^b	Unknown ^b	x
<i>Sanguisorba minor</i> L. (Rosaceae) LEP-SAN	Bar gjinit	Salad burnet	W	Aerial parts, fresh	Cut, mixed with salt, and then rubbed on the breast	To heal mastitis in cows	x
<i>Satureja montana</i> L. (Lamiaceae)	Trumz /Caj i egër	Wild savory	W	Aerial parts, dried	Added to food for flavour	Nutraceutical	x
<i>Secale cereale</i> L. (Poaceae)	Theker	Rye	W	Flowers Seeds, dried	Fodder	Nutraceutical Nutraceutical for pigs	x x
<i>Sedum telephium</i> L. (Crassulaceae) LEP-SED	Babanik	Orpine	W/TR	Leaves, fresh	After the epicuticular portion is removed, the lower part of leaf blade is applied on the skin	Suppurative	x
<i>Sempervivum tectorum</i> L. (Crassulaceae) LEP-SEM	Houseleek	Bar veshit	W/TR	Leaf juice	Applied in the ear	To treat earache	xx

<i>Solanum tuberosum</i> L. (Solanaceae)	Patate	Potato	C	Tubers	Cut in slices, applied externally on the chest of children	Anti-fever	xx
<i>Stachys alpina</i> L. (Lamiaceae) LEP-STA	Sierush	Limestone woundwort	W	Aerial parts	Fodder	Nutraceutical for cattle and pigs	x
<i>Teucrium polium</i> L. (Lamiaceae)	Bar majasili	Felty germander	W ^c	Aerial parts	Decoction	Digestive	x
<i>Thymus serpyllum</i> L. (Lamiaceae) LEP-THY	Caj e egër / Lisë	Wild thyme	W	Aerial parts	Infusion	As a low-quality substitute of <i>Origanum</i>	x
					Fodder	Eaten by cattle and sheep (thought to give the milk a very nice taste and improve the quality)	xx
<i>Tilia cordata</i> L. (Tiliaceae)	Blini	Lime tree	W	Flowers, dried	Decoction or for fumigation	To treat sore throat, coughs and flu	xx
<i>Trifolium</i> sp.(Fabaceae) LEP-TRI	Lulekuqë / Derfonja	Clover	W	Flowers	Sucked	Consumed as a snack	x
<i>Tussilago farfara</i> L. (Asteraceae) LEP-TUS	Thundërmushka / Bar mushkë / Xhur mushk	Coltsfoot	W	Leaves, dried	Decoction	To treat coughs	x
				Leaves, fresh	Applied externally for about 12 h ^a) Decoction	To treat wounds; anti-rheumatic ^a To treat coughs	xx xxx
				Leaves, fresh	Applied externally (for about 12 h) Decoction applied externally	Anti-rheumatic	x
<i>Ulmus</i> sp. (Ulmaceae)	Vidh / Vill	Elm	W	Bark	Decoction applied externally	To heal burns	x

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Table 1 (continued)

Botanical taxa, families and voucher specimen codes	Albanian folk names	English names	Ethnoecological status	Parts used	Administrations	Folk medicinal uses	Frequencies of quotation
<i>Urtica dioica</i> L. (Urticaceae) LEP-URT	Hithër	Nettle	W	Leaves, fresh	Boiled with flour and milk, and used as a soup. Boiled and used with cream (<i>masa</i>) as filling for pies (<i>burek</i>); boiled and eaten with fresh butter (<i>burrofresko</i>) or preserved with semi-liquid butter (obtained by heating fresh butter, <i>klyn</i>)	Nutraceutical	xxx
				Aerial parts, fresh	Cooked, as fodder	Nutraceutical for pigs	xxx
				Roots (not specified)	Decoction	Digestive; anti-rheumatic; to treat alopecia; emmenagogue	xx
<i>Vaccinium myrtillus</i> L. (Rosaceae) LEP-VAC	Boronica	Bilberry	W	Fruits, dried	Decoction; cooked in syrup and jams; macerated in wild plum distillate (<i>raki</i>)	To treat intestinal troubles; anti-diarrhoeic; “to strengthen the stomach” and the eyes (especially in children); “blood cleansing”	xxx
<i>Verbascum</i> ssp. pl. (Scrophulariaceae)	Lule sebastane / Elpiet i egër	Mullein	W	Fruits, fresh Leaves, fresh; leaves, dried ^b	Jam Applied externally	Abdominal pains Haemostatic	x x

				Roots	Decoction, used externally in compresses	To treat whitlow and an infectious diseases (<i>qimja</i>) caused by drinking marsh waters	x
<i>Veratrum album</i> L. (Melanthiaceae) LEP-VER	Shtara	White ellebore	W	Leaves, fresh	Fodder	Self-medication for sheep (procuring vomiting)	x
<i>Zea mais</i> L. (Poaceae)	Kollomoq	Corn	C	Stigma	Decoction	Diuretic	x x

C—cultivated; INT—intermediate forms (semi-domestication, form of management in the “wild”); TR—transplanted from the wild in home-gardens; W—wild.

x—use quoted by less than 10% of the informants; xx—use quoted by more than 10% and less than 40% of the informants; xxx—use quoted by more than 40% of the informants.

