ELSEVIER

Fitoterapia 73 (2002) 217–241

FITOTERAPIA

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Ethnopharmacy of the ethnic Albanians (Arbëreshë) of northern Basilicata, Italy

Andrea Pieroni[a,*], Cassandra Quave[b], Sabine Nebel[a], Michael Heinrich[a]

[a] *Centre for Pharmacognosy and Phytotherapy, The School of Pharmacy, University of London, 29–39 Brunswick Square, London WC1N 1AX, UK*
[b] *5421 Covington Highway, Apt. #502, Decatur, GA 30035, USA*

Received 4 December 2001; accepted 4 March 2002

Abstract

Intercultural studies about the methods of use and perceptions of traditional remedies in Europe are strategically important in understanding how pharmaceutical means in our multicultural modern societies are differently accepted by diverse ethnic groups. In this survey, we analysed the biological means traditionally used in the ethnomedicine of three Arbëreshë (ethnic Albanians) communities in the Vulture area (northern Lucania, southern Italy). The majority of remedies are represented by plants belonging to 54 botanical taxa. A few of the recorded species have a traditional therapeutic use that has never previously been reported in southern Italy. Other means—especially used in the past—are comprised of mineral, animal and industrial derived materials. In specific cases, some of these materials and even plants are neither applied externally or internally, but are instead utilised as symbolic ritual objects in spiritual healing ceremonies. Ethnopharmacological and anthropological considerations about these usages are discussed.

Keywords: Ethnobotany; Ethnopharmacology; Zootherapy; Italy; Basilicata; Albanians

* Corresponding author. Fax: +44-207-753-5909.
E-mail address: andrea.pieroni@ams1.ulsop.ac.uk (A. Pieroni).

0367-326X/02/$ - see front matter
PII: S0367-326X(02)00063-1

1. Introduction

Ethnopharmacy is the interdisciplinary science that deals with the study of the pharmaceutical means, considered in relation to the cultural determinants which characterise the uses of these means in a given human group [1]. It involves studies of the identification, classification and cognitive categorisation of the natural material from which the remedy will be produced (ethnobiology), of the preparation of the pharmaceutical forms (ethnopharmaceutics), of the claimed ascribed effects of such a preparation (ethnopharmacology) and on the socio-medical aspects implied in these uses (ethnomedicine).

A research focus on ethnopharmacy of small isolated communities permits, for example, to 're-discover' the last traces of retained traditional knowledge (TK), and to try to connect this evaluation with sustaining the biological and cultural/linguistic diversity. Intercultural ethnomedical studies on the methods of use of traditional remedies in Europe are strategically important in the better understanding of how modern pharmaceuticals are perceived and accepted differently by diverse ethnic groups. In this field project, we analysed the biological means traditionally used in the northern part of Basilicata (also named Lucania) in southern Italy (Fig. 1).

The particular isolation of this region and its economy, which is, for the most part, still based on small scale agricultural and pastoral activities, represents a unique opportunity for conducting studies about local TK. In the whole Basilicata, only one ethno-pharmacobotanical study was conducted during the last 50 years [2]. Moreover, ethnobiological studies among non-dominant ethnic groups in Europe have been carried out only in Catalonia and among Ladin groups in north-western Italy [3–6].

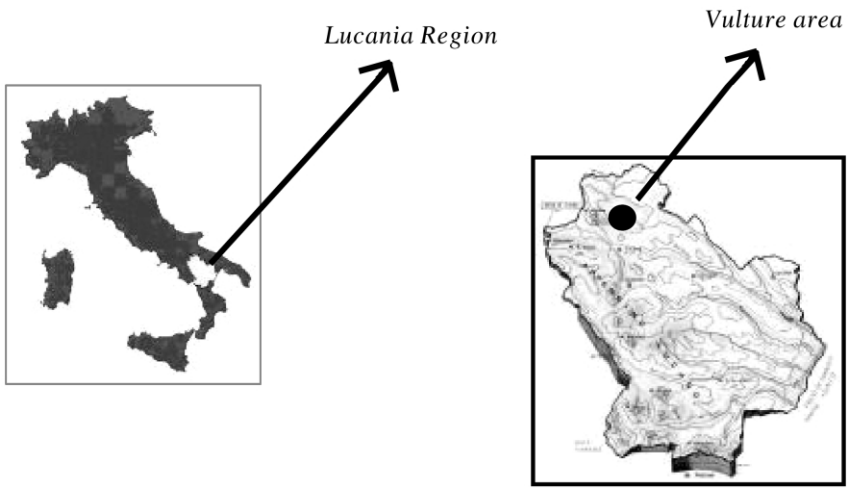

Fig. 1. Geographical location of the Vulture area.

The present study focuses on three ethnic Albanian (Arbëreshë) villages located in the northern part of the Lucania region, within an area dominated by the former volcano Monte Vulture: Ginestra (in Arberësh Zhura), Barile (Barilli), and Maschito (Mashqiti), with ca. 700, 3000 and 1800 inhabitants, respectively. The Arbëreshë are descendants of Albanians, who emigrated during the 15th and 16th centuries to diverse central and southern Italian inland areas [7]. At present it is estimated that not more than 80 000 speakers, all bilingual in Italian and Arbëreshë Albanian, inhabit these areas. The Arbëresh Albanian language belongs to the Tosk Albanian subgroup of Albanian languages, which represents the only surviving language from the ancient Paleo-Balkan group [8] and this language has been classified as an 'endangered' by the *UNESCO Redbook of the Endangered Languages* [9]. So far, no ethnobiological work has been conducted among the Arbëreshë.

