ELSEVIER

Journal of Ethnopharmacology 70 (2000) 235–273

Journal of ETHNO-PHARMACOLOGY

www.elsevier.com/locate/jethpharm

Medicinal plants and food medicines in the folk traditions of the upper Lucca Province, Italy

A. Pieroni *

Dipartimento di Scienza del Suolo e Nutrizione della Pianta, Università degli Studi di Firenze, Piazzale delle Cascine, 28, I-50144 Florence, Italy

Received 20 November 1999; accepted 6 December 1999

Abstract

An ethnopharmacobotanical survey of the medicinal plants and food medicines of the northern part of Lucca Province, north-west Tuscany, central Italy, was carried out. The geographical isolation of this area has permitted the survival of a rich folk phytotherapy involving medicinal herbs and also vegetable resources used by locals as food medicine. Among these are the uncommon use of *Ballota nigra* leaves as a trophic protective; the use of *Lilium candidum* bulbs as an antiviral to treat shingles (*Herpes zoster*); *Parmelia* sp. as a cholagogue; *Crocus napolitanus* flowers as antiseptic; *Prunus laurocerasus* drupes as a hypotensive; and the consumption of chestnut flour polenta cooked with new wine as bechic. Many wild gathered greens are eaten raw in salads, or in boiled mixtures, as 'blood cleansing' and 'intestine cleansing' agents. Of particular interest is the persistence of the archaic use of *Bryonia dioica* root against sciatica, and the use of ritual plant therapeuticals as good omens, or against the 'evil eye.' Over 120 species represent the heritage of the local folk pharmacopoeia in upper Garfagnana. Anthropological and ethnopharmacological considerations of the collected data are also discussed.

Keywords: Medicinal plants; Ethnobotany; Food medicine; Tuscany; Italy

1. Introduction

Systematic explorations of traditional pharmacopoeias are urgently required in Southern Europe, especially in those areas which, for geographical and historical reasons, remain relatively isolated, and where industrial development has not lead to a complete decline of their traditions.

Moreover, little is known about the practice of food medicine, despite the role of medicinal cuisines and consumption of health edibles having held a central position in traditional folk medical systems (Johns, 1980; Etkin and Ross, 1993; Etkin, 1994, 1996).

The area which has been the subject of our investigation is situated in northwestern Tuscany, Lucca Province (central Italy), and comprises the

* Present address: Venloer Str. 233a, D-50823 Cologne, Germany.

E-mail address: uzs51a@uni-bonn.de (A. Pieroni)

0378-8741/00/$ - see front matter
PII: S0378-8741(99)00207-X

upper part of the Serchio Valley (Garfagnana). The Garfagnana consists administratively of 16 municipalities, covers 534 km^2, and has 30 350 inhabitants. We confined our attention to the northern part of the Garfagnana, comprising five small municipalities; (San Romano, Piazza al Serchio, Sillano, Minucciano and Giuncugnano), all of which cover 191 km^2 and include 8100 inhabitants (42.6 inhabitants per km^2).

This area is typical mountainous terrain, delimited by the Apuan Alps in the west and the Apennines in the east, facing, respectively the Tyrrhenian coast and the region Emilia-Romagna.

Part of the western side of this territory is included in the Regional Natural Park of the Apuan Alps, while a project to include the eastern part of the Garfagnana in the newly established National Park of the Tosco-Emilian Apennines is underway.

The natural landscape of the upper part of the valley is characterised principally by chestnut woods (*Castanea sativa* Mill.), to around 1000 m above sea level, while the higher terrain is covered by beech woods (*Fagus sylvatica* L.) extending to about 1600 m above sea level. There are many differences between the Apennine and Apuan floras owing to their different geological origins and proximity to the sea, the Apuan Alps having more maritime influence, and a distinctive calcareous geology.

The Garfagnana region was inhabited by man since the Middle Palaeolithic, but dominated more recently by Ligurian-Apuanians, traces of whom have been found throughout the valley in the numerous, widely distributed cremation tombs (in the form of boxes made of stone slabs). The Ligurian-Apuanians were a great hindrance to Roman expansion and upon their defeat in 179 BC they were deported en masse to Sannio, and thus began, in Garfagnana, the period of Roman colonization which absorbed the residue of the population. On the fall of the Roman Empire it was the Longobards (570–774) who, in the succeeding barbarian invasion, left the most evidence of their presence in this region. From the 12th century, free municipalities were established. The majority of these decided spontaneously to place themselves under the protection of the Duke of Ferrara, while at the same time Lucca dominated the lower part of the valley. These occupations were intended to be temporary but they persisted until the Unification of Italy (1860) when the territory was annexed to the Kingdom of Italy.

Because of its history and geographical isolation, the Garfagnana has maintained its very distinctive characteristics compared with the rest of Tuscany. However, the traditional agro-sylvo-pastoral lifestyle began to decline during the 1950s and 60s, although today interest is reviving to save, maintain and increase the role of traditional activities, such as the cultivation of chestnut trees (*Castanea sativa* L.) and emmer wheat (*Triticum dicoccon* Schrank).

The interest of the present study was focused on medicinal plants and vegetable food medicine used in the local folk pharmacopoeia. Attempts have been made to correlate these data with other pharmaco-botanical research works carried out in the Province of Lucca in the last 20 years (Pagni and Corsi, 1979; Corsi et al., 1981; Uncini Manganelli and Tomei, 1995, 1996) and more general ethnobotanical work touching all the Italian peninsular areas.

A further aim of this research was to develop an ethnobotanical framework inside a project animated by various local actors and anthropologists (Pieroni, 1999a) for re-evaluating local oral traditional knowledge within the newly born Documentation Centre 'Gastone Venturelli' in Piazza al Serchio.

2. Methods

Field research was conducted by collecting ethnobotanical information during interviews with 141 knowledgeable persons (103 women and 38 men) native to the territory. The age of the informants ranged between 40 and 96 years (the average age being 67).

The field research involved 28 very small villages (population from 50 to 1000 inhabitants): Caprignana, Orzaglia and San Romano (included in the San Romano Municipality), Capanne di Sillano, Dalli Sotto and Sillano (belonging to the

Sillano Municipality), Castelletto, Foce dei Carpinelli, Giuncugnano, Magliano and Varliano (Municipality of Giuncugnano), Metra, Minucciano, Gorfigliano, Gramolazzo, Pieve San Lorenzo and Verrucolette (Minucciano Municipality) and Borsigliana, Colognola, Cogna, Livignano, Gragnana, Nicciano, Petrognano, Piazza al Serchio, San Donnino, Sant'Anastasio and Vergnano (in the Municipality of Piazza al Serchio). The location of the area studied is shown in Fig. 1.

No special selection criteria were used in the choice of the informants because one of the aims of this work was to assess the breadth of popular heritage in the field of food medicine, knowledge of which is widespread among locals. By contrast, knowledge of traditional phytotherapeuticals is normally exclusive to the few traditional healers.

A questionnaire was filled in for each quotation, in order to try to filter out, in a second phase of the research, 'contamination' from imported modern sources (magazines, books, television, etc.). Clues to such might be complicated dosages and mixtures of plants in the medicinal preparations; quotations of the scientific name of the species; the quotation of official pharmaceutical therapeutic properties (such as 'bechic' or 'analgesic'). Suspect non-original data were eliminated and represented 0.8% of the total collected.

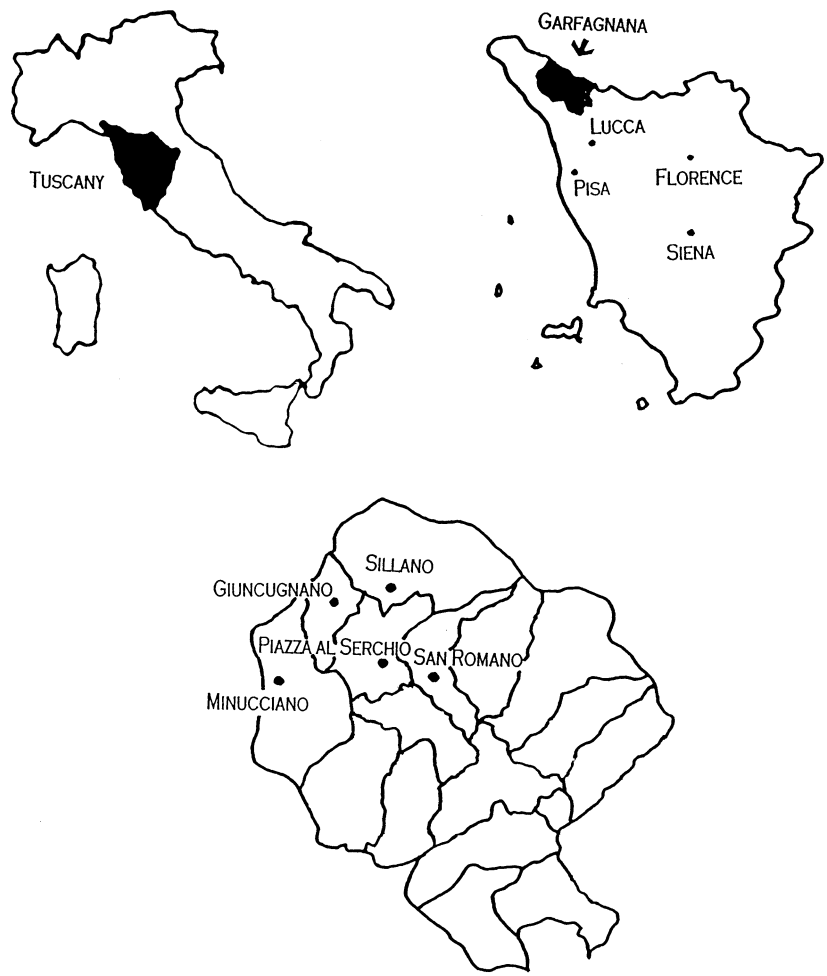

Fig. 1. Location of the area studied.

