Wild and Cultivated Plants Used as Food and Medicine by the Cimbrian Ethnic Minority in the Alps

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Abstract

The Cimbrian ethnic minority has spread along the southern and eastern borders of the Dolomites in the heart of Europe (Italy) since the 12th century AD. There was a population of 35,000 in 1854, which was estimated at 2,230 in the year 2000, of whom 500 lived in Luserna (Trentino, Trento), 1,500 in the Sette Comuni (Roana, Mezzaselva di Roana and Rotzo) (Veneto, Vicenza), 230 in Giazza/Ijetzan (Veneto, Verona), and a few dozen resided in Piano Cansiglio (Veneto, Vittorio Veneto). The Cimbrian language (the Upper German, Bavarian-Austrian group) presents three dialects: Lusernese, Tredici Communi Cimbrian (Taucias), Sette Comuni Cimbrian. Based on structural and intelligibility differences, the three dialects may be considered as separate languages; Lusernese is heavily influenced by Italian (Trentino dialects). The objectives were to determine the fungi and vascular plant species named and used by the Cimbrian, particularly as food and medicine, and to analyze the results in the Alpine cultures and traditions context. Methods included a literature review, especially local journals and books, interviews with members of the different Cimbrian communities in Italy (Trentino and Veneto), and the collection of voucher specimens, as well as photographs of plants, gardens and landscapes in the different areas. The database comprised 2,313 records of plant names and uses among the Cimbrian communities. Most were exclusively vernacular plant names, 494 included medicinal uses and 462 were foods. Of the 382 species used by the Cimbrians, only 97 were recorded as medicinal, and 94 as food sources. However, 34 other species were used as both food and medicine. Most records (2,189) corresponded to vascular plants, but fungi were also relatively frequent. Among vascular plants, the families *Rosaceae*, *Asteraceae*, *Poaceae*, *Pinaceae* and *Salicaceae* were more often used and named.

INTRODUCTION

This study forms part of the research into the patterns governing the repertoire of wild species consumed by human populations on a worldwide scale (Rivera et al., 2006). The Alpine region has been selected given its extraordinary diversity (ethnic, cultural and biological). We studied some of the apparently well-defined ethnic minorities living in the Alpine Arc: Mochens, Cimbrian, Walser, Ladins, Raeto-Rumansch and Franco-Provençals.

The Cimbrian ethnic minority has been present on the southern and eastern borders of the Dolomites in the heart of Europe (Italy) since the 12th century AD. Evidence links Cimbrians' origins with a set of Germanic peoples, who emigrated from Bavaria from the second half of the 11th century AD. Alternatively, Cimbrians have been linked by some authors with either Lombards, who invaded Italy in the 6th century AD, or Cimbri, who invaded Italy from Jutland in the 2nd century BC. Of the 35,000 Cimbrians recorded in 1854, the population estimated in 2000 dropped to 2,230, of whom 500 lived in Luserna (Trento, Trentino), 1,500 in the Sette Comuni (Roana, Mezzaselva di Roana and Rotzo (Vicenza, Veneto), 230 in Giazza (Ijetzan) (Verona, Veneto), and a few

dozen in Piano Cansiglio (Vittorio Veneto, Veneto) (Fig. 1). The Cimbrian language (an Upper German, Bavarian-Austrian group) presents three dialects: Lusernese, Tredici Communi Cimbrian (Taucias), Sette Comuni Cimbrian. Based on structural and intelligibility differences, these three dialects may be considered as separate languages; Lusernese is heavily influenced by Trentino dialectal Italian.

The objectives of the present paper were to determine the fungi and vascular plant species named and used by Cimbrians, particularly as food and medicine, and to analyse the results in the Alpine cultures and traditions context.

MATERIALS AND METHODS

The research program included 15 interviews with members of the different Cimbrian communities in Italy (Trentino and Veneto), the collection of 100 voucher specimens and of 4.000 photographs of plants, gardens or landscapes in the different areas (Rivera et al., 2005, 2007), as well as a literature review, especially of local papers and books. The bibliography can be organised into six main categories: dictionaries (Bertoldi et al., 2008; Nordera, 1989; Schmeller, 1984; Zingerle, 1869), gastronomy (Andreotti et al., 2002; Anonymous, 1997; Heller, 1998; Pipier, 1991; Rama 1993, 1996a), medicine (Benetti, 2000; Capelletti et al., 1982; Nordera, 2002; Zampiva, 1981, 1986, 1992, 1998, 2001, 2010), general ethnobotany (Bertaco and Zampiva, 1989; Faggioni, 1992; Lewis, 2009; Mastinari, 1993; Molinari, 1991a,b,c, 1992a,b, 1993a,b, 1995, 1996a,b, 1997a,b; Rama, 1989, 1996b; Zampiva, 1983, 1995, 1996, 1999), flora (Ambrosi, 1857; Facchini, 1855; Magnus, 1905; Trattinick, 1830) and others (Anonymous, 1998; Bonato, 2001; Cavarzere, 2008; Molinari and dal Barco, 1994; Nordera, 1999, 2003; Rostan, 2002; Saccardo, 2008; Sauro, 2008).