^a Administration quoted in the table refers specifically to the single ethnomedical use quoted in the respective column and marked with the same letter.

^b Gathered and sold to pharmacists of Shkodër during the Communism times (until 1991); use generally ignored and never experienced in the local medical practices.

^c Gathered only in the nearby villages of Selcë/Vukël and brought by family friends and relatives to Lepushe.

^d Disappeared use.

^e Gathered and sold at present to local traders in Shkodër; use generally never experienced in the local medical or food practices.

^f Product bought in local market.

Table 2
Other biological remedies used in the folk pharmacopoeia of Lepushe

Remedy	Folk Albanian name in Lepushe	Administration	Local medical use	Frequency of quotation
Beer ^c	Birr	Beverage for cattle	To counteract poisoning in cattle (especially when the animal has eaten <i>Veratrum</i> leaves)	x
Bee wax	Dyll	Liquefied and arranged on the top of a small piece of cloth which is inserted (still warm) in the ear	To treat earache	x
Blood	Giak	The blood gathered after having cut the ear of the animal is put in the mouth of the same animal	To treat fever in animals	x
Cheese (fresh)	Diath	Applied externally	To heal wounds	xxx
		Eaten raw or cooked with flour and eaten hot	“To strengthen the stomach”; anti-diarrhoeic	xxx
Coffee ^c	Kafe	Decoction, without any sugar	To treat headaches	xx
		Ground, applied externally	Vulnerary	x
Cobweb		Applied externally	Haemostatic	x
Cow faeces		Used fresh and applied externally	To heal burns	x
Cow milk		Drunk	To treat intestinal pains and poisonings (especially in children, and also in animals)	xx
		Drunk very hot	To treat mumps	x
Dog hair		Applied externally	To treat wounds from dog bites (ritual?)	x
Donkey milk		Drunk fresh	To heal coughs in the elderly	xx
Egg		Eaten raw	Antidote against poisoning. Also used for cattle and sheep	xxx
		The raw egg is put on a piece of raw wool which is adhered to the body with the help of oil (ritual)	To treat pains (the egg moves on the wool and where the yolk stops, the yolk “takes the pain away” and comes out of the wool cloth; the whole treatment last at least 1 h!)	xx
		Cooked	Anti-diarrhoeic	x

Fish		Eaten	To treat stomach ache	x
		Left alive in a small amount of water	Diagnostic means to establish the length of hepatitis. While the fish is still alive, the affected person will remain ill (ritual)	x
Goat fat	Mullis pule	Heated and drunk (one spoonful)	To treat asthma	x
Hen muscular stomach		The membrane of the muscular stomach is extracted and dried, then ground and made into a decoction	To treat kidney stones	x
Honey		Applied externally under the ears	Mumps	x
		Applied on the mucosa	To treat mouth inflammations	x
		Dissolved in hot water and milk and drunk	Given as a reconstituent after women have given birth	x
		Eaten	Given as a reconstituent after women have given birth	x
			To treat snake bites	x
Human faeces	Jardun	Used fresh, applied externally	Reconstituent; used to prevent many illnesses	xxx
Jardun (dense yogurt-like dairy product obtained boiling fresh sheep milk with salt)		Drunk		
Jasper ^c	Gur giaku	Rubbed on the legs of animals	To treat inflammation in the legs of animals (ritual?)	xx
		Rubbed in milk and given as a drink	To heal an illness affecting sheep, where the blood converges to the head of the animal (ritual?)	x
Lichen (<i>Parmelia</i> sp., Parmeliaceae)	Urth	Ground and mixed with sugar and applied externally	To heal eye inflammations (especially in veterinary practice)	x
Medicinal leech ^c	Ushunjz	Applied externally	To relieve muscular pains (“they suck the bad blood”)	x
Milk cream	Masa	Applied externally	To treat chapped lips	x
Petroleum ^c		Applied externally on the legs for 24 h	To treat rheumatism ^d	x

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Table 2 (continued)

Remedy	Folk Albanian name in Lepushe	Administration	Local medical use	Frequency of quotation
Pork fat		Heated and applied externally	Used as veterinary preparation to heal wolf bites (cattle, sheep, goats), and as a symptomatic for treating skin inflammations due to erysipelas (<i>Erysipelothrix rhusiopathiae</i>) in pigs	x
Rennet (from the calf abomasus)		Dried, added in food	To treat severe digestive troubles in animals ^d	
Salt ^c		Two grains of salt are wrapped in a very small piece of cloth (<i>hajmali</i>) with coffee beans, and one garlic clove or ashes	To prevent the evil eye (<i>syni i keq</i>) in humans and animals; once the person or the animal is affected by the evil eye, they can be healed only by using special oral formulas [<i>marshalla</i>] and treatments, imparted by specific elderly female healers	x
		Used in a solution of salt and water as a gargle	To treat sore throats	x
		Mixed in a solution of hot water and applied externally	To treat chilblains	x
Snail	Gervoj garmilli	Fresh meat ground up and mixed with sugar, in compress	To treat eye inflammations	x
Sodium bicarbonate ^c	Soda buks	Mixed with egg and milk and given to eat	Used to treat digestive troubles and poisoning in sheep and cattle	x
Sugar ^c		Applied externally	Vulnerary	x
		Eaten	To treat stomach ache	x
Tee ^c		Infusion, drunk cold	To treat sore throats	x