The countryside of the Vulture area is dotted with secondary forests of Turkeys oak (*Quercus cerri*), vineyards of a local variety of vine (*Vitis vinifera* var. Aglianico), and olive (*Olea europaea*) groves. In the hedgerow, vineyards and open fields, a wide variety of wild weeds or *liakra* are gathered for food aims, despite the increased use of herbicides that came with the introduction of large scale cultivation of durum wheat (*Triticum durum*) in the 1970s. The extension of such wheat fields across the rolling hillsides of the Vulture region has greatly increased over the past 30 years, and this grain now serves as a cash-crop for the local population.

The cultural climate of the population is one of transition marked by strong generation gaps. In Ginestra and Maschito, for example, the differences between the elderly and the young go far beyond variations in socio-religious roles and beliefs—they extend, in fact, into the massive loss of traditional ecological knowledge (TEK) and cultural lore as well as the entire Arbëreshë language. It can be estimated that, at present in Ginestra, for example, only 10–15% of the population can actually speak or understand the language that once dominated their village a few decades ago. This small percentage of speakers is represented by only the most elderly of the native population—and will certainly only grow smaller with the passage of time.

The impact of 'modernisation', or transition into a more mainstream Italian culture, is most apparent amongst those under the age of 35. It is propelled by a fascination with the culture of possession and has been strongly reinforced through contact with outside sources via media outlets such as television and radio and changing labour trends—most specifically, the transition to mass labour in neighbouring automobile factories. Although this movement towards factory labour has continually decreased the reliance on agriculture and animal husbandry for the majority of the population, many factory-labourers still maintain lands for vineyards and olive groves, where they grow seasonal produce and also continue to collect wild, weedy and semi-cultivated plants.

2. Methodology

The field work was conducted during the periods April–June 2000 and

March–July 2001, and during 3 weeks in August and November 2000. Ethnobotanical information was collected using semi-structured and structured interviews with 44 persons (34 women, 10 men) whose age ranged from 47 to 94 years, and who still retain TEK. Most of the interviewees (39) were more than 50 years old, and belong mainly to families which still have a strong connection with traditional agricultural and pastoral (sheep and/or goat breeding) activities.

Initial data gathering methods, during the first 4 weeks of the field study, involved observation and participation in respondents' activities. In the first phase of the field study, people were asked to freely recall all medicinal plants and other natural remedies that they use or have used in the past. More specific information was recorded later by using structured interviews in which a specifically developed questionnaire was completed.

People were asked to precisely describe the method of use and preparation of the folk medical remedies for each folk taxon quoted. During the interviews, several fresh plant specimens or dried samples stocked in a small transportable field herbarium were shown to the interviewees. If a plant was quoted without having any reference in the herbarium, the interviewee was followed in the field and invited to show the mentioned species. Each non-cultivated botanical species recognised by the villagers to be used for medicinal aims was collected and identification was carried out by the first author; nomenclature follows the standard botanical work for Italian flora [10].

Information concerning other traditional remedies used in local folk medical practices was also collected. Materials of animal, mineral, or even industrial origin were considered. The inclusion of such remedies in ethnopharmacological surveys has recently been well discussed by Bellakhdar [11], who has previously completed a definition of the matters of 'ethnopharmacology' [12], also including, among objects of ethnopharmacological study, industrial materials, which are used in folk pharmacopoeias for aims that are different from those for which they have been produced ('*substances industrielles dont certains ont été détornées par ces cultures de leur destination initiale vers des usage totalment différents de ceux pour lesquelles elles ont ètè fabriquées*').

Voucher specimens were gathered and are deposited at the Herbarium of the Centre for Pharmacognosy and Phytotherapy of the School of Pharmacy, University of London, UK. More than 30 h of tape records are deposited at the authors' address.

3. Results

The traditional ethnopharmacy of the Arbëreshë has been substituted today by modern western school pharmaceuticals. Pharmacies are located in all three communities, and are normally used for common diseases, especially after visits to a physician. Nevertheless, popular phytotherapy is used for minor illnesses (sore throats, digestive troubles, and even kidney stones and renal problems), while ritual

healing practices, which are carried out by a few special healers (mainly women), continue to play an important role.

In this last case, mainly psychosomatic troubles and especially diverse types of headaches (one of which is also related with the belief in the 'evil eye') are 'helped' by ritual prayers and gestures.

Medicinal plant uses, maybe because of the persistence of other traditional ritual forms of healing, using mainly prayers and—in 'Western' language—*psychotherapeutical* means, play a central role as a *familiar* medical practice, which includes dietary patterns with potential health benefitting effects as well. In the Vulture area, *healers* who treat their patients with plants alone do not exist as a specialised group.

Table 1 reports, in alphabetical order, 54 botanical species used in the folk phytotherapy of the Arbëreshë. Only species quoted by at least two different informants have been included in the table.

In the Vulture area, we recorded approximately 100 diverse folk medicinal uses of plants—yet approximately half of these usages have disappeared today and remain only in the remembrance of the elderly population.

3.1. Comparative analysis

In our analysis, we have compared the folk phytotherapeutical data collected in our study with data present in the available ethnobotanical literature on southern Italy [13–25]. The most uncommon ethnopharmacobotanical uses of the Arbëresh medicinal plants and a few uncommon medicinal species that could be considered in eventual phytochemical and phytopharmacological investigations are described in the following paragraphs.

3.1.1. Marrubium incanum and Marrubium vulgare

Marrubium incanum and *Marrubium vulgare*, are considered to be medicinally equivalent and represent the most popular medicinal species. The aerial parts of the plants are used in the form of decoctions, which have to be left outside overnight, and drunk in the morning as a panacea, and especially as an appetiser, digestive, diuretic, and—in the past—as a means to combat malaria. Along the line of Berlin's analysis [26], the Arbëresh Albanians do not distinguish ethnotaxonomically between these two species at the generic level, naming both '*marruxh*', but only at the specific level, and they consider the species with larger leaves, *M. incanum*, to be the 'male' form, while the *M. vulgare* is considered the 'female' form.

