

GATHERED WILD FOOD PLANTS IN THE UPPER VALLEY OF THE SERCHIO RIVER (GARFAGNANA), CENTRAL ITALY¹

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Pieroni, Andrea (Dipartimento di Scienza del Suolo e Nutrizione della Pianta, Università degli Studi di Firenze, Piazzale delle Cascine 28, I-50144 Firenze, Italy; address for correspondence: Venloer Str. 233a, D-50823 Köln, Germany, experiences@netcologne.de. GATHERED WILD FOOD PLANTS IN THE UPPER VALLEY OF THE SERCHIO RIVER (GARFAGNANA), CENTRAL ITALY. *Economic Botany* 53(3):327–341, 1999. A study of the traditional gathered food plants in the upper valley of the Serchio river (Garfagnana), Lucca Province, north-west Tuscany, central Italy, was carried out. One hundred thirty-three species (including fungi), belonging to 48 families, were encountered. The geographical isolation of the valley and the survival of old gastronomic traditions have permitted a rich popular knowledge to be maintained. In particular, the tradition of preparing in springtime a characteristic vegetal soup (minestrilla) based on about forty wild vegetables in a very restricted area of the valley might be correlated with influences of pre-Roman civilisations. An uncommon specific food utilization of *Bryonia dioica* and *Prunus laurocerasus* as well as the consumption in some districts of *Fagus sylvatica* seeds, *Taxus baccata* and *Crocus napolitanus* fruits as snacks and the very common use of *Clematis vitalba* shoots seem to demonstrate a well established tradition to use unpalatable vegetal sources. Ethnopharmacological aspects of the consumption of these species are discussed.

PIANTE SPONTANEE AD USO ALIMENTARE RACCOLTE NELLA PARTE SUPERIORE DELLA VALLE DEL SERCHIO (GARFAGNANA), ITALIA CENTRALE. E' stato effettuato uno studio sulla raccolta tradizionale di piante ad uso alimentare nella parte superiore della valle del Serchio (Garfagnana), Provincia di Lucca, Toscana nord-occidentale, Italia centrale. 133 specie (inclusi funghi), appartenenti a 48 famiglie, sono state censite. L'isolamento geografico della valle e la sopravvivenza di vecchie tradizioni gastronomiche hanno permesso ad una ricca conoscenza popolare di mantenersi inalterata fino ai nostri giorni. In particolare, la tradizione della preparazione in primavera di una caratteristica zuppa vegetale (minestrilla) basata talvolta su più di quaranta specie spontanee in un'area molto ristretta della valle potrebbe essere messa in relazione ad influenze di civiltà pre-romane in quel territorio. L'utilizzazione alimentare non comune di *Bryonia dioica* e *Prunus laurocerasus* così come il consumo di semi di *Fagus sylvatica*, di frutti di *Taxus baccata* e *Crocus napolitanus* come snack e l'uso molto comune di giovani parti aeree di *Clematis vitalba* sembrano dimostrare una consolidata tradizione ad usare fonti vegetali non palatabili. Aspetti etnofarmacologici legati al consumo di queste specie vengono discussi.

Key Words: Ethnobotany; wild food plants; Garfagnana; Tuscany; Italy.

The upper valley of the Serchio river is called Garfagnana and is situated in north-west Tuscany, the province of Lucca, in central Italy (Fig. 1). It is enclosed by two mountain ranges, significantly different from each other: the Apuan Alps in the West facing the Tyrrhenian coast and the Apennines in the east. It covers a surface of 533.7 km² and has approximately 30 000 inhabitants. The name *Garfagnana* derives from the old Umbrian *faniana*, which means “large for-

est” while the adjective *gar* is Celtic and expresses the concept of grand or sublime. The natural landscape of the valley is characterized principally by chestnut woods (*Castanea sativa* MILL.) up to about 1000 m a.s.l.. In this lower zone Turkey oak (*Quercus cerri* L.) occurs sporadically and hornbeam woods (*Ostrya carpinifolia* SCOP. and *Carpinus betulus* L.) are occasionally encountered. The higher lands are covered by beech woods (*Fagus sylvatica* L.), which extend for about 1600 m a.s.l. On the western side of the valley, nearness to the sea gives rise to an Apuan flora with both alpine and Mediterranean elements.

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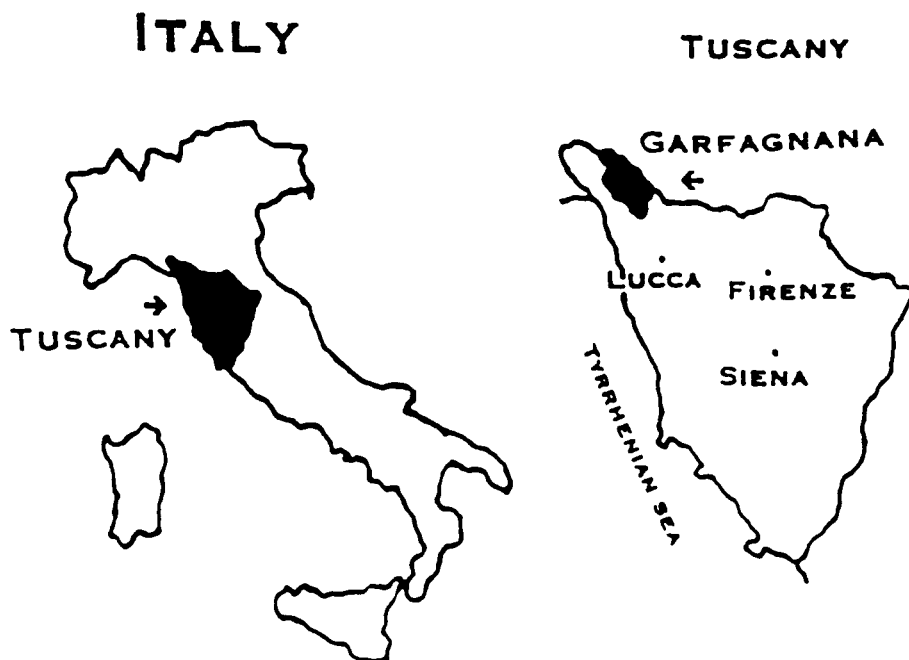


Fig. 1. The study area.