Normally people reported species using dialect (with which the interviewer was conversant) defining the properties of the plant and of the food medicine with simple assertions such as 'It's good for…', 'It's good against…', 'To cure…'.

Infusions and decoctions represented most of the recorded medicinal preparations, while in the cases of external use, simply the fresh plant, or its juice, or sometimes poultices made with eggs, flour and fat were quoted.

An attempt was made to classify the perceptions of the role of food species as food medicine by analysing the different assertions that were made. In some cases medicinal properties of the food species were excluded ('I don't know if it is good for', 'I don't think it is good for anything…', 'I don't remember…'), in other cases medicinal properties were generally postulated ('It is good for the health…') without any other specification. Sometimes they were more exactly described ('It is good for *x* or *y*'), and only in a few cases were they very strongly emphasised ('It is very/extremely good for…').

We elaborated these data regarding the function as food medicine ascribed to some plants, by dividing the average values into four classes: no role, low, middle and high.

Plants recognised by the villagers were collected and identification was carried out by the author; nomenclature followed the standard botanical work for Italian flora (Pignatti, 1997).

Voucher specimens are deposited at the Documentation Centre in Piazza al Serchio.

3. Results and discussion

Table 1 lists the medicinal plants and food medicine of the folk traditions of the Garfagnana. Over 120 species (mostly wild) were recorded. Asterisks indicated non-native species. Special marks indicate uses that have died out at the present day.

Exotic species and other imported supposed 'health' plants were not considered, but non-native plants, whose cultivation or naturalisation in the territory have already consolidated a tradition for at least two centuries, were recorded.

Indications of the medicinal uses or properties were reported as quoted by the informants, without trying to 'translate' their assertions to the modern pharmaceutical lexicon (for example, expressions such as 'against…' or 'cleansing' have been maintained).

Some of the recorded uses are common and already documented in the scientific literature, others are original. The most interesting uses and aspects of the collected data are discussed below.

3.1. New phytotherapeutic reports

In Table 1 are reported all the species quoted by at least two informants. The table also cites the pharmaceutical reference in the monographs of the German Commission E, as well as whether or not a medical use of the species was reported in the most important ancient Greek and Roman medical or natural treatises of Dioscoride, Theophrastus, Galen, Pliny (Lenz, 1859; Benedum et al., 1994) and in the mediaeval 'Commentari' by the Tuscan physician Pietro Andrea Mattioli (1568).

The recorded data were also compared with those collected during field ethnobotanical research carried out in peninsular Italy after the 2nd World War (Bertagnon, 1955; Chiovenda-Bensi, 1955, 1957, 1960; Bandini, 1961; Barone, 1963; Lomagno and Lomagno Caramiello, 1970; Tammaro and Pietrocola, 1975; Tammaro, 1976; Gastaldo et al., 1979; Rando and Servettaz, 1979; Servettaz et al., 1979; Chicchiriccò et al., 1980; Corsi et al., 1981; Martini, 1981; Bellomaria, 1982; Bellomaria and Lattanzi, 1982; Capasso et al., 1982; Cappelletti et al., 1982; D'Andrea, 1982; Chimenti Signorini and Fumagalli, 1983; Martini, 1983; Bellomaria and Della Mora, 1985; Cappelletti, 1985; Leporatti et al., 1985a,b; Antonone et al., 1988; Coassini Lokar and Poldini, 1988; Guarrera, 1988; Leporatti and Pavesi, 1989, 1990; De Feo et al., 1992; De Feo and Senatore, 1993; Guarrera, 1994; Uncini Manganelli and Tomei, 1999) and to the standard treatise of the Italian medicinal flora (Gastaldo, 1987). Uncommon and interesting uses were recorded for *Ballota*, *Bryonia*, *Crocus*, *Parmelia* and *Prunus laurocerasus* spp. For these botanicals, the folk prescriptions

Table 1
Medicinal plants and medicinal foods reported by at least two informants in the upper Garfagnana

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Abies alba Miller (Pinaceae)	W, GAABI199	Abete	Resin	Digestive (aromatised grappa)	Aromatising grappa	●●●	4	Yes: 12243, +	Yes
Achillea millefolium L. (Compositae)	W, GAACH199	Millefoglie	Flowers	Diaphoretic (infusion)	Soups (with other wild greens)	No	8	Yes: 01102, +	Yes
Aesculus hippocastanum L. (Hippocastanaceae)	W, GAAES199	Castagno d'India	Fruits	Against colds and other infections of the respiratory tract (ritual: carrying fruits in the trouser-pocket)	–	No	17	Yes: 01136, +	Yes
Aethusa cynapium L. (Umbelliferae)	W, GAAET99	Cicuta	Leaves	Diaphoretic, in relation to intestinal inflammations (infusion) #	–	No	4	No	Yes (the species was probably not distinguished from *Conium maculatum*)
Allium cepa (Liliaceae)	C, GAALL199	Cipolla	Bulb	Bechic (decoction); 'Blood cleansing' (eaten raw, cooked, or as condiment)	Raw in mixed salads, roasted, condiment	●●	35	Yes: 02815, +	Yes

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Allium sativum L. (Liliaceae)	C, GAALL299	Aglio	Bulb	Hypotensive (cold macerate or as condiment); Anti-helmintic; Against the 'evil eye', witches and also the 'buffardello', a kind of good, but troubling spirit (necklaces made by fresh cloves)[b]	Condiment	●●●	76	Yes: 04792, +	Yes
Allium vineale L. (Liliaceae)	W, GAALL399	Aglio selvatico	Whole plant	Against the 'evil eye'[b]	Condiment	●	5	No	Yes (but not distinguished from other species of wild garlic)
Apium nodiflorum L. (Umbelliferae)	W, GAAPI399	Crescione	Aerial parts	Diuretic (eaten raw); Against abdominal pains, also in veterinary use (infusion); Digestive (fresh juice)	Raw in salads	●●	21	No	No

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Arctium lappa L. (Compositae)	W, GAARC199	Parenti	Aerial parts; root	'From the poisons cleansing', digestive (boiled or infusion of the aerial parts or decoction of the root)	Boiled (stems and leaf-stalks)	●	3	No	Yes
Artemisia absinthium L. (Compositae)	W, C, GAART199	Erbo bon; Erbo bono	Aerial parts	Digestive, also in veterinary (infusion or aromatised wine or grappa); For weaning (external application of the fresh leaves on the mother's breast)[b]	Aromatising wine and grappa	●●●	33	Yes: 00349, +	Yes
Asparagus acutifolius L. (Liliaceae)	W, GAASP199	Asparago selvatico	Shoots	Diuretic (cooked)	Boiled	●	3	No	Yes
Ballota nigra L. (Labiatae)	W, GABAL199	Erbo moro	Leaves	Against wounds and sprains (externally in poultice)	–	No	5	No	Yes

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Beta vulgaris spp. *maritima* (L.) Acrcang. and *Beta vulgaris* spp. *vulgaris* L. (Chenopodiaceae)	W, GABET199 and C, GABET299	Bieta selvatica; Bieta; Bietola	Leaves	'Intestine cleansing' (cooked)	Boiled, then stewed or in omelettes, or in stuffing for pies or tortelli	●	8	No	Yes
Betula pendula Roth (Betulaceae)	W, GABET399	Betulla	Bark and sap	Against cold, internal use; Against alopecia, external use (decoction of the bark, than adding sap)	–	No	3	Yes: 00958, +	Yes
Borago officinalis L. (Boraginaceae)	W, GABOR199	Boragine; Buragine	Aerial parts	Against stomach-ache; 'Intestinal cleansing' (cooked)	Fried, boiled, then stewed or stuffing for pies and tortelli	●●	12	Yes: 49052, −	Yes
Brassica oleracea spp. *robertiana* (Gay) Rouy et Fouc. (Cruciferae)	W, GABRA199	Cavolo di San Viano	Leaves	As a good omen (eating a little piece of the raw leaf)[b]	Snack	●	5	No	No