M. vulgare extracts have been studied in recent phytopharmacological studies and antioxidant, antispasmodic, hypotensive, anti-asthmatic, and analgesic activities have been demonstrated [27–32], mostly ascribed to its furanic labdane diterpenes. This could explain the popularity of the species, which is culturally the most important medicinal plant among the Arbëresh communities of northern Lucania, where it serves as a panacea, best represented in a rhymed refrain (mostly quoted in southern Italian dialect): '*La marruggia ogni male struggia*' ('*The horehound*

Table 1
Medicinal plants used in the folk phytotherapy of the Arbëreshë

Botanical taxon *(voucher specimen code)*	Botanical family	Arberësh name	Part(s) used	Preparation	Uses in the local popular medicine	Quotation frequency	Records of a similar use in other southern Italian areas [13–25]
Adianthus capillis-veneris L. (ARBKAP)	Adiantaceae	Kapilvijnt	aerial parts	decoction	I: to enhance uterine contractions during labour/delivery[#]	●	yes
					I: diuretic[#]	●	yes
Agropyron repens L. (ARBGRI)	Poaceae	Gerris Grisoljë	rhizome	decoction (also associated with other species)	I: diuretic	●●●	yes
Allium cepa L.[*]	Liliaceae	Qepë	bulb	cooked, as food	I: galactagogue	●●	no
			internal membrane	external application	E: haemostatic	●	no
Allium sativum L.[*]	Liliaceae	Hurdhëra Hith	bulb	roasted under ashes, topical application	E: skin anti-inflammatory	●	yes
				crushed and ingested or strung into necklaces (ritual use); crushed and macerated with leaves of *Ruta graveolens* in cold water	I/E: anti-helmintic	●●	yes

Table 1 (*Continued*)

Botanical taxon *(voucher specimen code)*	Botanical family	Arberësh name	Part(s) used	Preparation	Uses in the local popular medicine	Quotation frequency	Records of a similar use in other southern Italian areas [13–25]
Arundo donax L. (ARBKEL)	Poaceae	Kelmr	Internal membrane	external application	E: haemostatic	●●●	no
			stems	external use	E: pain management for toothache (ritual use)	●	no
Asplenium trichomanes L. (ARBKAPbis)	Aspleniaceae	Kapilvijnt	see *Adianthus capillis-veneris*	see *Adianthus capillis-veneris*	see *Adianthus capillis-veneris*		
Avena sativa L.*	Poaceae	Dërshërë	seeds	decoction with *Ficus carica*	I: against sore throat#	●	no
			seeds	cold macerate as beverage	I: reconstituent (especially for children) #	●	no
Ballota nigra L. (ARBBAQ)	Lamiaceae	Bar qenë	leaves	decoction with fruit stalks of *Lycopersion aesculentum* and rhizomes of *Agropyrum repens*	I: diuretic#	●	no
Brassica oleracea L.*	Brassicaceae	Kaul	stem	covered with the finely ground flour of *Zea mais* and inserted with olive oil into the child's anus	E: purgative	●	no

Table 1 (*Continued*)

Botanical taxon *(voucher specimen code)*	Botanical family	Arberësh name	Part(s) used	Preparation	Uses in the local popular medicine	Quotation frequency	Records of a similar use in other southern Italian areas [13–25]
Brassica rapa L. ssp.*	Brassicaceae	Rrapë	see *Brassica oleracea*	see *Brassica oleracea*	E: purgative#	●	no
				decoction	I: to eliminate gall stones#	●	no
Borago officinalis L. (SIT028)	Boraginaceae	Vërrajnë Vorrask	aerial parts	decoction or cooked in a soup as food	I: post-partum depurative#	●●	no
					I: reconstituent	●●	yes
				decoction	I: galactagogue	●●	no
				decoction	I: anti-hyperlipidemic	●●	no
Ceterach officinarum DC. (ARBSPA)	Adiantaceae	Spakpedrë#	aerial parts	decoction	I: to eliminate renal calculus#	●	yes
Capsicum longum DC. (syn.: *Capsicum annum* var. *acuminatum* Fingerh)*	Solanaceae	Mëdkaniq Papëdin(dë) ta fortë	fruits	fried as food (with or without bulbs of *Leopoldia comosa*)	I: anti-fever	●	no
Cichorium intybus L. (SIT020)	Asteraceae	Çikour	whorls	decoction (the whorls are boiled for food use and liquid left water is used medicinally)	I: depurative	●	yes

Table 1 (*Continued*)

Botanical taxon *(voucher specimen code)*	Botanical family	Arberësh name	Part(s) used	Preparation	Uses in the local popular medicine	Quotation frequency	Records of a similar use in other southern Italian areas [13–25]
Cichorium intybus L. *C. intybus* L. Catalogna Group*	Asteraceae	Çikour katalonj Katalonj	aerial parts	decoction (the aerial parts are boiled for food use and the liquid left is used medicinally)	I: depurative	●	yes
Cynara cardunculus ssp. *scolymus* (L.) HAYEK*	Asteraceae	Skarçof	leaves and receptacles	decoction	I: digestive	●	yes
Ecballium elaterium (L.) A. RICHARD (ARBKUK)	Cucurbitaceae	Kukoced salvaç	fruits	external application of the fruit juice	E: antiseptic and vulnerary (also veterinary use)	●●	no
				cold infusion	I: anti-malarial#	●	no
Ficus carica L.*	Moraceae	Fik	pseudofruits	decoction with aerial parts of *Malva sylvestris* or (rare) *Avena sativa* seeds	I: against sore throat	●●●	yes
Glycyrrhiza glabra L.	Fabaceae	Lauric	roots	decoction	I: against sore throat#	●	yes