The Garfagnana has been inhabited since the Middle Palaeolithic. Later the Ligurian-Apuans defended their territories in a ferocious war against the Romans. In the Middle-Ages, Goths, Byzantines, and Longobards arrived in sequence and beginning in the twelfth century self-governing towns were established. The majority of them placed themselves under the protection of the Duke of Ferrara while at the same time Lucca dominated the lower part of the valley and Florence held the most important stronghold in the little town of Barga in the middle of the valley. In 1860 the territory was annexed to the Kingdom of Italy.

The geographical isolation of the region and events of its history have given to the Garfagnana very special characteristics relative to the rest of the Tuscany. Popular knowledge deriving from diverse cultural origins, survives in the use of plants for food and medicine. Nevertheless, no studies have been carried out on the use of wild food plants in this territory. An ethnobotanical work of the nearby region of Versilia was carried out by Corsi, Gaspari, and Pagni (1981) and brief studies on local medicinal species have been published by Bilia, Cioni, and Morelli (1990), and by Uncini Manganelli and Tomei (1996, 1997).

The continuing practice of traditional cultivation and the survival of traditional gathering methods inspired the author to consider food plants exclusively in order to provide a view of the historical and anthropological interaction between the local inhabitants and the environment.

METHODS

Ethnobotanical information for wild plants was obtained during interviews with 83 knowledgeable persons (age 43–96 years) living in small villages outside of the main center of the valley, Castelnuovo Garfagnana (5000 inhabitants). Characteristic of the villages is their small population (50–500 inhabitants) and a continuing traditional way of life, although many young people now come to the Castelnuovo and to the larger towns in the region to find work. Many areas, remote from the population centers of the valley and from the river Serchio, which were inhabited until thirty years ago and where people lived in small agropastoral familial economies, are now abandoned.

Our research touched villages situated in the municipalities of Galliciano, Molazzana, Castelnuovo, Camporgiano, Careggine, Vagli, S. Romano, Piazza al Serchio, Sillano, Minucciano



Fig. 2. Municipalities in the study area.

and Giuncugnano (Fig. 2). Identification and nomenclature followed Pignatti's work on Italian flora (1997) and Cetto's work on fungi (1987) and, for cultivated species, the works of Mansfield (1986) and Franke (1997).

Participants were invited to fill in a questionnaire for the most used species, including a palatability index and the frequency of the use of the plants at the present time and 30 years ago. Seven hundred questionnaires were completed. Most of the information about fungi and wild fruit gathering were obtained from men, while the gathering of green seems to be the domain of the women.

The local schools participated in the project in connection with a teaching program coordinated by the author and the regional Comunità Montana della Garfagnana. One hundred fifty pupils between 11 and 15 years of age interviewed elderly relatives about traditional uses of wild food plants during the school year 1997/1998.

Wild plants recognized by the villagers were collected and pressed, and fungi were photographed. The collections are deposited at the Documentation Centre on Local Traditional Knowledge in the Municipality of Piazza al Serchio and in the Municipal Library of Galliciano.

RESULTS

TRADITIONAL FOOD SOURCES IN THE GARFAGNANA

The traditional culture of the Garfagnana has developed in an agricultural and pastoral context. Cultivated species, which played a central role in the local food economy until about thirty years ago, were represented by *Castanea sativa* L., *Zea mays* L., *Triticum dicoccum* SCHÜBLER, *Panicum miliaceum* L. and *Secale cereale* L. Together with *Solanum tuberosum* L. (introduced into the upper Garfagnana very late, in 1815) and *Phaseolus lunatus* L. and *Phaseolus vulgaris* L. they have long represented the principal food plants used by the local people. In the winter season chestnut flour based dishes (mostly polenta) made up the main meal, substituted in the summertime by corn meal polenta. Ryebread, wheat-noodles and bean-soups with emmer wheat and potatoes completed the diet.

Among the cultivated species the harvest and processing of chestnut is an especially old tradition, and has been a major social event which is still observed in some limited areas of the valley. Chestnuts are collected in October and November, some are eaten boiled (*ballucciori*) or roasted (*mondine*), but most are dried and ground into flour. This processing used to take

place in the middle of the chestnut forest in special buildings (*metati*) which had two floors separated by chestnut- or beech-wood planks. The lower floor was filled with blocks of chestnut wood which were lighted, and covered with saw dust so that they could burn very slowly. The collected chestnuts, stored on the upper floor were dried for 4–6 weeks. At least one person had to remain in the vicinity of the building continuously during this period to monitor the process and to turn the chestnuts occasionally. The chestnuts were threshed on a hemp-bale in order to remove the coat, after which they could be ground into flour on stone mills (*macina*) located near rivers. At the present time about half of the chestnut woods are abandoned.

Typical of the valley's retention of agricultural tradition is the cultivation of emmer wheat. Garfagnana has always had the most important emmer production of this grain in Italy. This tradition, deriving directly from the ancient Roman times, has survived undisturbed in Garfagnana, while in some other mountainous areas in Italy it has disappeared completely in recent decades.

The increasing interest in the biological and nutritional properties of emmer have stimulated new cultivation projects in Garfagnana since 1990. At the present time in the valley 110 hectares are cultivated in emmer wheat (a 100% increase between 1990 and 1996). This is the main cultivated emmer area in Europe and is concentrated between 500 and 800 m a.s.l. with centers also at 1000–1100 m a.s.l.