RESULTS AND DISCUSSION

By July 2011, the database comprised 2,313 records of plant names and uses among Cimbrian communities, of which most were exclusively vernacular plant names (c. 1000) from dictionaries, 494 included medicinal uses and 462 were foods (56 from gastronomy books and the rest from other sources). The total flora of the Alps comprises 4,028 species (Aeschimann et al., 2004). Of the 382 species used by Cimbrians, only 97 species were recorded as medicinal, and 94 as food sources. Most records (94.5%) corresponded to vascular plants, although fungi were also relatively frequent (Table 1). Among the vascular plant families *Rosaceae*, *Asteraceae*, *Poaceae*, *Pinaceae* and *Salicaceae* were more often used and named (Table 2).

Names of Plants

The names of the plants used by Cimbrian populations were mainly Germanic, but a small number belonged to different dialects deriving from Latin: Veronese, Vicentine, Ladino. Venetian is a Romance language of the Gallo-Italian group which is spoken in Venice and in West Verona (Lewis, 2009). Veronese and Vicentine are dialectal variants of Venetian, which are respectively spoken in the provinces of Verona and Vicenza (Italy). The Cimbrians of Lusernans live in an area where several variants of the Romance group of languages converge, such as: Ladino, the dialect of Trentino, and the Eastern Valsuganotto dialect (Cortelazzo, 1983). Several of the studies (Gruppo di Ricerca sulla Civiltà Rurale, 2002; Zampiva, 1999) recorded for the plants used by Cimbrians with "Sieben Gemeinde" names are actually Vicentine dialectal variants of Venetian. Other studies covering the "Dreizehn Gemeinden" (Zampiva, 1981, 1999) recorded Veronese names of plants, which were apparently used by Cimbrian populations. The studies of the Luserna Cimbrian plant names (Bertoldi et al., 2008; Zingerle, 1869) show the influence of the Trentino dialects.

From the interviews we held with the Cimbrians of Giazza and the Asiago plateau (in 2009, 2010 and 2011), it became clear that traditional knowledge of plant names and uses of Cimbrians aged under 50 was very limited. Associations, such as the Curatorium Cimbricum Veronense, run language courses which teach the Germanic names (Taucias)

of most common trees and grasses (c. 50 taxa), and publish a sheet summarising these names.

Habitat, Life Forms and Biogeography

Cimbrians collect plants and plant products mainly in the following habitats: forests (wild plants), home gardens (crops and weeds) as well as meadows and fields to a lesser extent (Table 3). Accordingly, the proportion of Phanerophytes (trees and shrubs) is extraordinarily large (44.3%), followed by Hemicryptophytes, and Therophytes and Geophytes to a lesser extent (Table 3). Nearly one third of the records correspond to Eurosiberian and Western Eurosiberian species. Subcosmopolite or widespread species (weeds and crops) account for 27.0% of the records. Mediterranean species (15.5%) are significant and show a larger proportion than for other minorities in the region, such as Mocheni or Ladins. A comparison made of the habitats where medicinal and food plants are collected shows that wet meadows as a source of medicinal plants are significantly more important (32.5, Table 4), followed by rocky places, shrublands, and meadows. When considering only wild species, proportions slightly differ (Table 4).

Medicinal and Food Plants

The medicinal plants used by Cimbrians are mainly wild (Tables 5 and 6) and are collected locally, whereas most food plants are cultivated or imported. A total of 382 species of vascular plants, mosses, mushrooms and lichens received Cimbrian names, and are used locally. Strictly speaking, 94 species are food plants (wild, cultivated or imported), 97 other species are exclusively used in medicine, and 34 species are employed as both food and medicine. Thus, 25.0% of the medicinal species are also food species, which is a similar proportion to those previously described for mountains in central Spain (Rivera et al., 2005). The proportion of Medicinal Gathered Food Plants (MGFP) is c. 2.0% of the wild plants used as medicine, which rises to 33.0% of the wild food plants, thus underlining the role of wild food plant species as medicinal. However, this finding is much lower than the 60.0% found in Spain (Rivera et al., 2005). Finally, 157 species are used for other purposes (veterinary, crafts, food for livestock, fuel, etc.).