Table 1 (*Continued*)

Botanical taxon (*voucher specimen code*)	Botanical family	Arberësh name	Part(s) used	Preparation	Uses in the local popular medicine	Quotation frequency	Records of a similar use in other southern Italian areas [13–25]
Hordeum vulgare L.*	Poaceae	Eljbë	seeds	decoction with *Ficus carica* pseudofruits and aerial parts of *Malva sylvestris*	I: against sore throat#	●	no
				fumigation by burning the seeds on hot coke	I: antitussive#	●	no
Juglans regia L.*	Juglandaceae	Harrë	green fruits	decoction	E: hair-dye#	●	yes
Laurus nobilis L.*	Lauraceae	Laudhë	leaves	decoction	I: digestive	●	yes
Leopoldia comosa (L.) Parl. (SIT011)	Liliaceae	Çëpuljin ta kuqë	bulb	fried together with *Capsicum longum* fruits as food	I: anti-fever	●	no
Lupinus albus L.*	Fabaceae	Lupin	seeds	as food	I: anti-diabetes#	●	yes
Lycopersicon aesculentum Mill.*	Solanaceae	Përnbëdour	fruits stalks	decoction with *Ballota nigra* leaves and *Agropyrum repens* rhizomes	I: diuretic#	●	no

Table 1 (*Continued*)

Botanical taxon *(voucher specimen code)*	Botanical family	Arberësh name	Part(s) used	Preparation	Uses in the local popular medicine	Quotation frequency	Records of a similar use in other southern Italian areas [13–25]
Malus domestica Borkh.*	Rosaceae	Mollë	fruits	decoction with *Ficus carica* pseudofruits, aerial parts of *Malva sylvestris* and *Verbascus thapsus* leaves	I: antitussive	●	no
Malva sylvestris L. (SIT120)	Malvaceae	Mëllagë	aerial parts	Decoction	I: against sore throat	●●●	yes
					I: against abdominal pains	●●	yes
					I: partum enhancer#	●●	no
				decoction or in a soup as food	I: post-partum depurative; galactagogue	●●●	no
				topical application boiled then applied topically	E: vulnerary	●●	yes
					E: suppurative	●	yes
				decoction with *Ficus carica* pseudofruits and *Verbascum thapsus* leaves	I: antitussive	●	yes
				ritual object	E: to heal the *mal vjint* ('wind illness', skin ailment), [ritual use])	●	no

Table 1 (*Continued*)

Botanical taxon *(voucher specimen code)*	Botanical family	Arberësh name	Part(s) used	Preparation	Uses in the local popular medicine	Quotation frequency	Records of a similar use in other southern Italian areas [13–25]
Marrubium incanum Desr. (ARBMAR)	Lamiaceae	Marruxha Marruxha maskula	aerial parts	decoction	I: diuretic, digestive, anti-malarial, panacea	●●●	no
				decoction used in external washing	E: foot and mouth disease (veterinary use: cattle and horses)	●	no
Marrubium vulgare L. (ARBMARbis)	Lamiaceae	Marruxha fëmëna	see *Marrubium incanum*	see *Marrubium incanum*	see *Marrubium incanum*		
Matricaria recutita L. (ARBKAM)	Asteraceae	Kamomill	aerial parts and flowers	decoction	I: digestive; sedative	●●●	yes
Mercurialis annua L. (ARBMER)	Euphorbiaceae	Mërkurelja	aerial parts	decoction	I: laxative (also veterinary use)	●●	yes
Olea europaea L. (ARBULI)	Oleaceae	Ulinj	aerial parts	decoction	I: hepatoprotective	●	no
			olive oil (valjë ta ullinjëtë)	heated, then dropped in the ears	E: anti-otitis[#]	●	no
Origanum heracleoticum L. (SIT009)	Lamiaceae	Rigan	flowering tops	fumigation on hot coke	E: antitussive (also veterinary use)	●	yes
				decoction	I: digestive	●	yes

Table 1 (*Continued*)

Botanical taxon (*voucher specimen code*)	Botanical family	Arberësh name	Part(s) used	Preparation	Uses in the local popular medicine	Quotation frequency	Records of a similar use in other southern Italian areas [13–25]
Papaver rhoeas L. (SIT008)	Papaveraceae	Luljëkuq	flowers	decoction	I: mild sedative for children	●	yes
Papaver somniferum L.*	Papaveraceae	Papanjul	fruits and seeds	washing	E: against toothache	●	no
			seeds	decoction	I: sedative	●	yes
Parietaria diffusa M. ET K. (ARBBAR)	Urticaceae	Bar reria Verva vjint	aerial parts	decoction	I: diuretic	●	yes
				crushed for external application	E: anti-bruises and arthritic pains#	●	no
				ritual object	E: to heal the *mal vjint*, ritual use	●	no
Prunus dulcis (MILLER) D.A. WEBB.*	Rosaceae	Mendolja	seeds	cold macerate	I: against intestinal pains (children)#	●	no
Pteridium aquilinum (L.) KUHN (ARBFIL)	Hypolepidaceae	Filç	rhizomes	decoction, external washing	E: against non-specific pains#	●	no
Pyrus communis L.*	Rosaceae	Dardhë	fruits	eaten raw or cooked	I: depurative	●●	yes

Table 1 (*Continued*)

Botanical taxon *(voucher specimen code)*	Botanical family	Arberësh name	Part(s) used	Preparation	Uses in the local popular medicine	Quotation frequency	Records of a similar use in other southern Italian areas [13–25]
Rubus ulmifolius SCHOTT. (ARBFER)	Rosaceae	Ferr (whole plant) Menx (fruits)	leaves	decoction (together or without rhizomes of *Agropyron repens*)	I: diuretic[#]	●	no
Ruta graveolens L.[*]	Rutaceae	Rutë	aerial parts	cold infusion (crushed with or without *Allium sativum* bulbs, after having removed the internal part of the bulb)	I: anti-helmintic[#]	●	yes
				crushed in a cold infusion	I: against intestinal pains	●	yes
				ritual object	E: to heal the *mal d'arco* ('rainbow illness', hepatitis, [ritual use])[#]	●	no
Salvia officinalis L.[*]	Lamiaceae	Salv	leaves	decoction	I: sore throat	●	yes