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Brassica oleracea spp. *oleracea* var. a*cephala* DC. f. *serotina* (Cruciferae)	C, GABRA299	Cavolo nero	Leaves	Antirheuma; Vulnerary; Skin antiseptic (external application of fresh leaves); Depurative (cooked)	Boiled, soups	●	10	No	Yes (but not this variety)
Bryonia dioica Jacq. (Cucurbitaceae)	W, GABRY199	Colacci; Erbo dei bisci; Zucca matta	Root	Diuretic[b]; To 'reinforce bones' (cold macerate)[b]; Anti-sciatica (poultice prepared from prolonged boiling of cubes of the root in a small amount of water)[b]	–	No	15	Yes: 03042, −	Yes
			Young shoots	–	Boiled	No		–	–
Bunias erucago L. (Cruciferae)	W, GABUN199	Sportavecchia	Young aerial parts	Depurative, mild laxative (cooked)	Boiled, soups (with other greens)	●	9	No	No
Buxus sempervirens L. (Buxaceae)	C, W, GABUX199	Bussolo; Verde	Aerial parts	As a good omen (burning a bundle of the aerial parts)[b]	–	No	9	No	Yes

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Calamintha nepeta (L.) Savi (Labiatae)	W, GACAL199	Nepitella; Nipitella; Nipotella	Leaves	Digestive (as condiment); Bechic (infusion or fumigations)	Condiment for mushrooms, vegetables and sauces	●	51	No	Yes
Campanula rapunculus L. (Campanulaceae)	W, GACAM199	Raponzolo	Leaves and roots	Depurative (raw in salads); Laxative (boiled)	Salads, boiled	●●	30	No	No
Capsicum annuum L.[a] (Solanaceae)	C, GACAP199	Zenzero; Peperoncino	Fruits	Digestive (condiment); Against the'evil eye' (necklaces made by dried fruits)[b]	Condiment	●	8	Yes: 49003, + –	
Castanea sativa Miller (Fagaceae)	C, GACAS199	Castagno	Leaves	Bechic (infusion); Against sores (external poultice)	As a case for home made pies	No	5	No	No
			Fruits	Bechic ('vinata': polenta made with flour of chestnuts and novel wine)	Boiled, roasted, dried; Flour (ground dried chestnuts): pancakes, polenta	●●●	16	No	Yes

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Ceterach officinarum DC (Aspleniaceae)	W, GACET199	Felcina	Aerial parts	Depurative (infusion)	–	No	3	No	Yes? (maybe not distinguished from *Asplenium* spp.)
Chelidonium majus L. (Papaveraceae)	W, GACHE199	Latte Fabio	Juice	Against warts (external applications)	–	No	12	Yes: 01141, +	Yes
Chenopodium bonus-henricus L. (Chenopodiaceae)	W, GACHE199	Spinacio che fa in montagna; Spinacio selvatico	Leaves	'Intestine cleansing' (cooked)	Boiled, as stuffing for pies and tortelli	●●	8	No	Yes
Cichorium intybus L. (Compositae)	W, GACIC199	Radicchio di campo; Radicchio selvatico	Leaves	'Blood cleansing' (raw or cooked)	Salads, boiled and/or stewed	●●●	36	Yes: 49019, +	Yes
Citrus limon (L.) Burm. f. (Rutaceae)	C, GACIT199	Limone	Fruits	Against diarrhoea (decoction)	Condiment	●	13	No	Yes
Clematis vitalba L. (Ranunculaceae)	W, GACLE199	Vezzadro	Young shoots	'Blood cleansing' (cooked); Against the 'evil eye' (decoction, baths)[b]	Boiled, than fried with scrambled eggs in omelettes	●●	23	No	Yes
Cornus mas L. (Cornaceae)	W, GACOR199	Corniolo; Crognolo	Fruits	Anti-diarrhoeic (raw, jams); Digestive (liqueurs)	Raw, jams, liqueurs	●	11	No	Yes

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Crepis capillaris (L.) Wallr. (Compositae)	W, GACRE199	Cassella; Cassellola; Tassella; Tassellola	Âerial parts	'Blood and intestinal cleansing' (eaten raw or cooked)	Salads, boiled, soups (with other wild greens)	●	17	No	No?
Crocus napolitanus Mord. Et Loisel. (Liliaceae)	W, GACRO199	Bucaneve; Croco	Flower buds, flowers	Against lice (external poultice)[b]	Snack	No	5	No	No
Cydonia oblonga L. (Rosaceae)	C, W, GACYD199	Melo cotogno	Fruits	Against diarrhoea	Jams	●●	13	No	Yes
Cynara cardunculus L. spp. *cardunculus* var. *altilis* DC	C, GACYN199	Cardo; Gobbo	Leaf-stalks	'Liver cleansing'	Boiled, then eventually fried or as timbales	●	8	Yes	Yes
Cynodon dactylon (L.) Pers. (Graminae)	W, GACYN199	Gramigna; Sciambia	Stems, Rhizome	Diuretic (infusion)	–	No	5	No	Yes
Daucus carota L. (Umbelliferae)	W, GADAU199	Cova; Covetta; Pastineggio; Pastinella	Leaves	Depurative (raw or cooked); Diuretic (infusion)	Salads, boiled, soups	●	10	No	Yes
Echium italicum L. (Boraginaceae)	W, GAECH199	Boragine; Buragine	Aerial parts	Against abdominal pains; 'Intestinal cleansing' (cooked aerial parts)	Fried, boiled, then stewed, or in stuffing for pies and tortelli	●●	8	No	Yes
Equisetum arvense L. (Equisetaceae)	W, GAEQU199	Coda d'asino	Sterile shoots	Depurative	–	No	7	Yes: 01109, +	Yes

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Euphorbia cyparissias L. (Euphorbiaceae)	W, GAEUP199	Erbo della rogna	Juice	Against warts	–	No	6	No	Yes
Euphorbia lathrys L. (Euphorbiaceae)	W, GAEUP299	Cacabuzzi	Stems	Purgative, especially in veterinary (decoction)[b]	–	No	13	No	Yes
Ficus carica L. (Moraceae)	C, W, GAFIC199	Fico	Leaves	Against warts (fresh juice)	As a case for home-made pies	No	6	No	Yes
Foeniculum vulgare Miller spp. *vulgare* (Umbelliferae)	W, GAFOE199	Finocchio selvatico; Anacini	Fruits	Digestive: Carminative (decoction or as condiment); Against the 'evil eye', also in veterinary (ritual: inside a piece of red cloth hung on one's clothing or on animals)[b]	Condiment (especially with fried pigs liver and boiled chestnuts)	●●	78	Yes: 00125, +	Yes
Fraxinus ornus L. (Oleaceae)	W, GAFRA199	Frassino	Bark	Against haemorrhoids (decoction); Veterinary use (against chicken infections)	–	No	9	No	Yes

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Gentiana kochiana Perr. et Song. (Gentianaceae)	W, GAGEN199	Genziana	Leaves, Stems, roots	Aperitif (cold macerate); Digestive (infusion or root eaten raw); Against stomachache (infusion)	Snack (raw root)	●●●	7	No	No
Helichrysum italicum (Roth) Don (Compositae)	W, GAHEL199	Canugiolo; Canugioro	Aerial parts	Against colds and as Bechic (infusion, fumigations, as pillow filling[b]); As a good omen (burning dried plant)[b]	–	No	31	No	Yes
Helleborus foetidus L. (Ranunculaceae)	W, GAHEL199	Erba nocca; Puzzone	Leaves, juice	Antiseptic; Insect repellent (external application of the decoction); Against warts (fresh juice); Veterinary use (against a pig infection called 'red illness', antiseptic)[b]	–	No	11	No	Yes

