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EVALUATION OF THE CULTURAL SIGNIFICANCE OF WILD FOOD BOTANICALS TRADITIONALLY CONSUMED IN NORTHWESTERN TUSCANY, ITALY

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ABSTRACT.—A quantitative method to calculate the cultural significance of wild food plants used in traditional contexts was developed and applied to an ethnobotanical survey carried out in Northwestern Tuscany, Italy. Ninety-five informants were interviewed concerning the cultural significance of gathered wild edibles. Interview data was evaluated through the development of a special index: the Cultural Food Significance Index (CFSI). This index takes into account a wide variety of factors in the evaluation of a specific plant including: quotation frequency, availability, typology of the used parts, frequency of use, kind and number of the food uses, taste appreciation, and perceived role as a food-medicine. Very high CFSI values were identified for several wild "greens," whereas wild fruits seemed to play a subordinate role. The use of this index allows for the quantitative comparison of ethnobotanical data in an intercultural ethnobiological analysis.

Key words: ethnobotany, anthropology, food plants, Tuscany, Italy.

RESUMEN.—En el contexto de un estudio etnobotánico llevado a cabo en nordeste de La Toscana (Italia), se ha desarrollado y aplicado un método cuantitativo para calcular el significado cultural de las plantas silvestres tradicionalmente utilizadas en alimentación. Noventa y cinco informantes han sido entrevistados en relación al posible significado cultural de las plantas comestibles recolectadas. La evaluación de los datos obtenidos se realizó mediante la aplicación un índice especial: el índice de significado cultural alimentario (CFSI), que toma en consideración una amplia variedad de factores como: frecuencia de citación de la especie, disponibilidad o facilidad para conseguirla, tipología de las partes de la planta utilizadas, frecuencia de uso, tipos de empleo alimentario, apreciación del sabor y, por último, papel que se le asigna como alimento medicinal. Valores elevados de CFSI se obtuvieron para varias "hortilizas" silvestres, mientras que los frutos silvestres parecen jugar un papel subordinado. En definitiva, el uso de este índice permite una comparación cuantitativa de datos etnobotánicos en un análisis etnobiológico intercultural.

RÉSUMÉ.—Une méthode quantitative pour calculer la signification culturelle des plantes sauvages comestibles utilisées dans des contextes tratitionnels a été mis au point et appliquée à une étude réalisée dans le nord-ouest de la Toscane en Italie. Quatre-vingt-quinze personnes ont été interrogées sur la signification culturelle que revêt la récolte des végétaux sauvages dans un but alimentaire. Les données recueillies ont été évaluées au moyen d'un index spécial, l'Index de Signification Alimentaire Culturelle (CFSI). Cet index prend en considération un grand nombre de facteurs en vue de l'évaluation d'une plante spécifique: fréquence

avec laquelle elle est mentionnée, disponibilité, typologie des parties utilisées, fréquence des utilisations, types et nombre d'usages alimentaires, appréciation du goût et perception du rôle médicinal en même temps qu'alimentaire. De très hautes valeurs de CFSI ont été mises en évidence pour plusieurs légumes sauvages, tandis que les fruits sauvages semblent jouer un rôle secondaire. L'emploi de cet index permet de faire des comparaisons quantitatives entre les données ethnobotaniques dans le cadre d'une analyse ethnobiologique interculturelle.

INTRODUCTION

Several ethnobotanical surveys in Southern Europe have focused over the last few decades on the use of botanicals in folk medical practices. Nevertheless, in the whole Mediterranean area, only a few field studies have focused exhaustively on gathered wild plant edibles (Corsi and Pagni 1979; Corsi, Gaspari, and Pagni 1981; Guarrera 1994; Paoletti, Dreon, and Lorenzoni 1995; Pieroni 1999; Ertu_, 2000). Furthermore, only two pharmaco-botanical field studies *quantitatively* evaluated the use consensus within a specific area (Friedman et al. 1986; Bruni, Ballero, and Poli 1997).

The evaluation of different botanicals used inside a particular geographical and cultural context is important in order to facilitate an intercultural comparative analysis of quantitative ethnobotanical data. Such an evaluation is also necessary in order to discuss cultural components related to food acceptance and even to find insights for investigating phytochemical constituents that could influence popular appreciation of edibles.

Food botanicals have often been used in traditional systems multi-contextually and are commonly ingested as food-medicines. The physiological aspects of nutrition overlap with the bio-pharmacology of non-nutritional plant metabolites (Etkin and Ross 1982; Etkin 1993, 1994, 1996; Johns and Chapman 1995; Johns 1996; Moerman 1996; Ross, Etkin, and Muazzamu 1996; Chapman, Johns, and Mahunnah 1997; Pieroni 2000).