Table 1 (*Continued*)

Botanical taxon *(voucher specimen code)*	Botanical family	Arberësh name	Part(s) used	Preparation	Uses in the local popular medicine	Quotation frequency	Records of a similar use in other southern Italian areas [13–25]
Sambucus ebulus L. (ARBSHS)	Caprifoliaceae	Shtog salvaç	aerial parts	decoction, external washing	E: anti-rheumatic[#]	●	yes
Sambucus nigra L. (ARBSHT)	Caprifoliaceae	Shtog	flowers	decoction	I: sore throat	●	yes
			aerial parts	decoction, followed by a cold bath	E: anti-rheumatic[#]	●	yes
				ritual object	E: to heal the *mal vjint* and *cigli alla testa* (headache [ritual healing use])	●	no
			stems	dried, then smoked	E: anti-toothache[#]	●	no
Solanum tuberosus L.[*]	Solanaceae	Patatë Patana	tubers	ground or cut in raw form then topically applied	E: burn healing; against dry eyes 'occhi secchi'	●	yes
Sonchus asper L. (SIT104)	Asteraceae	Rrëshed Rrëshelja	aerial parts	cold macerate applied externally in the mouth	I: anti-afta[#]	●	yes

Table 1 (*Continued*)

Botanical taxon *(voucher specimen code)*	Botanical family	Arberësh name	Part(s) used	Preparation	Uses in the local popular medicine	Quotation frequency	Records of a similar use in other southern Italian areas [13–25]
Triticum aestivum L.*	Poaceae	Grurë	seeds	fumigation: burning the seeds on hot Coke	I: antitussive#	●	no
			bran (krundë)	decoction or cold macerate for local application	E: skin anti inflammatory#	●	no
			bread dog (pastë buks)	applied externally	E: against diverse muscular and rheumatic pains#	●	no
			bread baked on February 3rd for St. Biagio Day (*buka Santë Vëllazën*)	food	I: against sore throat (ritual use)	●	no
Triticum durum DESF.*	Poaceae	Grurë Kapela	see *Triticum aestivum*	see *Triticum aestivum*	see *Triticum aestivum*		
Tussilago farfara L. (ARBSTK)	Asteraceae	Stampë kaval Stampë kavad	leaves	Decoction (sometimes with rhizomes of *Agropyron repens*)	I: diuretic#	●	no
				external application with olive oil	E: suppurative	●	yes

Table 1 (*Continued*)

Botanical taxon *(voucher specimen code)*	Botanical family	Arberësh name	Part(s) used	Preparation	Uses in the local popular medicine	Quotation frequency	Records of a similar use in other southern Italian areas [13–25]
Ulmus minor MILLER (ARBVID)	Ulmaceae	Vijdhë Skatpinjat	internal contents of galles	crushed and applied topically	E: anti-bruises[#]	●	yes
Umbilicus rupestris (SALISB.) DUNDY (ARBFAV)	Crassulaceae	Favë alla mers	leaves	extracting the external tissue for topical application with water or sugar	E: suppurative[#]	●	yes
Verbascum thapsus L. (ARBVAR)	Scrophulariaceae	Varravash	leaves	decoction with *Ficus carica* pseudofruits, *Malus domestica* fruits, and aerial parts of *Malva sylvestris*	I: antitussive[#]	●	yes
Vitis vinifera L.[*]	Vitaceae	Dherejhj	unripe fruits (gurric)	eaten raw	I: anti-diarrhoea[#]	●	no
			fruits (rush)	as food	I: galactagogue[#]	●	no
			boiled fruit juice (marë kut)	as food	I: against sore throat	●●	yes
			ripe fruit	as food	I: laxative	●	yes
			red wine	applied topically with a bundle of donkey hair (lasc)	ritual healing of *mal vjint*		
			vinegar (huthull)	hair/scalp wash	E: anti-dandruff	●	no

Table 1 (*Continued*)

Botanical taxon (*voucher specimen code*)	Botanical family	Arberësh name	Part(s) used	Preparation	Uses in the local popular medicine	Quotation frequency	Records of a similar use in other southern Italian areas [13–25]
Zea mais L.*	Poaceae	Grandinjë	seeds (finely ground flour)	topical application	E: antiseptic#	●	no
			stigma	placed on *Brassica* sp. stem with olive oil for insertion in the child's anus	E: purgative#	●	no

*Cultivated species (not voucher specimens collected). Uses in the local popular medicine: E: external use; I: internal use.

#No longer used. Quotation frequency: ●: quoted by less than 10% of the informants; ●●: quoted by more than 10% and less than 40% of the informants; ●●●: quoted by more than 40% of the informants.

destroys every disease'). The claimed diuretic properties of the species still have to be investigated.

3.1.2. Sonchus asper

Cold macerates of aerial parts of *Sonchus asper* were used in Ginestra in the past to heal mouth afta. This species is quite well distinguished from *Sonchus oleraceus*, which in the Vulture area represents a very important weedy food species. In a previous ethnobotanical survey conducted almost 40 years ago in Calabria [15], a similar medical use of the fresh juice of the aerial parts of nine plants (among them *S. asper*) was recorded. Phytochemical and phytopharmacological studies on this botanical genus are completely lacking and investigations in this direction are greatly needed.