As for the plant parts used (Table 7), aerial parts (or whole plants) and leaves are most often used in medicine. Fruits collected in summer account for most references as food sources, although leaves collected in spring are also relevant. Small home gardens are often found near houses in Cimbrian settlements. Certain food plants are grown together: herbs for seasoning and medicinal species, potatoes, tomatoes, cabbages, chards, onions, leeks, dandelions, horse radish, Roman chamomile, rosemary, sage, etc. (Anonymous, 1997, 1998). Forests, fields and meadows are at a distance of some hundred metres from the main settlements, thus making the collection of wild plants relatively easy. The 97 species used in medicine are as follows in nature: 77 are wild, 5 are wild and cultivated, 10 are exclusively cultivated, and 5 are imported (Tables 5 and 6).

Medicinal Uses of Plants

Medicinal plants are both externally and internally used depending on the purposes and the properties of each plant (Table 8). Locomotion-related purposes (contusions and bruises, sprains, strains, arthritis, rheumatism, lumbago) account for 25.0% of the remedies recorded. These are followed by skin (wounds, alopecia, rashes, boils, herpes, chilblains, burns, warts, insect bites) and digestive (diarrhoea, indigestion, gallstones, vomiting) disorders, with c. 20.0% each. Nearly 15.0% of remedies correspond to the nervous system (fever, aches, insomnia, depression, sciatica). Others such as respiratory, circulatory, excretory apparatus, teeth and mouth, are rarely cited.

It is worth mentioning the profound influence of herbalist Father Luigi Zocca (1877-1954) among the Cimbrian communities of Lessinia, particularly in the Illasi Valley, whose remedies were widely known and well-used (Nordera, 2002; Zampiva 2010) in not only Lessinia, but also in the neighbouring Valpolicella county (Verona) (Murari, 2004).

CONCLUSIONS

Cimbrians have traditionally used a relatively wide range of species for food and medicine. This richness in use contrasts with the different communities' marked poverty, which led to a substantial part of the population to undergo continuous emigration. Profound changes have taken place since the 1960s which had led, for example, to abandon sheep farming in favour of increased cows farming in the Altopiano de Asiago, to a large-scale production of honey and other non-wood forest products (fungi, fruits), development of tourism, among other activities. Accordingly, this has implied a partial abandonment of former practices and the associated practical knowledge on plants. However, combining an ethnobotanical methodology with an analysis of historical documents, recipe books, dictionaries and other sources of information has enabled us to determine with relative precision of the plant species used as food and medicine by Cimbrians and to compare these findings with the results obtained from other communities in the Alps. Cimbrians show a highly adaptive pattern in terms of their selection of species for specific uses, which is similar to those found for the other minorities studied, where the main differences lie in the names of plants or are due to biogeographical reasons. The relevance of food plants as medicine must be underlined as a general rule for communities in the Alps and abroad.

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Tables

Table 1. Frequencies of the main groups of plants and fungi featured in the records of uses or names in Cimbrian communities.

Groups	Records
Vascular plants	2189
Fungi	105
Lichens	9
Bryophytes (mosses)	10
Algae	0
Totals	2313

Table 2. The most relevant families of vascular plants in terms of number of records for uses and local names among Cimbrian communities.

Families	Records
Rosaceae	296
Asteraceae	160
Poaceae	153
Pinaceae	143
Salicaceae	116
Liliaceae	96
Brassicaceae	67
Lamiaceae	59
Fabaceae	57
Fagaceae	55
Malvaceae	43
Apiaceae	42
Adoxaceae	41

Table 3. Life forms, habitats and biogeography of the plants recorded in Cimbrian communities (in percentage of records).

Life forms	Percentage	Habitats	Percentage	Biogeography	Percentage
Phanerophyte	44.3	Forest	30.6	Widespread	27.3
Hemicryptophyte	19.5	Home gardens	23.1	Eurosiberian	15.7
Therophyte	14.3	Meadows	12.4	Western Eurosiberian	15.6
Geophyte	10.3	Fields	11.2	Mediterranean	15.5
Chamaephyte	5.7	Hedges	6.8	Circumboreal	7.8
Mycophyte	4.3	Rivers and Lakes	6.7	South European	7.2
Hydrophyte	0.5	Rocky places	3.7	Paleotemperate	5.5
Epiphyte	0.4	Shrubland	2.5	Tropical	2.2
Parasite	0.3	Wet meadows	2.4	Alpine	2.1
Helophyte	0.0			Eastern European	0.7

Table 4. Proportion of medicinal versus food plants for the different habitats, in Cimbrian communities (calculated using the percentage of records within each category).

Habitats	Proportion medicinal/ food (all species)	Habitats	Proportion medicinal/ food (wild species)
Wet meadow	32.5	Wet meadow	11.5
Rocky places	5.5	Fields	5.1
Shrubland	3.6	Rocky places	3.9
Meadows	2.9	Rivers and Lakes	2.8
Fields	1.1	Meadows	1.2
Forest	1.1	Shrubland	1.2
Rivers and Lakes	0.9	Home gardens	0.6
Hedges	0.6	Forest	0.5
Home gardens	0.4	Hedges	0.3

Table 5. Origin of the medicinal and food plant included among records for the Cimbrian communities.