The European Commission granted "Protected Geographic Indication" to the emmer wheat of the Garfagnana in 1996. In such zones of protected food crops traditional foodways are enhanced by the gathering of wild plants.

WILD GATHERED FOOD PLANTS

Table 1 lists the wild food gathered plants in Garfagnana. One hundred thirty-three species (84 herbaceous, 29 shrubs or trees, 20 fungi), belonging to 48 families were recorded. Most of the plants are natives of the Mediterranean region (with the exception of *Robinia pseudoacacia*, imported in the seventeenth century from North America, *Prunus laurocerasus*, which arrived in Italy around 1560 from Turkey, *Diospyros kaki*, originally from eastern Asia and *Balsamita major*, a plant of the west Asian flora). Included in Table 1 are some species (mostly fruit trees), which were extensively cultivated in

the past, but which now are feral in the neighborhood of the villages. These products and others, including chestnuts, walnuts, and some old local cultivars of apples, pears, and cherries are relicts of cultivation abandoned when people began to move to the main villages of the valley about forty years ago. Gathering is a day-trip activity and does not involve overnight camping.

Food traditions which have now disappeared but were extant at the beginning of this century, revived during war times, and remembered by old people, are marked with an asterisk.

About 50% of wild plants are used as vegetables (leaves, young shoots, or stems), a few for their roots or bulbs (six species), receptacles, inflorescence, and flowers (nine species). Fruits and seeds are gathered from a remarkably high number (30 species).

Traditional cooking with wild gathered plants in Garfagnana is very complex and includes dishes which are the part of the local heritage. Table 2 lists the explanations for many vernacular terms, which define special preparations.

The most common culinary preparation of vegetables (*erbi*) is in the form of a variety of vegetable soups. Throughout the valley, soups are prepared mixing wild (usually *Borago*, *Silene*, *Urtica*, *Beta* sp.) with cultivated vegetables, among them the much used cabbage [*Brassica oleracea* L. ssp. *oleracea* convar. *acephala* (DC.) f. *serotina*]. The utilization of large amounts of cabbage in the north-eastern part of the valley (Vagli) might also be related to the past worship of the popular Saint Viano, an eremite, who lived in middle ages in this area. Legends say that he could survive eating wild kale only (the quite rare *Brassica oleracea* subsp. *robertiana*) and the sight of this wild cabbage is still considered a good omen. The use of cabbage (now the cultivated species) is very popular here, in contrast with other parts of the valley.

In Gallicano traditional *minestrella* is prepared without cultivated species except for beans. Never fewer than twenty, but often more than forty species are used (see Table 3). The number depend on the season (normally it's prepared in spring–early summer) and the availability of the plants. The people of the village are convinced that some of the species are now rare.

Some of the greens utilized are defined as "bitter" by the people who relate this char-

TABLE 1. TRADITIONAL GATHERED WILD FOOD PLANTS IN GARFAGNANA.

Botanical name	Local name	Part used	Popular food utilization
AGARICACEAE			
<i>Agaricus campestris</i> (GAF912)	prataiolo	caps	stewed, roasted, sauces
<i>Macrolepiota procera</i> (Fr.) SING. (GAF126)	mazza di tamburo	caps	roasted
AMANTACEAE			
<i>Amanita caesarea</i> (SCOP. EX FR.) PERS. EX SCHW. (GAF128)	cocco, coccora	whole fruiting body	salads, stewed, fried, <i>frittata</i> , pickled in oil
APIACEAE			
<i>Apium nodiflorum</i> L. (GACRE27)	crecione	leaves	salads, boiled and/or stewed, vegetable soups
<i>Daucus carota</i> L. (GAPAS31)	pastineggio, pastinella	young leaves	vegetable soups
<i>Foeniculum vulgare</i> MILL. ssp. <i>vulgare</i> (GAFIN04)	finocchio selvatico	roots	as snack, vegetable soups
<i>Oenanthe pimpinelloides</i> L. (GACAV06)	cavoletti, prezzemolo selvatico	leaves	to aromatize vegetable soups, other vegetable soups, salads
		fruits	to aromatize boiled chestnuts, pig liver
		leaves	boiled and stewed in mixtures
BETULACEAE			
<i>Corylus avellana</i> L. (NOC98)	nocella	seeds	eaten raw and dried
BOLBITACEAE			
<i>Agrocybe aegerita</i> (BRIG.) SING. (GAF187)	pioppino	caps	stewed, <i>frittata</i>
BOLETACEAE			
<i>Boletus aureus</i> BULL. EX FR. (GAF128)	moreccio, moro	whole fruiting body	salads, roasted, fried, stewed, <i>frittata</i> , sauces, pickled in oil
<i>Boletus edulis</i> BULL. EX FR. (GAF232)	porcino bianco, sangiovannino	whole fruiting body	salads, roasted, fried, stewed, <i>frittata</i> , sauces, pickled in oil
<i>Boletus pinophilus</i> var. <i>fuscus</i> ruber (FORQU. AP. QUÉL.) (GAF671)	rosso	whole fruiting body	salads, roasted, fried, stewed, <i>frittata</i> , sauces, pickled in oil
<i>Boletus reticulatus</i> SCHAFF. EX FR. (GAF871)	porcino, estatino	whole fruiting body	salads, roasted, fried, stewed, <i>frittata</i> , sauces, pickled in oil
<i>Leccinum scabrum</i> (BULL. EX FR.) GRAY (GAF971)	frate	caps	stewed, dried
BORAGINACEAE			
<i>Borago officinalis</i> L. (GABOR75)	boragine, buragine	leaves	boiled, vegetable soups, <i>tortelli</i> stuffing, <i>torre</i>
		inflorescence	fried

TABLE 1. CONTINUED.