3.1.3. Ulmus minor

The use of the content of the gelatinous liquid inside the galls of *Ulmus minor* deserves more detailed investigation. In our study, we documented the external application of the gall content onto the skin as an anti-bruising agent. A similar use was recorded in an ethnobotanical field study conducted in a restricted area close to Messina in Sicily. In this case, the content, which is ritually collected on 24th June (St. John's Day) and exposed to sunshine for 40 days, was applied in massages externally as an anti-rheumatic.

3.2. Food medicinal plants

A few medicinal plants are used as food-medicines: in the case of *Allium cepa*, *Borago officinalis*, *Capsicum longum*, *Leopoldia comosa*, *Malus domestica*, *Malva sylvestris*, *Pyrus communis*, and *Vitis vinifera*, they are cooked and consumed with the specific aim to heal a given disease. In traditional societies, plant and animal resources are often used multi-contextually both for food and for medicine, and the consumption of non-domesticated botanicals has often been perceived to have a medicinal 'character' [33–37]. However, in the Vulture area, we identified the application of this concept in only one food-medicine (*Borago officinalis*), with 40% of the informants reporting its use. Peculiar medical uses of common plant foods such us *Leopoldia* or *Capsicum* ssp. have a very sporadic character and do not seem to represent consolidated cultural traditions.

The perception of bitter taste plays a special role along the *food–medicine* continuum. Mild or even fairly bitter tasting greens (such us the whorls of *Papaver rhoeas* and *Chondrilla juncea*) are considered to be food by the Arbëreshë. Yet with an increased bitterness—such as lightly bitter tasting weeds (the whorls of wild *Cichorium intybus* and the processed bulbs of *L. comosa*)—the plants are considered to be both food and medicine, and are often utilised in the local cuisine for 'blood cleansing' purposes. Plants perceived to be very bitter ('*shumë amarë*'), as the leaves and stems of *Marrubium* ssp., are considered only for medicinal use.

3.3. Plants in ritual healing practices

A few other botanicals are used in complex healing rituals involving prayers (oral-formulas), gestures and symbols. While most of the botanicals used in these healing ceremonies play a strictly symbolic role, there are some instances in which possible phytotherapeutical activity should be investigated. For example, in the treatment of a skin rash called *mal vjnt* or 'wind illness', the external application of red wine (*Vitis vinifera,* Aglianico variety) to the affected area of the skin is an important part of the healing ritual. After the first stage of a ceremonial initiation of a specific oral formula is completed—including the ritual treatment of the wine with objects such as a knife, axe, or pistol—the wine is then painted in the form of a cross over each small inflamed boil with a small *laç* (braided bundle of donkey hair) and is complemented with the continued repetition of the prayer. This ritual therapy can take place for up to 9 consecutive nights. An investigation of the phytopharmacological activity of this wine variety for dermatitis may well be of great interest. The application of other botanicals as ritual objects in the Vulture area seem to be most strongly related with psychotherapeutic instead of phytotherapeutic healing.

3.3.1. Malva sylvestris, Matricaria recutita, Parietaria diffusa and Sambucus nigra

While one of the standard folk-medical treatments for *mal vjnt* has already been addressed, there is also another ritual treatment for this ailment that deserves equal attention. As previously mentioned, the symptoms of 'wind-illness' are presented as an inflammatory skin rash. In this healing ritual, a bundle of at least three of the following fresh botanicals are utilised: *M. sylvestris, Matricaria recutita, Parietaria diffusa,* and *Sambucus nigra*, and are accompanied by an illness-specific prayer. It is repeated throughout the procedure while the healer waves and brushes the herb bundle over the affected area of the patient's skin. At the end of the ceremony, the herb bundle is burned and the patient is advised to later wash the clothes they are wearing. This procedure is normally repeated for a period of 9 nights. Since the herbs often make contact with the patient's skin during the procedure, a pharmacological analysis of the aerial parts could be productive.

S. nigra alone has also presented a bit of a mystery in our analysis of the symbolical significance of these ritual botanicals used by the Arbëreshë. In addition to playing an integral role in the treatment of 'wind illness', this species is also 'called forth' for help in the prayer for healing *cigli alla testa*, or migraine. In all of the oral formulas for the ritual healing of diverse folk-illness there is one common element: 'calling forth' a high spiritual entity such as the Holy Trinity, Jesus Christ, or a wide variety of Saints. The oral formula for this folk-illness calls on the help of *San Savuco*. A Saint Savuco, however, does not exist in the Catholic doctrine—but the term *savuco* is the South-Italian name for this species. A phrase of this particular prayer states a promise that the 'tree's wood will not be cut and burned in a fire': '*Buon giorno compa' Savuco* [...] *ti giuro e ti prometto che dento u' fuco nu te metto'*. This oral formula is most certainly related with the common lore that burning this wood and breathing in the smoke can cause migraine.

3.3.2. Arundo donax

Arundo donax serves as a good example for illustrating the difference between the medicinal vs. ritual application of botanicals. This species can be utilised both as a medicinal aid used outside of a ritual context (the inner tissue is applied as a haemostatic for minor lacerations) and as a non-phytotherapeutic ritual object applied in a healing ceremony (the stem is used to treat toothache). In the case of ritualistic use, the green stem of this common cane is cut into nine small pieces, each approximating the size of adult teeth. Each small piece is then used to form crosses across teeth in the patient's mouth while repeating a specific oral formula, or prayer, in which the illness is presented to *San Simone* who is called forth for help. Each of the nine pieces of cane are used in the procedure, thus the ceremony is quite lengthy and seems to function by a trance-like system of pain management. Although the phytotherapeutic activity of the stem for this purpose has not been previously studied, recently it has been found that the base contains psychoactive alkaloids (bufotenine and aminoethylindol-derivates) [38], which could bio-scientifically confirm its well documented use by diverse Indian groups in America, and also among young people today as strong psychedelic (DMT like effects) [39].