Main use	Cultivated	Wild	Wild and cultivated	Imported
Medicinal	58	264	21	8
Food	271	122	27	36

Table 6. Origin of the medicinal and food plant included among species for the Cimbrian communities.

Main use	Cultivated	Wild	Wild and cultivated	Imported	Total
Food	46	33	4	10	**94**
Medicine	10	77	5	5	**97**
Food and medicine	12	18	4	0	**34**
Other uses	8	135	9	5	**157**
Total	76	263	22	20	**382**

Table 7. The plant parts used as medicine and food according to the records from the Cimbrian communities.

Records	Carpophores (Fungi)	Roots	Whole plant	Leaves	Flowers	Fruits
Medicinal	0	24	67	53	38	17
Food	62	18	62	18	8	196

Table 8. The relative frequency of the main therapeutic groups in terms of percentage of uses and species recorded among the Cimbrian communities if compared with numbers in other Alpine ethnic minorities.

Therapeutic groups	Average	Cimbri	Mocheni	Ladins	Walser
Skin	21.1	19.9	8.3	20.4	27.1
Digestive	20.4	17.0	23.4	22.8	20.0
Locomotor apparatus	13.6	24.2	19.7	14.1	4.3
Nervous system	12.8	14.4	9.8	6.3	14.6
Respiratory	11.4	8.7	14.4	14.1	11.1
Circulatory	7.7	5.4	9.8	8.6	8.4
Excretory apparatus	3.9	1.1	8.3	6.3	4.0
Teeth and mouth	2.9	3.9	0.0	3.1	3.2
Parasites	2.0	1.1	1.5	1.5	2.9
Visual system	1.5	1.4	2.2	0.7	1.6
Female reproductive apparatus	0.7	1.1	0.0	0.0	1.1
Metabolic problems	0.6	0.0	0.7	0.8	0.8
Ear	0.6	1.1	0.0	0.8	0.5
Male reproductive apparatus	0.3	0.3	1.5	0.0	0.0

Figures

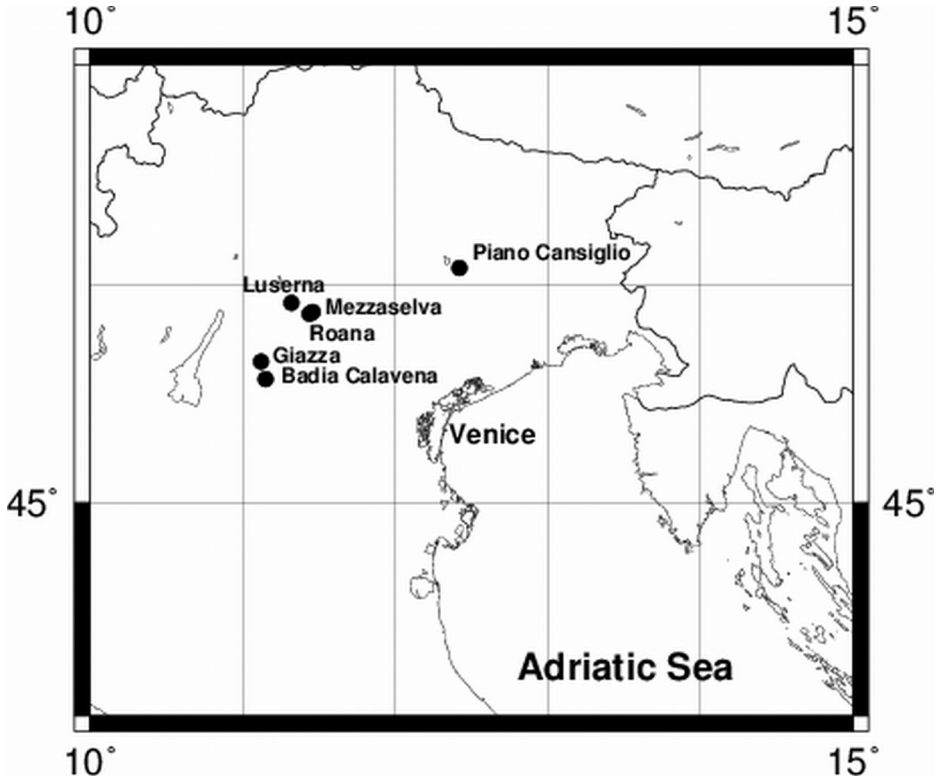

Fig. 1. The relevant Cimbrian communities in areas of Trento (Luserna), Verona (Giazza, Badia Calavena), Vicenza (Roana, and Mezzaselva), Vittorio Veneto (Piano Cansiglio) in NE Italy.