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Helleborus viridis L. (Ranunculaceae)	W, GAHEL299	Cavolo morto; Risino	Leaves	Skin anti-inflammatory; Anti-haemorrhoids (extern application of the fresh leaves)	–	No	7	No	Yes
Hordeum vulgare L. (Ranunculaceae)	C, GAHOR199	Orzo	Fruits	Anti-diarrhoeic; Tonic (decoction of the roasted fruits)	As a type of coffee (roasted and ground fruits)	●	10	No	Yes
Humulus lupulus L. (Cannabaceae)	W, GAHUM199	Lopporo; Luppolo; Lupporo	Young shoots	Depurative (cooked), Digestive (aromatised grappa)	Boiled and in omelettes, aromatising grappa	●	8	Yes: 00128, +	Yes
Hypochoeris radicata L. (Compositae)	W, GAHYP199	Grassaporci; Ingrassaporci	Young aerial parts	Depurative (mixed salads or boiled)	Raw in mixed salads, boiled and/or stewed, soups	●●	13	No	Yes
Juglans regia L. (Juglandaceae)	C, W, GAJUN199	Noce	Leaves	Diaphoretic (decoction, than external application of a piece of cloth soaked in the decoction on the forehead)	–	No	8	Yes: 01070, +	Yes

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
			Green fruits	Digestive ('nocino')	'Nocino' (a kind of home-made liqueur)	●●	15	No	Yes
			Seeds	–	Eaten raw, pressed to obtain oil[b], pancakes, in bread[b]	No		–	–
Juniperus communis L. (Cupressaceae)	W, GAJUN199	Ginevro; Ginepro; Zinepro	Galbulus	Against muscular pains (olive oil macerate); Digestive (as condiment)	Condiment for meat	●	46	Yes: 00336, +	Yes
			Stems and leaves	Against 'bad spirits' (burning the dried plant)[b]	–	No	No	No	No
Lactuca serriola L. (Compositae)	W, GALAC199	Lattuccio	Leaves	Against warts (fresh juice); Depurative, 'intestine cleansing' (raw leaves)	Salads	●●●	8	No	No? (maybe not distinguished from other similar Compositae species)
Leontodon tuberosus L. (Compositae)	W, GALEO199	Castracani; Centocoglioni	Leaves	'Blood cleansing' (cooked)	Boiled (with other greens)	●	5	No	No

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Laurus nobilis L. (Lauraceae)	W, GALAU199	Alloro; Orbaco	Leaves	Aperitif, Digestive (infusion and as condiment)	Condiment for sauces, boiled chestnut and meat	●	16	No	Yes
Lilium candidum L. (Liliaceae)	C, GALIL199	Giglio; Giglio di Sant'Antonio	Bulb	Against shingles (external poultice prepared by frying the bulb in olive oil)	–	No	10	No	Yes
Linum usitatissimum L. (Linaceae)	C, GALIN199	Lino	Seeds	Against colds and sore throats (external application of a compress prepared by boiling the seeds in wine)	Boiled in water as a type of porridge[b]	No	18	Yes: 00180, +	Yes
Lippia triphylla (L'Hér.) O. Kuntze[a] (Verbenaceae)	C, GALIP199	Cedrina; Erba Luisa	Leaves	Digestive (infusion and aromatised liqueurs); For weaning (external application of the fresh leaves on the mother's breast)[b]	Aromatising liqueurs	●●	17	No	–

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Malus domestica Borkh. (Rosaceae)	C, W, GAMAL199	Melo; Melo casciano	Fruits	Reconstituent; Mild laxative (especially a local variety, 'mela casciana')	Eaten raw, roasted	●●	14	No	Yes
Malva sylvestris L. (Malvaceae)	W, GAMAL199	Malva; Malvia	Leaves	Against toothache (poultice prepared by crashed fresh leaves or gargles of the infusion); External anti-inflammatory (foot-baths); Bechic: against colds; Diaphoretic; Anti-haemorrhoids (infusion); Against abdominal pains (infusion); Mild laxative (soups)	Soups	●	65	Yes: 05108, +	Yes

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Matricaria chamomilla L. (Compositae)	W, GAMAT199	Camomilla	Capitolum	Analgesic and light sedative (infusion); Digestive; 'Intestine cleansing' (infusion or aromatised liqueurs)	Aromatising liqueurs	●●●	54	Yes: 00167, +	Yes
Melissa officinalis L. (Labiatae)	W, GAMEL199	Menta limona; Melissa	Leaves	Against abdominal pains (infusion)	Condiment for sauces, meat, omelettes	No	9	Yes: 01125, +	Yes
Mentha sp. pl. (Labiatae)	W, C, GAMEN199	Menta	Leaves	Digestive (infusion and liqueurs); Mouth and throat antiseptic (infusion)	Aromatising liqueur and omelettes	●●	18	Yes: 00250, +	Yes
Mespilus germanica L. (Rosaceae)	W, C, GAMES199	Nespolo	Fruits	Anti-diarrhoeic (cooked fruits)	Raw (after a natural fermentation on straw), cooked	●●●	6	No	Yes
Ocimum basilicum L. (Labiatae)	C, GAOCI199	Basilico	Leaves	Digestive (aromatised liqueurs)	Aromatising liqueur	●●	8	No	Yes

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Origanum vulgaris L. (Labiatae)	W, GAORI199	Origano	Aerial parts	Against sore throat (infusion); Digestive (condiment)	Condiment	●	7	No	Yes
Olea europaea L. (Oleaceae)	C, GAOLE199	Olivo	Leaves	Against the 'evil eye' (raw leaves); Against 'bad spirits' (burned)[b]	–	No	16	Yes: 03866, −	Yes
			Fruits	Vulnerary; against burns (external application of oil); Antiotalgic (instillation of hot oil); Mild laxative (cooked raw fruits and oil)	Cooked, pickled, oil	●	25	Yes: 00235, −	Yes
Oxalis acetosella L. (Oxalidaceae)	W, GAOXA199	Asprini	Leaves	Thirst quenching (raw)	Snack	●	7	No	Yes
Panicum miliaceum L. (Graminaceae)	C[b]	Miglio	Fruits	Reconstituent (cooked)[b]	Boiled in milk	●	5	No	Yes

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Papaver rhoeas L. (Papaveraceae)	W, GAPAP199	Belle bimbe; Papavero; Pupattole; Rosolette	Young aerial parts	Depurative (cooked)	Boiled, soups (with other wild greens)	●	11	No	Yes
Parietaria diffusa M. et K. (Urticaceae)	W, GAPAR199	Gamborosso; Tosanello	Aerial parts	Diuretic; 'Blood cleansing' (infusion); Skin anti-inflammatory (freshly crushed plant); Skin antiseptic (external application of the decoction); Against sore throat (infusion and/or gargles); Against sprains (poultice of the freshly crushed plant in raw scrambled eggs)	–	No	45	No	Yes
Parmelia sp. (Parmeliaceae)	W, GAPAR199	Alichene	Whole plant	'Liver cleansing'; bechic (decoction)	–	No	4	No	Yes

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Petasites hybribus (L.) Gaertn. (Compositae)	W, GAPET199	Caffarella; Farfalla; Gaffarello	Leaves	Hypotensive (infusion)	–	No	3	Yes: 49036, −	Yes
Phaseolus vulgaris L. (Leguminosae)	C, GAPHA199	Fagiolo	Leaves	Insect repellant (raw leaves)	–	No	2	No	Yes
			Seeds	Anti-warts (ritual use: the beans were put on the wart for a while, then removed and conserved in a dark place until putrefied, at which point the wart was to have disappeared)[b]	Boiled, soups	No	6	No	Yes

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Plantago lanceolata L. and *Plantago major* L. (Plantaginaceae)	W, GAPLA199 and GAPLA299	Lingua di vacca; Orecchia d'asino; Pe' d'asino; Tirafila; Tirafilo	Leaves	Skin antiseptic (local application of the leaves); Against wounds (poultice made with fresh leaves, bread and milk); Against toothache (local application of the leaves) Depurative (cooked)	Boiled, soups (in mixtures with other greens)	●	39	Yes: 00741, +	Yes
Prunus avium L.	C, W, GAPRU199	Ciliegio	Fruits	Mild laxative	Raw, jams	●	8	No	Yes
Prunus cerasus L. var. *austera* L. and *Prunus cerasus* L. var. *cerasus* (Rosaceae)	C, W, GAPRU299	Ceragio	Fruits	Mild laxative	Raw, jams	●	7	No	Yes

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Prunus cerasus var. *acida* Achers. et Graebn. (Rosaceae)	C, W, GAPRU399	Marasco	Fruits	Digestive ('maraschino': aromatised and fermented liqueur)	Aromatising 'maraschino'	●	10	No	Yes
Prunus lauro-cerasus L.[a] Rosaceae)	W, C, GAPRU499	Agoro; Lauro	Fruits	Against headache (aromatised and fermented liqueurs); Hypotensive (eaten raw, jams)	Raw, liqueurs, jam	●●	8	No	–
Prunus spinosa L. (Rosaceae)	W, C, GAPRU599	Palline bócche; Prignolo; Pruno; Strozzapreti; Uva bócca	Fruits	Against diarrhoea (raw and jams); Digestive (liqueur)	Raw, jams, liqueur	●	6	No	Yes
Pyrus communis L. (Rosaceae)	C, GARPYR199	Pero	Fruits	Mild laxative; Reconsituent; Anti-diarrhoeic (especially a local variety, 'pera caravella')	Eaten raw, roasted	●	15	No	Yes