3.3.3. Ruta graveolens

Ruta graveolens is used in the ritual procedure for healing *mal d'arco* 'illness of the rainbow' (hepatitis). This folk-illness is perceived to be contracted by looking at a rainbow while urinating outdoors, or by walking through a 'contaminated' crossroads—both of which are excellent examples of the role of 'magical contagion' in this traditional medical model. The aerial parts of this plant are placed in a pot in which the patient's urine is collected over a period of several nights. At the end of this collection period, the pot of urine and aerial parts of *Ruta* sp. is poured into a crossroads late at night while a specific oral formula is repeated. By completing this procedure, it is believed—as in many beliefs in other ethnomedicines—that the patient will leave behind the illness at the crossroads—and the next person to enter this magico-spiritual domain of the crossroads will contract the illness that the previous patient had left behind.

3.4. Other traditional remedies (of animal or mineral origin)

Other natural remedies (having animal, mineral, or even industrial origin, such as sugar, vinegar, copper sulphate) used in the Arbëresh area as medicine are included in Table 2. Changes in the present patterns of use have strongly effected these archaic traditional remedies, with the exception of those few preparations that represent a kind of medicinal food.

In particular, it would be interesting to conduct further studies concerning the pharmacological properties of whey, used in the study area as a mild laxative, and well known for the same aim in the old Italian scholastic medicine [40]. A possible use of this secondary product of traditional milk processing in the new field of nutraceuticals should be rigorously evaluated, as a recent study on protein fractions in mare's colostrum also suggested [41].

Table 2
Animal and other traditional remedies used in the folk medicine of the Arbëreshë

Remedy	Arberësh name	Preparation	Use in the local popular medicine
Ashes	Hëjë	decoction	reconstituent after being inebriated with alcohol[#]
Axe		ritual object	ritual healing of *mal vjint*
Black ribbon		nine knots applied on a stem of *Sambucus nigra*	ritual healing of *cigli alla testa*
Clay		put on the head of the child	ritual healing of *plinj* (rachitism?)
Coin		heated then rubbed on the affected area	against muscular pains
Coin (Gold)		ritual object: used to touch the affected part	ritual healing of *risibola* (skin ailment)
Coin (Silver)		ritual object: used to touch the affected part	ritual healing of *risibola*
Copper sulphate	Verdëram	gargle	against sore throat[#]
Dog saliva	Lëkon qeni	external application	anti-furuncles, antiseptic[#]
Donkey hair (braided rope)	Lasc	ritual object (tool used for the topical application of red wine)	ritual healing of *mal vjint*
Egg albumen	Bardhë vëjtë	scrambled, local application with salt and cotton or wheat bran	anti-bruises[#]
Hair			against *malocchio* (evil-eye)[#]
Hen meat	Mish ta puljë	cooked in a soup as food	reconstituent after giving birth
Honey	Melë	eaten	against sore throat
Horse blood	Gjaku kaljt	eaten raw	anti-anaemia[#]
Iron nails	Goshdë	heated in oil, then the oleolite is applied externally	against diverse body pains[#] against malocchio
Knife (with a black handle)		ritual object	ritual healing of *mal vjint*
Natrium bicarbonate	Karbonat	fumigation of hot solution in water	Antitussive
Pig gall bladder	Fejlli derkut	left outside for one night and then applied topically	anti-chilblain[#]
Pistol		ritual object	ritual healing of *mal vjint*
Ricotta cheese	Gjëz	eaten	light anti-diarrhoeal
Salt	Krip	drunk as solution with hot water external application of solution in water	against abdominal pain anti-mastitis[#]
Scissors		ritual object; waved over the abdominal area	ritual healing of *vermi* (helminthiasis)
Scorpion		oleolite (cold decoction with olive oil to be instilled in the ears)	anti-otitis[#]

Table 2 (*Continued*)

Remedy	Arberësh name	Preparation	Use in the local popular medicine
Soot	Fëllizhina	applied on the breast with olive oil	anti-mastitis[#]
Sugar	Cukër	fumigation on hot coke	antitussive (also veterinary use)[#]
Water	Ujë	fumigation	antitussive[#]
		exposure to hot vapour	emmenagogue[#]
		bath of hot water and salt	against foot pains; against cold
		enteroclism with oil and salt (sometimes ground soap)	purgative[#]
Whey (liquid precipitate from the cheese making process)	Sir	drunk	mild laxative
Wood affected by woodworms (*Anobium punctatum*)	Dru i kalbëtë	local application	haemostatic; anti-mastitis[#]

[#] No longer used.

4. Conclusion

Evaluation of the last 'isles' of TK and folk pharmacopoeias in rural areas is very urgent, especially in Europe. The interest in new phytopharmaceuticals and nutraceuticals grows continuously, and increasingly, researchers are paying more attention to previously neglected, uncommon biological resources.

At the same time, ethnobiological and ethnopharmacological surveys dealing with traditional Mediterranean uses of plants and other aspects of popular pharmacopoeioas could represent, in a few Mediterranean areas, the basis for the implementation of such 'rediscovered' data, focusing on eco-sustainable interdisciplinary projects involving biological conservation and sustaining of the local language and culture. The ethnopharmacy of the Arbëreshë represents a good example of a strongly interconnected integration between straightforward familiar medicinal remedies, health, diet and traditional healing practices characterised by cultural specific symbolism. These data could represent a starting point for an intercultural comparison focused on the perception and use of therapeuticals among Arbëreshë, Italians, and recently immigrated Albanians, and also to better understand how modern European multicultural societies deal with the problem of the clinical efficacy and safety of pharmaceuticals currently used locally.