Botanical name	Local name	Part used	Popular food utilization
<i>Echium italicum</i> L. (BOR85)	boragine, buragine	leaves	boiled, vegetable soups, <i>tortelli</i> stuffing, <i>torte</i>
<i>Symphytum tuberosum</i> L. (GASAL06)	salosso	inflorescence leaves	pickled vegetable soups
CAMPANULACEAE			
<i>Campanula rapunculus</i> L. (GARAP36)	raponzolo	leaves and roots	salads
<i>Campanula trachelium</i> L. (PIZ77)	pizzicacorno, piccicorno, pizzocorno	leaves leaves	vegetable soups vegetable soups
CANNABACEAE			
<i>Humulus lupulus</i> L. (GALUP10)	lupporo	shoots	boiled then <i>frittata</i>
CANTHARELLACEAE			
<i>Cantharellus cibarius</i> Fr. (GAF251)	galletto	whole fruiting body	stewed, <i>frittata</i> , sauces, dried
CAPRIFOLIACEAE			
<i>Sambucus nigra</i> L. (GAT810)	sambuco	inflorescence fruits	fried jams, syrups
<i>Lonicera caprifolium</i> L. (CAP31)	ingannacape, caprifoglio	flowers	snack
CARYOPHYLLACEAE			
<i>Lichnis flos-cuculi</i> L. (GAMAN91)	manine del Signore	leaves	vegetable soups
<i>Silene alba</i> (MILLER) KRAUSE (GAORE22)	orecchiella, boccon di pe- cora	young leaves	vegetable soups, boiled and stewed
<i>Silene vulgaris</i> (MOENCH) GARCKE (STR35)	erba striscia, cucina	young leaves	vegetable soups, boiled and stewed
CHENOPODIACEAE			
<i>Beta vulgaris</i> L. ssp. <i>maritima</i> (L.) THELL. (BIE29)	bietola selvatica	leaves	boiled, vegetable soups, <i>tortelli</i> stuffing, <i>torte</i>
<i>Chenopodium album</i> L. (FAR37)	farinello, farinaccio	leaves and young stems	boiled and stewed
<i>Chenopodium urbicum</i> L. (CUC09)	cucina	leaves and young stems	boiled and stewed, <i>tortelli</i> stuffing, <i>torte</i>
<i>Chenopodium bonus-henricus</i> L. (GRSP176)	spinacio che fa in montagna	leaves and young stems	boiled and stewed, <i>frittata</i>
COMPOSITAE			
<i>Artemisia absinthium</i> L. (GRERB84)	erbo bono, erbo bon	aerial parts	spirits

TABLE 1. CONTINUED.

Botanical name	Local name	Part used	Popular food utilization
<i>Balsamita major</i> DESF. (ESM32)	erba di Santa Maria	leaves	<i>frittata</i> (in mixtures)
<i>Bellis perennis</i> L. (GAMAR73)	margheritina	leaves	vegetable soups
<i>Carlina acaulis</i> L. (PISCA76)	cardo di S. Pellegrino, scarzoni	receptacles	salads, boiled, jam
<i>Cichorium intybus</i> L. (GARAD23)	radicchio di campo, cicoria selvatica	leaves	salads, vegetable soups, boiled in mixtures
<i>Cirsium arvense</i> (L.) Scop. (GASTR03)	stioppone, stramontano, perticone	roots	coffee*
<i>Crepis capillaris</i> (L.) WALLR. (GATAS09)	tassella, tassellora, cassella, cassellora	young leaves	vegetable soups, boiled in mixtures
<i>Crepis leontodontoides</i> ALL. (PIACAS87)	radicchio di campo, castra- cani	leaves	boiled and stewed, vegetable soups
<i>Crepis sancta</i> (L.) BARCOCK (GARAD21)	radicchio di campo	leaves	salads, vegetable soups, boiled in mixtures
<i>Crepis capillaris</i> (L.) WALLR. (GATAS08)	tassella, tassellora, cassella, cassellora	leaves	boiled and stewed, vegetable soups
<i>Hypochoeris radicata</i> L. (GAGRA30)	ingrassaporci, grassaporci, piattello	leaves	mixed salads, boiled and stewed, vegetable soups, <i>torte</i>
<i>Lactuca serriola</i> L. (PILAT81)	lattuccio, ricciolo, riccino, riccetto	leaves	mixed salads, boiled
<i>Lapsana communis</i> L. (GASPO51)	sportavecchia	leaves	boiled in mixtures, vegetable soups
<i>Leontodon hispidus</i> L. (RAD29)	radicchio di campo	leaves	boiled in mixtures, vegetable soups
<i>Matricaria camomilla</i> L. (CAM974)	camomilla	flowers	spirits
<i>Picris echinoides</i> L. (PIRAD24)	radicchio di campo, radic- chio peloso	leaves	boiled in mixtures, vegetable soups
<i>Picris hieracioides</i> L. (PIRAD25)	radicchio di campo, radic- chio peloso	leaves	boiled in mixtures, vegetable soups
<i>Reichardia picroides</i> (L.) Roth (GASAS73)	sassello, sassaiolo	leaves	mixed salads, boiled in mixtures, vegetable soups
<i>Sonchus asper</i> L. (GACIC30)	cicerbita, cicerbica, crespino	leaves	mixed salads, boiled in mixtures, vegetable soups
<i>Sonchus oleraceus</i> L. (GACIC31)	cicerbita, cicerbica	leaves	mixed salads, boiled in mixtures, vegetable soups
<i>Taraxacum officinale</i> WEB. (GADEN42)	piscialletto, dente di leone	leaves	mixed salads, boiled in mixtures, vegetable soups
<i>Tragopogon pratensis</i> L. (BAR22)	barba di becco	roots	coffee*
<i>Urospermum dalechampii</i> (L.) SCHMIDT-B. (PI-CEN06)	cento coglioni	leaves, young buds	boiled
		leaves	boiled in mixtures

TABLE 1. CONTINUED.