Tobacco ^c	Tabak	Applied externally	Vulnerary	xx
Turtle meat		Eaten cooked	To heal coughs in the elderly ^d	x
Urin		Applied topically	Toothache, earache, symptomatic in relieving the pains of measles	xx
Vinegar ^c	Ufull	Embedded in clothes, applied externally on the front of the body ^a or on the affected body region ^b	Anti-fever and anti-headache ^a ; to treat bruises ^b (also used for pigs)	xx
		Drunk	To treat stomach-ache	x
Yogurt	Kos	Eaten	To treat food poisoning (also used for animals)	xx
		Eaten	To treat stomach ache	xx
Water		Made into a compress with cold water for the feet	Anti-fever	x
Wool		Special singlet (<i>krahol</i>) and socks made with raw wool, and to worn only when affected by high fever	Diaphoretic	xxx
Whey	Hir	Drunk	To treat kidney stones; nutraceutical	xx
		Applied externally in washes	To treat sunburn	x

x—use quoted by less than 10% of the informants; xx—use quoted by more than 10% and less than 40% of the informants; xxx—use quoted by more than 40% of the informants.

^{a,b} Administration quoted in the table refers specifically to the single ethnomedical use quoted in the respective column and marked with the same letter.

^c Product bought in local market.

^d Use disappeared in the last decades.

From the data, it seems evident that the archaic theory of the signature, which has been widespread in the folk medical practices of the Mediterranean area since ancient times and much before the treatises of Paracelsius and Giambattista Porta of the XVI^o Century [5], still plays an important role in the ethnomedical concepts of the Albanians of Lepushe. For example, aerial parts of *Chelidonium majus* (which has a yellow latex) are used to treat jaundice; leaves of the fern *Phyllitis scolopendrium* (called locally “herb of the lung”) are thought to be able to treat every respiratory and lung affection, since the shape of lower leaf lamina resembles a human lung; the bulbs of *Lilium martagon* (called locally “herb of the lever”) are used to treat liver diseases, since the colour of the flowers resemble that of the liver; jasper is rubbed into milk and given to sheep to drink because it is believed this mineral allows blood to converge in the animal’s head, and thereby indirectly heals it (the colour of jasper is compared with that of blood); finally, the membrane of a hen’s stomach is used to treat human kidney stones (muscular stomach in poultry presents often small stones, which assist in the grinding process of food).

All of these remedies are still very commonly used in Lepushe. To our knowledge, this is the first time in that these surviving medical uses of *P. scolopendrium* and *L. martagon* have been reported in the Mediterranean. Both plants are not well known either chemically and pharmacologically. Only one old study isolated an acylated kaempferol glycoside from *P. scolopendrium* [6], while a new phenylpropanoid ester of a pyrroline derivative and two new steroidal saponins were isolated in fresh *L. martagon* bulbs a few years ago [7]. No phytopharmacological investigations have been carried out so far on either plant.

7. Conclusion

Traditional knowledge related to medical ethnobiology in the Balkans and in Eastern Europe in general could provide very interesting clues for further phytotherapeutical research on lesser known plant resources of the European flora. Since most of the herbal drugs on the market in Western Europe already come from harvesting or gathering in Eastern Europe [8], the combination of modern evidence-based phytotherapy and ethnobotany could lead to interesting economic gains being made in many disadvantaged areas.

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References

- [1] Komuna Kelmend. The profile of Kelmend commune. Albania: Tamara; 2004.
- [2] Sejdiu S. Fjalorth etnobotanik i shqipes. Prishtinë (Yugoslavia): Rilindja; 1984.
- [3] Paparisto K, Qosja X, editors. Flora e Shqipërisë/Flore de L'Albanie, vol. 1–4. Tirana (Albania): Akademia e Shkencave e Republikes se Shqipërisë; 1988–2000.
- [4] Demiri M. Flora ekskursioniste e shqiperise. Tirana (Albania): Shtëpia Botuese e Librit Shkollor; 1983.
- [5] Dafni A, Lev E. *Econ Bot* 2002;56:328.
- [6] Karl C, Pedersen PA, Muller G. *Z Naturforsch C: Biosci* 1980;9–10:826.
- [7] Satou T, Mimaki Y, Kuroda M, Sashida Y, Hatakeyama Y. *Phytochemistry* 1996;41:1225.
- [8] Kathe W, Honnef S, Heym A. Medicinal and aromatic plants in Albania, Bosnia–Herzegovina, Bulgaria, Croatia and Romania. Bonn (Germany): General Federal Agency for natural Conservation (BfN)/WWF Germany/TRAFFIC Europe–Germany; 2003.