Acknowledgements

Special thanks are due to all the people of Ginestra, Maschito and Barile, and especially to: zia Elena (Elena Musto), Silvia Perrotta, Fiorina Larossa, Irma Petagine, Carmen Di Pace, Giulia Strozza, Anita Carlucci, Maria Granolla and Lucia Pace. We thank Burbuqe (Barbara) Zhupani, Venosa (Potenza), Italy, and Harald Münz, Institut für Phonetik, Universität zu Köln, Cologne, Germany for the phonetic and the linguistic transcriptions of all the Arbëreshë terms. Thanks to the USA Foundation for Science and Disability and to the National Kappa Alpha Theta Foundation for funding a part of the anthropological portion of the study. Special thanks is due to the Mars Nutritional Research Council, Urbana, Illinois, USA, for having trusted and financed a research project focused on the search for new *phytoceuticals* from traditional Mediterranean foods.

References

[1] Heinrich M. Ethnopharmazie und Ethnobotanik. Eine Einführung. Stuttgart (Germany): Wissenschaftliche Verlagsgesellschaft, 2001.
[2] Capasso F, De Simone F, Senatore F. J Ethnopharmacol 1982;6:243.
[3] Agelet A, Vallès J. J Ethnopharmacol 2001;77:57.
[4] Bonet MA, Blanché C, Vallès Xirau J. J Ethnopharmacol 1992;37:205.
[5] Raja D, Blanché C, Vallès Xirau J. J Ethnopharmacol 1997;57:149.
[6] Barbini S, Tarascio M, Sacchetti G. Informatore Botanico Italiano 1999;31:181.

[7] Altimari F, Bolognari M, Carrozza P. L'Esilio della Parola—La Minoranza Linguistica Albanese in Italia, Profili Storico-Letterari, Antropologici e Giuridico-Istituzionali. Pisa (Italy): ETS Editore, 1986.
[8] Grimes BF, editor. Ethnologue—CD ROM. Dallas (USA): Summer Institute of Linguistics, 2000.
[9] Salminen P. UNESCO Red Book Report on Endangered Languages: Europe, www.helsinki.fi/~tasalmin/europe_report.html, 1999.
[10] Pignatti S. Flora d'Italia. Bologna (Italy): Edizioni Edagricole, 1982.
[11] Bellakhdar J. La pharmacopée marocaine traditionnelle. Paris: Ibis Press, 1997.
[12] Dos Santos JR, Fleurentin J. L'ethnopharmacologie: une approche pluridisciplinaire. In: Fleurentin J, Cabalion P, Mazars G, Dos Santos J, Younos C, editors. Ethnopharmacologie. Sources, méthodes, objectifs. Paris: ORSTOM, 1991.
[13] Amico FP, Sorge EG. Fitoterapia 1997;2:143.
[14] Antonone R, De Simone F, Morrica P, Ramundo E. J Ethnopharmacol 1988;22:295.
[15] Barone R. Webbia 1963;2:329.
[16] Barbagallo C, Grillo M, Meli R. Fitoterapia 1979;2:57.
[17] Catanzaro F. Webbia 1968;23:135.
[18] Catanzaro F. Fitoterapia 1970;41:66.
[19] De Feo V, Aquino R, Menghini A, Ramundo E, Senatore F. J Ethnopharmacol 1992;36:113.
[20] De Feo V, Senatore F. J Ethnopharmacol 1993;39:39.
[21] Galt AH, Galt JW. Econ Bot 1978;32:20.
[22] Lentini F, Aleo M. Atti Acc Scienze Lett Arti Palermo, 1991:1.
[23] Lentini F, Giani S, Amenta R. Acta Technologiae et Legis Medicamenti 1995;3:351.
[24] Lentini F, Raimondo FM. Quad Bot Ambientale Appl 1990;1:103.
[25] Raimondo FM, Lentini F. Naturalista Siciliano 1990;S IV:77.
[26] Berlin B. Ethnobiological classification. Princeton: Princeton University Press, 1992.
[27] Ballero M, Sotgiu AM, Piu G. Biomed Lett 1998;57:31.
[28] de Jesus RAP, Cechinel V, Oliveira AE, Schlemper V. Phytomedicine 2000;7:111.
[29] de Souza MM, de Jesus RAP, Cechinel V, Schlemper V. Phytomedicine 1998;5:103.
[30] El Bardai S, Lyoussi B, Wibo M, Morel N. Clin Exp Hypertens 2001;23:329.
[31] Schlemper V, Ribas A, Nicolau M, Cechinel V. Phytomedicine 1996;3:211.
[32] Weel KGC, Venskutonis PR, Pukalskas A, Gruzdiene D, Linssen JPH. Fett Lipid 1999;101:395.
[33] Etkin NL, Ross PJ. Soc Sci Med 1982;16:1559.
[34] Etkin NL. Int J Pharmacog 1996;34:313.
[35] Heinrich M. Plants as antidiarrhoeals in medicine and diet. In: Prendergast HDV, editor. Plants for food and medicine. Kew (UK): The Royal Botanical Gardens, 1996:17–30.
[36] Pieroni A. J Ethnopharmacol 2000;70:235.
[37] Pieroni A. J Ethnobiol 2001;21:89.
[38] Zhalov I, Khuzhalev VU, Levkovich MG, Aripova SF. Chem Nat Compd 2000;36:528.
[39] Rätsch C. Enzyklopädie der psychoaktiven Pflanzen. Aarau (Switzerland): AT Verlag, 1998:77–79.
[40] Mattioli PA. I Discorsi di M. Pietro Andrea Matthioli. Appresso Vincenzo Valgrisi, Venice, Italy, 1568 (Reprint 1966): 396.
[41] Curadi MC, Orlandi M, Greppi GF, Toppino PM, Barzaghi S, Cattaneo TMP. Michwissenschaft Milk-Sci Int 2000;55:446.