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Quercus cerris L. (Fagaceae)	W, GAQUE199	Quercia; Cerro	Cambium	Diaphoretic, especially in relation with intestinal inflammation (decoction)	–	No	5	Yes: 03546, +	Yes
			Seeds	–	A 'coffee' (made from dried or roasted ground seeds)[b]	No		–	–
Reichardia picroides L. (Compositae)	W, GAREI199	Sassello; Sassaiolo	Young aerial parts	Depurative (raw or boiled)	Raw in salads, boiled	●	17	No	No? (probably not distingished from other Compositae species)
Rosa canina L. sensu Bouleng.	W, GAROS199	Rosa	Young shoots	Depurative, 'intestine cleansing' (infusion or eaten raw)	Snack (raw)[b], boiled, soups	●●	5	No	No
			Petals	Against eye inflammations (infusion); As a good omen (consecrated petals eaten as snack)[b]	Snack	●	4	No	No

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
		Peterlenga; Pettellenga; Pittellenga	Pseudofruits	Refreshing (infusion, snack)	Snack, jams	●	17	Yes: 00739, −	Yes
Rosmarinus officinalis L. (Labiatae)	GAROSM199	Tremarino	Leaves	Against colds, bechic (decoction in milk); Digestive (condiment)	Condiment for meat	●	13	Yes: 01228, +	Yes
Rubus idaeus L. (Rosaceae)	W, GARUB199	Lampone	Leaves	Vulnerary (external application of fresh leaves)	–	No	5	No	No
			Fruits	–	Raw, jams, syrups	No		–	–
Rubus ulmifolius Schott (Rosaceae)	W, GARUB299	Mora	Fruits	Bechic (raw, jams)	Raw, jams	●●	21	No	Yes
		Scepe; Spina; Rovo	Young shoots	–	Boiled, than in omelettes with scrambled eggs	No		–	–
Rumex acetosa L. and *Rumex acetosella* L. (Polygonaceae)	W, GARUM199 and GARUM299	Erba putta; Pan e vino; Zezzora	Stems, leaves	'Blood cleansing' (infusion); Against thirst (eaten raw as snack)	Snack	●●	6	No	Yes

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Rumex crispus L. (Polygonaceae)	W, GARUM399	Romicia; Romice; Rombicia	Leaves	Vulneray; against burns and skin-inflammations (external application of the fresh leaves)	Boiled, soups (in mixtures with other greens)	No	4	No	Yes
Ruta chalepensis L. (Rutaceae)	W, GARUT199	Ruta	Aerial parts	Aperitif, digestive (infusion, aromatised grappa)	Aromatising grappa	●●●	7	No	Yes
Salvia officinalis L. (Labiatae)	C, GASAL199	Salvia	Leaves	Smooth anti-inflammatory (gargles); Tooth antiseptic (application of the fresh leaves); Digestive (condiment)	Condiment for sauces and meat	●	19	Yes: 00293, +	Yes
Sambucus nigra L. (Caprifoliaceae)	W, GASAM199	Sambuco	Leaves	Antiseptic, against tooth-ache (external application of the fresh leaves); Anti-inflammatory (infusion)	–	No	6	No	Yes

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
			Flowers	Digestive (infusion of the dried flowers)	–	No	5	Yes: 00146, +	Yes
			Fruits	'Cleansing' (syrups)	Jams, syrups	●●	21	No	Yes
Satureja montana L. (Labiatae)	W, GASAT199	Timo	Aerial parts	Digestive (infusion, cooked foods); Against 'bad spirits' (dried plants left hanging in bedrooms)[b]	Condiment for sauces	No	7	No	Yes
Sedum reflexum L. (Crassulaceae)	W, GASED199	Erbo dell'Acensione; Parrucca	Whole plant	As a good omen (the plant was collected on Ascension day; brought into the home where its flowering was seen as a good omen, its death as bad forecast)[b]	–	No	22	No	No

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Silene vulgaris (Moench) Garcke (Caryophyllaceae)	W, GASIL199	Cucina; Erba striscia; Strigiola: Strisciola	Young shoots and leaves	'Cleansing' (cooked leaves)	Boiled, soups (with other greens), stuffing for tortelli	●	18	No	Yes
Solanum nigrum L. (Solanaceae)	W, GASOL199	Cacabuzzi	Fruits	Purgative, especially in veterinary[b] (decoction)	–	No	4	No	Yes
Solanum tuberosum L.[a] (Solanaceae)	C, GASOL299	Patata	Tubers	Against burns, skin inflammations (external application of the fresh cut tuber)	Boiled, roasted, fried, soups, pies	No	6	No	–
Sonchus asper L. (Compositae)	W, GASON199	Cicerbita; Cicerbica; Riccino; Riccetto	Leaves	Depurative, 'intestine cleansing' (raw); Against alopecia (raw)	Salads, boiled, soups (with other greens)	●	19	No	Yes
Sorbus domestica L. (Rosaceae)	W, GASOR199	Sorbo; Sorbolo	Fruits	Against diarrhoea (raw, jams)	Raw (after a natural fermentation on straw), jams	●	3	No	Yes

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Taraxacum officinale Web. (Compositae)	W, GATAR199	Dente di leone; Piscialletto	Leaves	'Blood cleansing'; 'To decrease the blood sugar' (eaten raw or boiled)	Salads, boiled, soups (with other greens)	●●	20	Yes: 09148, +	Yes
Teucrium chamaedrys L. (Labiatae)	W, GATEU199	Querciola	Aerial parts, root	'Blood cleansing', Digestive; Hypotensive; Anti-phtisis; Against boils (infusion)	–	No	9	No	Yes
Thymus pulegioides L. (Labiatae)	W, GATHY199	Pepolino; Peporino; Pepurino	Aerial parts	Against cold; Bechic (infusion); Digestive (cooked foods)	Condiment for sauces, meat	●	7	No	Yes
Tilia platyphyllos Scop. (Tiliaceae)	W, GATIL199	Tiglio	Flowers	Against colds, sore throat, stomach-ache, sedative, 'refreshing' (infusion)	–	No	16	Yes: 00182, +	Yes
			Leaves	Against the 'evil eye' (baths with the infusion)	–	No	4	Yes: 05893, −	Yes

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Triticum dicoccon Schubler (Graminaceae)	C, GATRI199	Farro	Fruits	Reconstituent (cooked)	Boiled with water or milk	●●	9	No	Yes
Triticum aestivum L. (Graminaceae)	C, GATRI299	Grano	Fruits	Against sprains (poultice made with flour and raw scrambled eggs)	Home-made pasta, pancakes, bread	No	6	No	Yes
Urtica dioca L. and *Urtica urens* L. (Urticaceae)	W, GAURT199 and GAURT299	Ortica	Whole plant	Against alopecia (local application of infusions of aerial parts or root); Against tooth-ache and as smooth antiseptic (gargles); Anti-inflammatory, 'intestine cleansing' (cooked); Against rheumatism and arthritis (external application of the fresh aerial parts)	Boiled, soups, stuffing for tortelli	●	65	Yes: 49020, +	Yes

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Vaccinium myrtillus L. (Ericaceae)	W, GAVAC199	Mirtillo; Bagola	Fruits	Against alopecia; to improve eye performances (eaten raw)	Raw, jams, syrups	●●	24	Yes: 07987, +	Yes
Valerianella carinata Loisel. (Valerianaceae)	W, GAVAL199	Gallina grassa; Gallinella; Pancagiolo; Pancagiotto	Young aerial parts	Depurative: Light sedative (eaten raw)	Salads	●	11	No	No
Verbascum thapsus L. (Scrophulariaceae)	W, GAVER199	Tasso bardasso	Leaves, roots	Against wounds (external application of the leaves); Veterinary use (root: against pig infections); Tonic (leaves: smoked with tobacco)	–	No	9	No	Yes

Table 1 (*Continued*)

Scientific name	Wild (W) or cultivated (C), voucher specimen	Local names	Part used	Medicinal popular use	Food popular use	Role as food-medicine[c]	Number of mentions	Monograph of the German Commission E (number; +, positive; −, negative)	Quotations in Mediterranean historical medical treatises
Vitis vinifera spp. *vinifera* (Vitaceae)	C, GAVIT199	Vite	Fruits	Against colds and sore throat (boiled wine); Antiseptic (vinegar); Digestive; Antiseptic (grappa)	Wine, vinegar, grappa	●●	31	No	Yes
Zea mays L.[a] (Graminaceae)	W, GAZEA199	Granturco; Formentone	Fruits	Bechich (external cataplasms of polenta)	Flour: polenta	No	8	No	–
			Young cobs		Roasted	No		–	–

[a] Not native in the studied region.
[b] Disappeared from cultivation/usage.
[c] Role as a food medicine: ●, low; ●●, medium; ●●●, high.

collected in the studied area are also unknown both in the old medical treatises and in the modern phytopharmacology (Evans, 1996; Wichtl, 1997).