Botanical name	Local name	Part used	Popular food utilization
CORNACEAE			
<i>Cornus mas</i> L. (GAT230)	crognolo	fruits	eaten raw, jams, spirits
CRASSULACEAE			
<i>Sedum album</i> L. (PIPIZ54)	pizzagallina, risino	leaves	snack
CRUCIFERAE			
<i>Bunias erucago</i> L. (GASPO14)	sportavecchia	leaves	boiled in mixtures, vegetable soups
<i>Diploaxis tenuifolia</i> (L.) DC. (RUC54)	ruculetta	leaves	salads, boiled in mixtures
<i>Lepidium campestre</i> (L.) R. Br. (PIERB00)	erbo de' tedeschi	leaves	boiled and stewed, vegetable soups
<i>Raphanus raphanistrum</i> L. (GAFSG10)	gramolaccio, fiore di San Giuseppe	leaves	vegetable soups
<i>Sisymbrium officinale</i> (L.) Scop. (GASPO15)	sportavecchia	leaves	boiled in mixtures, vegetable soups
CUPRESSACEAE			
<i>Juniperus communis</i> L. (GRZIN71)	zinepro, ginevro	fruits	to aromatize meat, spirits
ERICACEAE			
<i>Arbutus unedo</i> L. (ALB13)	albatro	fruits	raw, jams
<i>Vaccinium myrtillus</i> L. (MIR87)	bagole	fruits	raw, syrups, jams, aromatized grappa
<i>Vaccinium vitis-ideae</i> L. (MRR14)	bagole rosse	fruits	jams
EBENACEAE			
<i>Diospyros kaki</i> L. (CAC68)	cachi	fruits	eaten raw
FAGACEAE			
<i>Castanea sativa</i> L. (CAS64)	castagno	fruits	boiled (<i>ballucciori</i>), roasted (<i>mondine</i>), dried (<i>tullore</i>), then flour (<i>polenta di neccio</i> , <i>vinata</i> , <i>necci</i> , <i>mandafregoli</i> , <i>castagnaccio</i>)
<i>Fagus sylvatica</i> L. (FAG29)	faggio	seeds (<i>faggiotti</i>)	snack, oil*
<i>Quercus cerris</i> L. (CER31)	cerro	fruits	coffee*
GENTIANACEAE			
<i>Gentiana kochiana</i> PERR. ET SONGEON (GEN97)	genziana, gnziana	roots	snack, spirits
GERANIACEAE			
<i>Geranium molle</i> L. (GANNN00)	—	leaves	vegetable soups

TABLE 1. CONTINUED.

Botanical name	Local name	Part used	Popular food utilization
JUNGLANDACEAE			
<i>Junglans regia</i> L. (NOC07)	noce	seeds	oil*, bread (with what remained after pressing the seeds)*
LAMIACEAE			
<i>Calamintha nepeta</i> (L.) SAVI (GANEP01)	nipotella, nipitella, nipitel-la	leaves	to aromatize mushrooms, artichokes, zucchini
<i>Lamium album</i> L. and <i>Lamium purpureum</i> L. (DOL55)	ortica dolce	flowers	snack
<i>Melissa officinalis</i> L. (GRML48)	menta limona, melissa	leaves	<i>frittata</i> , to aromatize sauces and meat
<i>Mentha spicata</i> L. ssp. <i>glabrata</i> (LEI ET COURT.) LEBEAU (GRMEN07)	menta	leaves	
<i>Origanum vulgare</i> L. (ORI11)	origano	leaves/inflorescence	to aromatize sauces
<i>Salvia pratensis</i> L. and <i>Salvia verbenaca</i> L. (BER95)	salvia di campo, bertonica	leaves	salads, <i>minestrone</i> , <i>torte salate</i>
<i>Satureja montana</i> L. (GATIM04)	timo	leaves	to aromatize sauces
<i>Thymus pulegioides</i> L. (GAPEP32)	peporino, pepurino, pepolino	aerial parts	to aromatize sauces, meat
LAURACEAE			
<i>Laurus nobilis</i> L. (GAT542)	orbaco, alloro	leaves	to aromatize sauces, boiled chestnuts, meat
LILIACEAE			
<i>Allium schoenoprasum</i> L. (AGL04)	erba cipollina	whole plants	to aromatize salads, meat
<i>Allium vineale</i> L. (AGL04)	aglio selvatico	bulb	salads, to aromatize sauces, meat
<i>Asparagus acutifolius</i> L. (ASP01)	asparago selvatico	shoots	boiled, <i>frittata</i>
<i>Crocus napolitanus</i> MORD. ET LOISEL. (GRZAF)	croco, zafferano selvatico	fruits	snack
LYCOPERDACEAE			
<i>Bovista nigrescens</i> PERS. EX PERS. (GAF167)	loffia	young fruiting body	fried, pickled in oil
MALVACEAE			
<i>Malva sylvestris</i> L. (GAMAL71)	malva	leaves	vegetable soups
MORACEAE			
<i>Ficus carica</i> L. (FIC09)	fico	leaves fruits	potato <i>torte</i> eaten raw, jams
<i>Morus alba</i> L. and <i>Morus nigra</i> L.	gelso	fruits	eaten raw

TABLE 1. CONTINUED.

Botanical name	Local name	Part used	Popular food utilization
OXALIDACEAE			
<i>Oxalis acetosella</i> L. (PIASP40)	asprini	leaves	snack
PAPAVERACEAE			
<i>Papaver rhoeas</i> L. (PIBEL32)	belle bimbe	leaves	boiled in mixtures, vegetable soups
PAPILIONACEAE			
<i>Robinia pseudoacacia</i> L. (AGA91)	agaggio	flowers	fried
PLANTAGINACEAE			
<i>Plantago lanceolata</i> L. (PIPED11) and <i>Plantago major</i> L. (GATIR26)	pe' d'asino tirafilo, orecchie d'asino	leaves	boiled, vegetable soups
POLYGONACEAE			
<i>Rumex acetosa</i> L. (GAZEZ08) and <i>Rumex acetosella</i> L. (GAZEZ09)	erba putta, zezzora, pane e vino	leaves and stems	snack
<i>Rumex crispus</i> L. (GAROM05) and <i>Rumex obtusifolium</i> L. (GRR0M90)	romice, rombice, rombiccia	leaves	boiled in mixtures, vegetable soups
PORIACEAE			
<i>Grifola frondosa</i> (PICKS. EX FR.) (GAF997)	grifone	whole fruiting body	stewed, pickled in oil
PRIMULACEAE			
<i>Primula vulgaris</i> HUDSON (GAPRI03)	primola, fior di primavera	leaves	vegetable soups
RAMARIACEAE			
<i>Ramaria botrytis</i> FR. RICKEN (GAF122)	ditola	whole fruiting body	stewed, pickled in oil
RANUNCOLACEAE			
<i>Clematis vitalba</i> L. (GAVEZ40) <i>Ranunculus ficaria</i> L. (GAFV32)	vezzadro favagello	young shoots leaves	boiled then stewed or <i>frittata</i> vegetable soups
ROSACEAE			
<i>Cydonia oblonga</i> MILLER (COT41) <i>Fragaria vesca</i> L. (FRA05) <i>Malus domestica</i> BORKH. (CAS85) <i>Mespilus germanica</i> L. (NES08) <i>Prunus avium</i> L. (CIL48) <i>Prunus cerasus</i> L. (MAR07)	melo cotogno fragola mela casciana nespolo ciliegio selvatico marasco	fruits fruits fruits fruits fruits fruits	jams raw, with wine, jams, syrups, spirits roasted, jams eaten raw after natural fermentation, jams raw, jams spirits

TABLE 1. CONTINUED.

Botanical name	Local name	Part used	Popular food utilization
<i>Prunus laurocerasus</i> L. (GAAGO52)	agoro, lauro	fruits	eaten raw, spirits, jams
<i>Prunus spinosa</i> L. (GAS122)	strozapreti, prignole, uva bòcca, palline bòcche	fruits	eaten raw, jams, spirits
<i>Pyrus communis</i> L. (PER125)	pera caravella	fruits	roasted, jams
<i>Rosa canina</i> L. (ROS74)	rosa selvatica	young shoots	snack, vegetable soups, conserved sauces
	pitellenga, peterlenga	fruits	snack, jams
	fiori di Santa Rita	flowers	snack (ritual use every 22th, May)
<i>Rubus idaeus</i> L. (LAM02)	lampone	fruits	raw, jams syrups, spirits
<i>Rubus fruticosus</i> L. (GRMOR10)	scepe, rovo, spino	young shoots	boiled then <i>frittata</i>
	more	fruits	raw, jams syrups
<i>Sanguisorba minor</i> Scop. (GASAL05)	salvastrella, pimpinella	leaves	salads
<i>Sorbus domestica</i> L. (GAT250)	sorbo	fruits (<i>sorbole</i>)	eaten raw after natural fermentation, jams
RUSSULACEAE			
<i>Lactarius sanguifluus</i> (PAUL. EX FR.) Fr. (GAF928)	sanguinello	caps	stewed, sauces
<i>Russula cyanoxantha</i> (SCHFF. EX FR.) (GAF418)	rossella	caps	stewed, sauces, <i>frittata</i>
<i>Russula virescens</i> (SCHFF. EX ZANT.) Fr. (GAF871)	colombina	caps	stewed, sauces, <i>frittata</i>
RUTACEAE			
<i>Ruta chalepensis</i> L. (GARUT08)	ruta	aerial parts	spirits
SCROPHULARIACEAE			
<i>Veronica beccabunga</i> L. (PICRE64)	crescione	leaves	salads, <i>torte</i>
TAXACEAE			
<i>Taxus baccata</i> L. (TAS69)	tasso	fruits	snack
TRICHOLOMATACEAE			
<i>Amillariella mellea</i> (VAHL. IN FL. DAN. EX FR.) KARST. (GAF120)	rangagno	caps	stewed, <i>frittata</i> , pickled in oil
<i>Clitocybe geotropa</i> (BULL. FR.) QUÉL. and <i>Clitocybe gibba</i> (PERS.: FR.) P. KUMM. (GAF147)	cimballo	caps	stewed, <i>frittata</i>
<i>Thricoloma georgii</i> KÜHN. & ROMAGN. (GAF541)	prugnolo	caps	roasted, stewed, <i>frittata</i>
<i>Thricoloma terreum</i> (SCHFF. EX FR.) KUMMER (GAF675)	morella, cardella	caps	stewed, sauces, <i>frittata</i>

TABLE 1. CONTINUED.

Botanical name	Local name	Part used	Popular food utilization
URTICACEAE			
<i>Urtica dioica</i> L. (ORT36) and <i>Urtica urens</i> L. (ORT37)	ortica	leaves	boiled, <i>frittata</i> , vegetable soups, <i>tortelli</i> stuffing, <i>torte</i>
VALERIANACEAE			
<i>Valerianella carinata</i> LOISEL. (GRPAN60)	pancagiolo, pancagiotto, gallinella	leaves	salads
VIOLACEAE			
<i>Viola odorata</i> L. (GAVIO19)	viola	leaves	vegetable soups

TABLE 2. SOME TRADITIONAL VERNACULAR CULINARY TERMS OF THE GARFAGNANA.