3.1.1. *Ballota nigra*

The external use of the fresh leaves of black horehound against wounds, and in poultice to cure sprains, should be further analysed. Phytochemically this species has not been well studied, although given the chemotaxonomic closeness to the genus *Marrubium*, one might suppose a synergism between labdane-type diterpens (as marrubin, which was already isolated in black horehound, Bruneton, 1995) and the cinnamic acid derivatives (Wichtl, 1997). Recently, different phenylpropanoids (among them the new compound ballotetroside) were isolated from the aerial parts of the plant and showed antibacterial activity (Seidel et al., 1997, 1998; Didry et al., 1999). Phenylpropanoids are known to have anti-inflammatory properties (Harborne and Baxter, 1993).

3.1.2. *Bryonia dioica*

The use of the poisonous root of bryony was well known in all old medical texts until the last century (a broad description of its properties is given in Cazin, 1868).

Nevertheless, it is interesting that in upper Garfagnana an ancient role for this species as a diuretic (macerated in cold water) and externally in a poultice against sciatica, as well as the use of its young shoots for food, has been maintained. Recently *Bryonia* extracts, traditionally still used in ethnomedicinal practices in Jordan and Armenia, showed antimicrobial and antidiabetic activities (Karageuzyan et al., 1998; Mahasneh and El-Oqlah, 1999). Cucurbitacine glycosides of bryony are well known (Bruneton, 1995), although their analgesic and anti-inflammatory actions have not yet been well investigated.

The food use of the young shoots, recorded in the studied area, seems to represent a vestige from archaic times and was recorded by both Dioscoride and Pliny (Lenz, 1859).

3.1.3. *Crocus napolitanus*

Of the external use of a poultice of *C. napolitanus* flowers as an antiseptic against lice, it is only possible to find a partial ethnobotanical confirmation in a small, mountainous area in northeastern Italy (Cappelletti, 1985), where the entire flowering plant would have been used for the purpose. Moreover, in Garfagnana, flower buds were also used and consumed as snacks (Pieroni, 1999a). Despite the very complex use of saffron (*Crocus sativus*) in the historical and folk medicine (and gastronomy) of many European and Near Eastern regions, phytochemically or biologically this genus has been scarcely investigated until now. The presence of carotinoid derivatives of crocetin-type and of picrocrocine and safranal (which have shown anti-cancer action, Escribano et al., 1996) are not able, alone, to explain the properties ascribed to the flowers of *Crocus* spp. Recently phenolic glucosides and γ-lactone glucoside were also isolated from the sprouts of *C. sativus* (Gao et al., 1999).

3.1.4. *Parmelia sp.*

A medicinal use for this lichen is quite rare and previous fieldwork recorded its bechic and anti-inflammatory properties (Uncini Manganelli and Tomei, 1995). We also recorded a cholagogue use ('liver cleansing') for its decoctions: such usage seems to be unknown in literature.

Lichens have played an important role in the old historical medicine and were indicated in lung and liver afflictions as well as menstrual complaints (Mattioli, 1568), while in Spanish popular medicine they were especially quoted against kidney and respiratory disorders (Gonzáles-Tejero et al., 1995). In the modern pharmacology lichen metabolites isolated from *Parmelia* spp. showed antiproliferative and cytotoxic activity in recent studies (Kumar and Müller, 1999a), inhibitory action against leukotriene B4 synthesis (Kumar and Müller, 1999b) and antimycobacterial properties (Ingolfsdottir et al., 1999).

3.1.5. *Lilium candidum*

The use in Garfagnana of the bulbs of the cultivated *L. candidum* in the form of a poultice prepared by frying the bulb in olive oil and apply-

ing this externally against shingles (*Herpes zoster*), and the evident success of this practice is interesting. This use was also recently recorded in other areas of northwestern Tuscany (Uncini Manganelli and Tomei, 1995). Lily bulbs and flowers were used in the past for many skin and articular complaints (Mattioli, 1568). However, only recently has phytochemical work been carried out specifically on *Lilium candidum* bulbs and eight spirostanol saponins (including four new compounds) and two furostanol saponins were identified (Mimaki et al., 1998). This should give some impulse to pharmacologists for further studies in order to understand better any possible antiviral action of *Lilium* spp. bulb extracts.

3.1.6. Prunus laurocerasus

The use in the studied area of the fruits of *P. laurocerasus* (established in Italy from Turkey in the 16th century); their consumption as snacks or their preparation in the form of home-made jams and liqueurs against head-ache and as a hypotensive, should prompt a re-evaluation of the role of the cyanogenic glycosides, which are contained in the leaves and seeds, especially of the species (Roth et al., 1994). Systematic phytochemical investigations of the laurel cherry drupes have not yet been carried out.

3.2. Medicinal plants as food medicine

About 60% of the recorded medicinal plants in the upper Garfagnana also play a role as food medicine.

A relevant role as food medicine was observed for home-made medicinal digestive spirits or aromatized grappas. Here the role as food plant (or rather consumption in a *food context*) is strongly surpassed by a medicinal function. In particular, *Artemisa absinthium*, *Ocimum basilicum*, *Matricaria chamomilla*, *Lippia tryphylla* and *Ruta chalepensis* aerial parts are normally used as aperitifs, stomachic or digestives. *A. absinthium* leaves were also used in the past to wean sucklings, by external application of the fresh leaves on the mother's breast; the very bitter taste of wormwood is perceived as 'healthy'. The vernacular name of the species: 'Erbo bono', meaning 'Good Herb', 'Tasty Herb' underlines this.

In a second group, which includes condiments, the role as food medicine is still considered relevant. Local wild and/or cultivated species are used to flavour food preparations and a digestive or carminative action is normally recognised.

Typical of the studied region is the gathering of *Calaminta nepeta*, *Foeniculum vulgare* spp. *vulgare*, *Satureja montana* and *Thymus pulegioides* (all growing wild), used to flavour and make more digestible heavy preparations, such as traditionally cooked lamb, pig liver, boiled chestnuts or beans.

In some cases these species are also used separately as medicinal herbs in the form of infusions or decoctions with the same aims.

A third group comprises the 'cleansing' wild greens; they represent the most interesting class of the recorded food medicine. They are gathered especially in spring and normally eaten raw in salads or in boiled mixtures, sometimes also in the form of vegetable soups and their food medicinal role is recognisable. Their 'cleansing' action, sometimes more narrowly described as 'blood cleansing', 'intestine cleansing' and 'liver cleansing' is only approximately translatable as a diuretic or mild laxative or cholagogue properties. In the folk culture of the studied territory 'cleansing' is also translatable as depurative, tonic, refreshing, roborant, or remineralising.

'Cleansing' attributes were reported in particular for *Bunias erucago*, *Borago officinalis*, *Apium nodiflorum*, *Campanula rapunculus*, *Chenopodium bonus-henricus*, *Cichorium intybus*, *Crepis capillaris*, *Echium italicum*, *Hypochoeris radicata*, *Lactuca serriola*, *Leontodon tuberosus*, *Malva sylvestris*, *Reichardia picroides*, *Silene vulgaris*, *Sonchus asper*, *Taraxacum officinale* and *Valerianella carinata*.

A few of these species were ignored both by the old medical treatises (which considered them 'only' food supplements) and the divergence between the historical official medicine and folk medicine seems to become quite relevant in this field. Different species are also not quoted by the modern pharmacognosy and phytochemistry. Nevertheless, correct recording of the folk medicinal cosmology in upper Garfagnana ought to include these botanicals.

Among this group and the above quoted group of condiments we recorded the highest informant consensus values, which confirms a widespread popular recognition of these species. On the quantitative data, a central role was played by the method adopted in carrying out the research, which considered many old informants and not only special knowledge people (healers).

More attention should be paid in the ethnobotanical methodology to these aspects, especially in southern European areas, where folk practices have a widespread character and the 'healers' have never represented — at least since the last two centuries — the hinge of local ethnomedicine.

Moreover, ethnobotanical surveys about wild food species traditionally gathered in Mediterranean areas are very rare (Paoletti et al., 1995; Ertuğ-Yaraş, 1997) and further studies are necessary to quantify the eventual biological/pharmacological implications of their consumption. Evidence that phytochemicals ingested in traditional diets play a role as modulators in human metabolism has been in any case already well discussed (Johns and Chapman, 1995; Johns, 1996).

Another aspect includes traditional food preparation, which is considered to be healthy and sometimes also able to treat minor troubles. Perceptions as food-medicine are sometimes remarkable; as in the case of 'vinata', for example; a sort of chestnut flour polenta, boiled in new wine (instead of water or milk, with which polenta is normally prepared), which is considered very active in curing coughs and other bronchial afflictions.

A separate 'chapter' comprises the snacks, consumption of which in this 'non-institutional' form is becoming rare today. This is the sort of consumption typically carried out by women or children, during little breaks from chores, or even concurrent with other activities.

Examples are *Oxalis acetosella* and *Rumex acetosella*, consumed against thirst, of *Rosa canina* pseudofruits and stems taken as a 'cleansing' agent, and of the root of *Gentiana kochiana*, taken as a digestive.

3.3. Ritual medicinal plants

Finally we recorded some species belonging to ritual botanicals, whose 'medicinal' use consisted of protecting houses, families and villagers against the 'evil eye', bad influences or spirits and illnesses.

This type of usage has very nearly disappeared. If the action of garlic cloves and the introduced cayenne pepper fruits, and juniper aerial parts against the 'evil eye' and as good omens, is well-known in other European areas (Hoefler, 1908; Hänsel et al., 1993; Teti, 1995), it has not previously been reported about a specific use of the aerial parts of *Buxus sempervirens*, *Clematis vitalba*, *Brassica oleracea* spp. *robertiana* (an endemic subspecies of wild kale), *Satureja montana* and *Foeniculum vulgare* spp. *vulgare* fruits. Peculiar ritual uses of *Sedum reflexum* and *Aesculus hippocastanum* have been already described in the near upper Versilia (Corsi et al., 1981).

The plants which are reputed to be 'active' are all wild species; perhaps morphological aspects could have played a role (very sharp leaves in juniper and *Satureja* spp.), but for other species historical reasons might be postulated, as in the case of *Buxus* and *Foeniculum* for example. Upper Garfagnana was dominated for long periods by Longobards, who left many traces derived from the old Germanic mythology. In central Europe, *Buxus* was considered to have apotropaic properties (Hoffmann-Krayer and Bächtold-Stäubli, 1942), whilst wild fennel is well known to have had a ritual significance in old Greece and by the Romans (Rätsch, 1995).

3.4. Conclusion

From our ethnobotanical findings, more than 120 species represent the heritage of the folk medicine of the upper Garfagnana. If more systematic ethnobotanical field work is necessary in other Italian areas, especially in the field of food medicine, further phytochemical and phytopharmacological studies must be undertaken to investigate remaining unknown (or not yet sufficiently analysed) resources of Mediterranean popular pharmacopoeias.

For local communities, such as in upper Garfagnana, this research should stimulate the implementation of 're-collected' data inside concrete eco-sustainable interdisciplinary projects, involving natural, social, cultural and economic aspects.

Acknowledgements

Special thanks are due to all the informants of the 28 villages of the upper Garfagnana, who volunteered to share their precious experiences about medicinal plants; to the Comunità Montana della Garfagnana (Castelnuovo Garfagnana); to Umberto Bertolini (Piazza al Serchio); Orietta Bonini (Lucca); Antonella Ferri (Gramolazzo) and Anna Satti (Caprignana).

References

Antonone, R., De Simone, F., Morrica, P., Ramundo, E., 1988. Traditional phytotherapy in the Roccamonfina volcanic group, Campania, Southern Italy. J. Ethnopharmacol. 22, 295–306.

Bandini, A., 1961. Le piante della medicina tradizionale nell'Alta Valle di vara (Liguria Orientale). Webbia XVI (1), 143–163.

Barone, R., 1963. Le piante della medicina popolare nel territorio di Falconara e San Luciso (Calabria). Webbia XVII (2), 329–357.

Bellomaria, B., 1982. Le piante di uso popolare nel territorio di Camerino (Marche). Arch. Bot. Biogeogr. Ital. 58 (3/4), 1–27.

Bellomaria, B., Della Mora, L., 1985. Novità nell'uso delle piante officinali per la zona di Matelica (Macerata) anche in confronto con altre zone delle Marche. Arch. Bot. Biogeogr. Ital. 61 (1/2), 51–81.

Bellomaria, B., Lattanzi, E., 1982. Le piante del territorio di Cupra Marittima (Marche) attualmente usate nella medicina popolare. Arch. Bot. Biogeogr. Ital. 58 (3/4), 1–19.

Benedum, J., Loew, D., Schilcher, H., 1994. Arzneipflanzen in der traditionellen Medizin. Kooperation Phytopharmaka, Bonn, Germany.

Bertagnon, E., 1955. Sulla flora medicinale della Liguria — Usi tradizionali dell'Alta Fontanabuona. Atti dell'Accademia Ligure di Scienze e Lettere 11, 200–214.

Bruneton, 1995. Pharmacognosy, Phytochemistry, Medicinal Plants. Lavoisier, Paris pp. 520–521; 606–607.

Capasso, F., De Simone, F., Senatore, F., 1982. Traditional phytotherapy in the Agry Valley, Lucania, Southern Italy. J. Ethnopharmacol. 6, 243–250.

Cappelletti, E.M., 1985. Antifungal, parasiticide, insecticide, and anthelminthic herbal remedies in the traditional medicine of North-Eastern Italy. Curare 3, 39–47.

Cappelletti, E.M., Trevisan, R., Caniato, R., 1982. External antiheumatic and antineuralgic herbal remedies in the traditional medicine of north-eastern Italy. J. Ethnopharmacol. 6, 161–190.

Cazin, F.-J., 1868. Traité pratique et raisonné des plantes médicinales indigènes. P. Asselin, Paris, France, pp. 217–221 (Reprint éditions de l'envol, 1997, Mane, France).

Chicchiriccò, G., Cifani, M.P., Frizzi, G., Tammaro, F., 1980. Phytotherapy in the Subequana Valley, Abruzzo, central Italy. J. Ethnopharmacol. 2, 247–257.

Chimenti Signorini, R., Fumagalli, M., 1983. Indagine etnofarmacobotanica nella Valtournanche (Valle d'Aosta). Webbia 37 (1), 69–94.

Chiovenda-Bensi, C., 1955. Piante medicinali nell'suo tradizionale della Valle d'Ossola. Atti dell'Accademia Ligure di Scienze e Lettere 11, 32–52.

Chiovenda-Bensi, C., 1957. Tradizioni e usi fitoterapici popolari — La Valsesia. Atti dell'Accademia Ligure di Scienze e Lettere 13, 190–205.

Chiovenda-Bensi, C., 1960. Florula medicinale delle Cinque Terre. Webbia XV (2), 631–641.

Coassini Lokar, L., Poldini, L., 1988. Herbal remedies in the traditional medicine of the Venezia Giulia region (North East Italy). J. Ethnopharmacol. 22, 231–278.

Corsi, G., Gaspari, G., Pagni, A.M., 1981. L'uso delle piante nell'economia domestica della Versilia collinare e montana. Atti della Societa' Toscana di Scienze Naturali e Matematiche, Serie B 87, 309–386.

D'Andrea, M., 1982. Le piante officinali del Parco Nazionale d'Abruzzo e gli usi popolari di esse nell'Alta Valle del Sangro. Rivista Abruzzese 3, 157–175.

De Feo, V., Aquino, R., Menghini, A., Ramundo, E., Senatore, F., 1992. Traditional phytotherapy in the Peninsula Sorrentina, Campania, Southern Italy. J. Ethnopharmacol. 36, 113–125.

De Feo, V., Senatore, F., 1993. Medicinal plants and phytotherapy in the Amalfitan Coast, Salerno Province, Campania, Southern Italy. J. Ethnopharmacol. 39, 39–51.

Didry, N., Seidel, V., Dubreuil, L., Tillequin, F., Bailleul, F., 1999. Isolation and antibacterial activity of phenylpropanoid derivates from *Ballota nigra*. J. Ethnopharmacol. 67, 197–202.

Ertuğ-Yaraş, 1997. An ethnoarchaeological study of subsistence and plant gathering in Central Anatolia, Ph.D. Thesis, Washington University, St Louis, MO, USA.

Escribano, J., Alonso, G.L., Coca-Prados, M., Fernandez, J.A., 1996. Crocin, safranal and picrocrocin from saffron (*Crocus sativus* L.) inhibit the growth of human cancer cells in vitro. Cancer Lett. 100 (1-2), 23–30.

Etkin, N., 1994. Eating on the Wild Side. University Arizona Press, Tucson, AZ.