<i>Ballucciori</i> (or <i>Ballotte</i>): Boiled chestnuts with wild fennel seeds and/or laurel leaves
<i>Castagnaccio</i> : Traditional chestnut flour cake, made also with rosemary, walnuts, orange-peels and olive oil. It has to be served with fresh ricotta (a form of cottage cheese)
<i>Farro</i> : Soup based on mashed beans, sage, pig-skin and emmer wheat
<i>Frittata</i> : A kind of omelette made mixing the (boiled) vegetables with the beaten eggs and frying in olive oil
<i>Necci</i> : Chestnut flour pancakes, fried in lard
<i>Mondine</i> : Roast chestnuts
<i>Manafregoli</i> : Like a very weak <i>polenta di neccio</i> served with milk and ricotta
<i>Minestrella</i> : A special vegetable soup based on pig-skin, yellow beans and a big number of wild green plants (also thirty species), served with a kind of salted pancakes made of corn meal (called <i>mignec-ci</i>), which are prepared by hot iron dies called <i>testi</i>
<i>Necci</i> : Chestnut flour pancakes, prepared by <i>testi</i> and served with ricotta
<i>Polenta di neccio</i> : Chestnut flour polenta, served with bacon (fried in vinegar) and boiled pig-bones
<i>Tullore</i> : Dried chestnuts boiled in milk (with two leaves of laurel), served with ricotta
<i>Vinata</i> : <i>Polenta di neccio</i> boiled in a very weak wine called <i>vinello</i>
<i>Torte</i> : Salt pies made of different wild vegetables, ricotta, cheese, eggs. <i>Torta di farro</i> is a typical Easter salt pies based on boiled emmer wheat

acteristic with the concept of "healthy." Such use might have cultural significance relating to the ingestion of less than palatable vegetable foods (Johns 1980, 1995).

The collecting of herbs for the *minestrella* is still a ritual for many women of the village of Gallicano. It's interesting to note that only a few miles to the North, South or West from Gallicano people are not accustomed to prepare such dishes. The area of distribution of the *minestrella* is restricted to the territory extending from Gallicano east to the Apuan crest.

The association of several boiled spontaneous vegetables is common also in the cooking traditions of other areas on the other side of the Apuan Alps (in the Versila region) and in Eastern Liguria (the north eastern region bordering Tuscany). In all these territories the domination

TABLE 3. TRADITIONAL GATHERED WILD FOOD PLANTS IN THE TERRITORY OF GALLICANO FOR THE TRADITIONAL VEGETABLE SOUP (MINESTRELLA).

<i>Allium vineale</i> L.
<i>Apium nodiflorum</i> L.
<i>Bellis perennis</i> L.
<i>Beta vulgaris</i> L. ssp. <i>maritima</i> (L.) THELL.
<i>Borago officinalis</i> L.
<i>Bunias erucago</i> L.
<i>Campanula rapunculus</i> L.
<i>Campanula trachelium</i> L.
<i>Cichorium intybus</i> L.
<i>Cirsium arvense</i> (L.) SCOP.
<i>Crepis leontodontoides</i> ALL.
<i>Crepis sancta</i> (L.) BABCOCK
<i>Crepis capillaris</i> (L.) WALLR.
<i>Daucus carota</i> L.
<i>Foeniculum vulgare</i> MILL ssp. <i>vulgare</i>
<i>Geranium molle</i> L.
<i>Hypochoeris radicata</i> L.
<i>Lapsana communis</i> L.
<i>Leontodon hispidus</i> L.
<i>Lichnis flos-cuculi</i> L.
<i>Malva sylvestris</i> L.
<i>Papaver rhoeas</i> L.
<i>Picris echinoides</i> L.
<i>Picris hieracioides</i> L.
<i>Plantago lanceolata</i> L.
<i>Plantago major</i> L.
<i>Primula vulgaris</i> HUDSON
<i>Raphanus raphanistrum</i> L.
<i>Ranunculus ficaria</i> L.
<i>Reichardia picroides</i> (L.) ROTH
<i>Rumex crispus</i> L.
<i>Rumex obtusifolium</i> L.
<i>Salvia pratensis</i> L.
<i>Salvia verbenaca</i> L.
<i>Sanguisorba minor</i> SCOP.
<i>Silene alba</i> (MILLER) KRAUSE
<i>Silene vulgaris</i> (MOENCH) GARCKE
<i>Sisymbrium officinale</i> (L.) SCOP.
<i>Sonchus asper</i> L.
<i>Sonchus oleraceus</i> L.
<i>Symphytum tuberosum</i> L.
<i>Taraxacum officinale</i> WEB.
<i>Urtica dioica</i> L.
<i>Urtica urens</i> L.
<i>Viola odorata</i> L.

of the Ligurian-Apuans (third-second centuries B.C.) was remarkable. In these regions, even the term "kitchen" (*cucina*) is sometimes used to denote such vegetable soups or the essential plants used in them (e.g., *Silene vulgaris*). Further study along these lines might detect the use

of these mixtures of wild greens as a relict of pre-Roman cultures, such as the Celtic. In another part of northern Italy (Western Friuli) traces of the influence of this civilization were found to survive in a similar special dish (*pistic*), based on more than fifty wild greens (Paoletti, Dreoni, and Lorenzoni 1995).

Other preparations based on wild vegetables include boiled mixtures sometimes eaten with olive oil and vinegar or stewed in butter or olive oil with garlic. Among these preparations is a mixture of boiled greens used as a stuffing for tortelli and *torte* (salt pies). The use of boiled and stewed *Lepidium campestre* leaves, unique to the municipality of Piazza al Serchio in the northern upper valley, is another interesting case. There it is called *erbo de' tedeschi* (weed of the Germans) probably reflecting the Longobard domination of that region and the very popular use of *Lepidium* species as an aromatic plant in the Middle Age in central and Northern Europe (Küster 1997).

The *frittata* (an omelette of vegetables [usually boiled], and beaten eggs) is very popular in the entire region and shoots of *Clematis vitalba* is a main ingredient. The young shoots of this relatively toxic species are boiled, before being mixed with eggs and/or cheese, and fried. In this way the toxic principle protoanemonine (Roth, Daunderer and Korman 1994) is inactivated. The majority of the plants are boiled, fried, or steeped in water or alcohol and it is reasonable to suppose that a degradation or decreased concentration of the toxic principles (mainly alkaloids) results from such treatment. In some cases (*Bryonia*, *Papaver*) young tissues in which the toxic constituents are present in limited amounts are used preferentially.

Crocus fruits (*lucette*) and perhaps also buds were consumed by children and women. Safran contained in *Crocus sativus* is also known to have a psychoactive action as a mild euphoria (Rätsch 1998). Whether flowers of other *Crocus* species are toxic, is not yet clearly understood (Roth, Daunderer and Korman 1994; Teuscher and Lindequist 1994). The innocuous arils of *Taxus* are consumed, often with the whole toxic seeds. The seed are probably eliminated from the body without being broken to liberate the toxic alkaloids which they contain. It may be possible to detect the retention of ritual behavior in such practices as the eating of *Lonicera* flowers and *Crocus* fruits by women as they gather

wild greens, and the consumption of *Taxus* arils by children while playing in the woods.

The use of *Bryonia* and *Prunus laurocerasus* as foods are reported here for the first time in the scientific literature. *Prunus laurocerasus* fruits are also a component for a local spirit called *agorino* in the Southern part or *laurino* in the Northern part. The morphological similarity to the black sour cherry-tree (*Prunus cerasus*), whose fruits have long been used in Mediterranean areas to prepare the liqueur *maraschino*, might play a role in the development of this tradition.

Bryonia leaves and young shoots are boiled and utilized in *frittate*, or stuffing for tortelli or simply eaten boiled in mixtures with other wild greens. The very poisonous root is also very well known in the local popular medicine as a diuretic (cold maceration).

The ancient practice of using *Quercus cerris* fruits as a bitter kind of coffee substitute illustrate a general acceptance among old people of bitter tastes. The fruits were roasted, the shell eliminated and the seeds powdered.

Some preparations based on toxic plants are seen as food/medicine: aerial parts of *Artemisia absinthium* (in form of decoctions as well as spirits) are always considered digestive both for humans and for animals, while the fresh leaves were also used topically to promote the weaning of babies. Similarly decoctions and spirits of *Ruta chalepensis* leaves are used as eupeptics and digestives. The use of *Rumex acetosella* stems against thirst is well known.

Such observations illustrate the double role (as food and medicine) played by many wild plants (Etkin 1994, 1996). Some of the most utilized wild food plants have therapeutic activity supported either by local tradition (Corsi, Gasparin, and Pagni 1981; Uncini Manganelli and Tomei 1995) or biomedical evidence (Hänsel et al. 1993): *Apium*, *Asparagus*, *Borago*, *Calaminttha*, *Cichorius*, *Daucus*, *Foeniculum*, *Humulus*, *Laurus*, *Malva*, *Plantago*, *Primula*, *Taraxacum*, *Thymus*. Some food preparations were taken exclusively for therapeutic reasons: *vinata* (made of chestnut-flour and red wine) for example was the most used medicine against cough.

Wild vegetables for salads are harvested especially during the spring season. The local people prepare mixtures with up to ten species: *Campanula*, *Cichorium*, *Crepis*, *Hypochoeris*,

Reichardia, *Sonchus* and *Valerianella* representing the most used genera. The local people also ascribe depurative and diuretic action to such food.

A relevant contribution to the local food economy is also provided by many wild fruits (both from mountain species and from Mediterranean ones) to prepare jams, syrups and sometimes home-made digestive drinks (such as aromatized grappas and spirits). Most of them are used also for their astringent properties against diarrhoea (*Arbutus*, *Cornus*, *Cydonia*, *Mespilus*, *Sorbus*, *Rubus*).

The harvesting of fungi for markets has long been economic activity in the valley. *Boletus* ssp., *Cantharellus* and, less frequently, *Amanita caesarea* from Garfagnana are sold in regional markets, and in other parts of Tuscany. Other less common fungi are harvested, and some of them, *Grifola* for example, are unknown in other regions. Dried mushrooms from the valley reached America from Genoa during the last century (De Stefani 1884).

SUMMARY

From our ethnobotanical findings, more than one hundred twenty wild food plants, representing the traditional heritage of the local people, are still gathered and used in the upper valley of the Serchio river. Although many traditions have been lost in the last thirty years, the relative absence of true industrial development and the natural isolation of the region have permitted the survival of a rich popular wisdom. For this feature the role that traditional cooking maintained in many families in the valley is important. While much medicinal knowledge of wild plants has been lost because of rapid development and distribution of proprietary pharmaceutical products, the special role played by food has resisted this loss.

The traditional society is changing rapidly and many more women work outside the home, but they still preserve the female heritage of food traditions, especially the gathering of wild species.

Significant differences in ethnobotanical data were found comparing the Apuan and the Apennine sides of the valley, perhaps because of their pre-history. The pre-Roman Ligurian-Apuan domination took place primarily on the side of the Apuan Alps.

Statistical studies of the collected ethnogas-

tronomical data are in progress within a permanent research project. The objective of these studies is to quantify the changes in the wild food plant preferences by the local people in recent decades and to better understand the ethnopharmacological and anthropological bases for preferences among less palatable plant foods.

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