Etkin, N., 1996. Medicinal cuisines: diet and ethnopharmacology. Int. J. Pharmacog. 34 (5), 313–326.

Etkin, N., Ross, P.J., 1993. Brauchen wir einen Platz für Ernährungsgewohnheiten und Diätetik in der Ethnopharmakologie? Curare 16 (2), 3–16.

Evans, W.C., 1996. Trease and Evans' Pharmacognosy. Saunders, Philadelphia, PA.

Gastaldo, P., 1987. Compendio della flora officinale italiana. Piccin Editore, Padova, Italy.

Gastaldo, P., Barberis, G., Fossati, F., 1979. Le piante nella medicina tradizionale nei dintorni di Praglia (Appennino ligure-piemontese). Atti dell'Accademia Ligure di Scienze e Lettere 35, 125–158.

Gonzáles-Tejero, M.R., Martínez-Lirola, M.J., Caseres-Porcel, M., Molero-Mesa, J., 1995. Three lichens used in popular medicine in Eastern Andalusia (Spain). Econ. Bot. 49 (1), 96–98.

Guarrera, P.M., 1988. Usi tradizionali delle piante nel territorio della Majella. Rivista Abruzzese 1, 17–45.

Guarrera, P.M., 1994. Il patrimonio etnobotanico del Lazio, Regione Lazio, Assessorato alla Cultura, Roma.

Harborne, J.B., Baxter, H., 1993. Phytochemical Dictionary, A Handbook of Bioactive Compounds from Plants. Taylor and Francis, London.

Hänsel, R., Keller, K., Rimpler, H., Schneider, G., (Eds.) 1993. Hagers Handbuch der pharmazeutischen Praxis — Drogen. Springer, Berlin.

Hoefler, M., 1908. Quelle und Forschungen zur Deutsche Volkskunde. Band V: volksmedizinische Ethnobotanik der Germanen. Ludwig Verlag, Vienna, Austria (Reprint VWB Verlag, Berlin, Germany, 1990).

Hoffmann-Krayer, E., Bächtold-Stäubli, H. (Eds.) 1942. Handwörterbuch des deutschen Aberglaubens, Berlin, Germany pp. 1694–1695.

Ingolfsdottir, K., Chung, G.A., Skulason, V.G., Gissurarson, S.R., Vilhelmsdottir, M., 1999. Antimycobacterial activity of lichen metabolites in vitro. Eur. J. Pharm. Sci. 62 (6), 141–144.

Johns, T., 1980. With Bitter Herbs They shall Eat It. University Arizona Press, Tucson, AZ.

Johns, T., 1996. Phytochemicals as evolutionary mediators of human nutritional physiology. Int. J. Pharmacog. 34 (5), 327–334.

Johns, T., Chapman, L., 1995. Phytochemicals ingested in traditional diets and medicines as modulators of energy metabolism. In: Arnason, T. (Ed.), Phytochemistry of Medicinal Plants. Plenum, New York, pp. 161–187.

Karageuzyan, K.G., Vartanyan, G.S., Agadjonov, M.I., Panossian, A.G., Hoult, J.R., 1998. Restoration of the disordered glucose-fatty acid cycle in alloxan-diabetic rats by trihidroxyoctadecadienoic acids from *Bryonia alba*, a native Armenian medicinal plant. Plant. Med. 64 (5), 417–422.

Kumar, K.C., Müller, K., 1999a. Lichen metabolites. 2. Antiproliferative and cytotoxic activity of gyrophic, usnic, and diffractaic acid in human keratinocyte growth. J. Nat. Prod. 62 (6), 821–823.

Kumar, K.C., Müller, K., 1999b. Lichen metabolites. 1. Inhibitory action against leucotriene B4 biosynthesis by a non-redox mechanism. J. Nat. Prod. 62 (6), 817–820.

Lenz, H.O., 1859. Botanik der alten Griechen und Römer. Thienemann, Gotha, Germany.

Leporatti, M.L., Pavesi, A., 1989. Usi nuovi, rari o interessanti di piante officinali di alcune zone della Calabria. Webbia 43 (2), 269–289.

Leporatti, M.L., Pavesi, A., 1990. New or uncommon uses of several medicinal plants in some areas of central Italy. J. Ethnopharmacol. 29, 213–223.

Leporatti, M.L., Pavesi, A., Posocco, E., 1985a. Phytotherapy in the Valnerina Marche (central Italy). J. Ethnopharmacol. 14, 53–63.

Leporatti, M.L., Pavesi, A., Posocco, E., 1985b. Some new therapeutic uses of several plants in the Province of Terni (Umbria, central Italy). J. Ethnopharmacol. 14, 65–68.

Lomagno, P., Lomagno Caramiello, R., 1970. La fitoterapia popolare nella Valle di Susa. Alionia 16, 165–174.

Mahasneh, A.M., El-Oqlah, A.A., 1999. Antimicrobial activity of extracts of herbal plants used in the traditional medicine of Jordan. J. Ethnopharmacol. 64 (3), 271–276.

Martini, E., 1981. La fitoterapia popolare in Val Borbera (Appennino Ligure). Webbia 35 (1), 187–205.

Martini, E., 1983. La fitoterapia popolare nell'Alta Valle dell'Orba (Appennino Ligure). Atti dell'Accademia Ligure di Scienze e Lettere XXXIX, 3–25.

Mattioli, P.A., 1568. I Discorsi di M. Pitero Andrea Matthioli. Appresso Vincenzo Valgrifi, Venice, Reprint, 1966.

Mimaki, Y., Satou, T., Kuroda, M., Sashida, Y., Hatakeyama, Y., 1998. New steroidal constituents from the bulbs of *Lilium candidum*. Chem. Pharm. Bull. 46 (11), 1829–1832.

Pagni, A.M., Corsi, G., 1979. Studi sulla flora e vegetazione del Monte Pisano (Toscana Nord-Occientale) — 2. Le piante della medicina popolare nel versante lucchese. 33(2) 471–509.

Paoletti, M.G., Dreon, A.L., Lorenzoni, G.G., 1995. Pistic, traditional food from western Friuli, N.E. Italy. Econ. Bot. 49 (1), 26–39.

Pieroni, A., 1999a. Gathered wild food plants in the upper valley of the Serchio river (Garfagnana), central Italy. Econ. Bot. 53 (3), 327–341.

Pignatti, S., 1997. Flora d'Italia. Edizioni Edagricole, Bologna, Italy.

Rätsch, C., 1995. Heilkräuter der Antike. Diedrichs, Munich, pp. 165–167, 389–392.

Rando, M.T., Servettaz, O., 1979. Ricerche sull'uso delle piante medicinali in Val Rendena. Webbia 33 (2), 511–529.

Roth, L., Daunderer, M., Korman, K., 1994. Giftpflanzen Pflanzengifte. Ecomed Landsberg/Lech, Germany pp. 585–586.

Seidel, V., Bailleul, F., Libot, F., Tillequin, F., 1997. A phenylpropanoid glycoside from *Ballota nigra*. Plant. Med. 44 (4), 691–693.

Seidel, V., Bailleul, F., Tillequin, F., 1998. Diterpene et esters heterosidique phenylpropanoiques de *Ballota nigra* L. Ann. Phar. Fr. 56 (1), 31–35.

Servettaz, O., Colombo, M.L., Banfi, E., 1979. Osservazioni sull'uso delle piante officinali nel medio Novarese. Atti Ist. Bot. Lab. Critt. Univ. Pavia XIII, 181–202.

Tammaro, F., 1976. Piante officinali e pratica della fitoterapia nel territorio del Gran Sasso d'Italia. EPPOS 58 (11), 593–605.

Tammaro, F., Pietrocola, L., 1975. Piante nella medicina popolare d'Abruzzo. Ann. Bot. 34, 269–290.

Teti, V., 1995. Il peperoncino: un americano nel Mediterraneo, Monteleone, Vibo Valentia, Italy.

Uncini Manganelli, R.E., Tomei, P.E., 1995. Indagini farmaco-botaniche in Garfagnana (Lucca): il versante appenninico. Atti della Società Toscana di Scienze Naturali e Matematiche Serie B 102, 1–16.

Uncini Manganelli, R.E., Tomei, P.E., 1996. Indagini farmaco-botaniche in Garfagnana (Lucca): il versante apuano. Atti della Società Toscana di Scienze Naturali e Matematiche, Serie B 103, 63–80.

Uncini Manganelli, R.E., Tomei, P.E., 1999. Documenti per la conoscenza delle tradizioni etno-farmaco-botaniche in Toscana. Edizioni S. Marco Litotipo, Lucca, Italy.

Wichtl, M. (Ed.), 1997. Teedrogen und Phytopharmaka. Wissenschaftliches Verlagsgesellschaft, Stuttgart, Germany.