The aim of this study, focused on food plant edibles, is to develop a method for evaluating the cultural significance of biological taxa, defined as the importance of the role that a plant plays within a particular culture. Theoretically, such evaluation should be done by native people themselves living in that given traditional culture (Turner 1988). The problem concerning the evaluation of the cultural significance of biological taxa has been addressed by a few previous works (Berlin et al. 1973; Lee 1979; Hunn 1982). Berlin in particular used a scale of four values in order to classify the vegetable resources of the Tzeltal-Tzotzil society: "cultivated," "protected," "wild but useful," "culturally insignificant," while Lee later classified !Kung San plants in six classes: "primary," "major," "minor," "supplementary," "rare," and "problematic." These scales represented a first simple attempt to measure the cultural significance of plants. These scales, however, did not consider any special variables involved in the complex issue of the evaluation of cultural meanings of biological resources.

In the present study, we elaborated a specific Cultural Food Significance Index (CFSI) by modifying the methods developed by Turner (1988) for the Thompson and Lillooet Interior Salish people (British Columbia, Canada). Turner's index (In-

dex of Cultural Significance, ICS) considered three criteria: the quality of use (plants were placed on a five-point scale, according to their utilisation as primary or secondary food, as medicines, or as rituals), the intensity of use (how frequently the plant was used on a daily, seasonal or annual basis), and the exclusivity of use (how a particular plant has precedence over others in a given cultural role). Stoffle et al. (1990) modified the Turner's ICS in their quantitative analysis of the Paiute and Shoshone ethnobotany at Yucca Mountain (Nevada, USA) and developed an Ethnic Index of Cultural Importance (EICS), which eliminated the quality-of-use criteria and added a contemporary use variable category. Moreover, a Cumulative Index of Cultural Significance (CICS) was also formed by adding the plant's EICS scores for each ethnic group involved in that study.

Both indexes (ICS and EICS) have been developed to facilitate the evaluation of every plant used or known in a given ethnic context and not specifically as species used for food. These indexes fail, however, to take into account the factors of "taste appreciation" and the "perceived" food-medicinal multifunction of ingested botanicals, which represent important anthropological aspects in the phenomenon of ingestion of herbs and other plant dietary supplements (Johns 1990). Moreover, Tuner's index assigned arbitrary values to the "quality-of-use" category (for example medicinal or ritual plants were considered much less "important" than staples), while both indexes don't consider the "perceived availability" of the species, but rather include an indirect "ecological availability" index in the "frequency-of-use" parameter.

METHODS

Field work.— The study site is situated in Northwestern Tuscany, central Italy, and represents the upper part of the Serchio Valley, also called Garfagnana. Qualitative ethnobotanical surveys on the traditional medicinal and food species were carried out only recently in this territory (Uncini, Elisabetia, and Tomei 1999a, 1999b; Pieroni 1999, 2000). The traditional culture of this region has developed in an agricultural and partially pastoral context.

Cultivated species, which have played a central role in the local food economy are represented by *Castanea sativa* L., *Zea mays* L., *Triticum dicoccum* SCHÜBLER, *Panicum miliaceum* L. and *Secale cereale* L. together with *Solanum tuberosum* L., *Phaseolus lunatus* L. and *Phaseolus vulgaris* L. These species have long represented the principal vegetable food sources used by locals. In the winter season, chestnut flour based dishes (mostly *polenta*) make up the main meal, substituted in the summertime by corn meal *polenta*. The traditional food culture of the Serchio Valley includes a wide variety of botanicals collected from the wild.

The physical geography of the study area is defined inside 16 small municipalities (Figure 1). This area is a mountainous territory, delimited by the Apuan Alps in the western part and the Apennines in the eastern, respectively facing the Tyrrhenian coast and the region Emilia-Romagna.

Ethnobotanical information was obtained through structured interviews with 95 persons (age range of 67 to 96 years) having extensive knowledge of the food culture and living in small villages (50-500 inhabitants). Informants were asked to

FIGURE 1.—Location of the studied area.

spontaneously quote the names of wild edibles that are gathered and consumed today and those that were gathered and consumed at least 30 years ago. Furthermore, the informants were asked to specify the following information for each quoted taxa including: which part of the plant was used, how the plant part was used, the perception of its availability, the frequency of use of the species at the present time and in the past (taking as reference about 30 years ago), the taste appreciation, and an eventual medicinal purpose attributed to its ingestion. Conversations were carried out in the local dialect, which is known by the author.

All of the quoted botanicals were identified during a previous project (Pieroni 1999), and the adopted nomenclature follows Pignatti (1997) for the vascular taxa, and Gerhardt (1997) for the mushroom species. In this study only wild botanicals native in the region were considered. Species with food value that were long naturalised or domesticated in the region, such as *Robinia pseudoacacia* (Fabaceae) or *Prunus laurocerasus* (Rosaceae) were excluded.

According to the principles of ethnobiological taxonomy (Berlin 1992), traditional cultures identify diverse botanicals in the same "generic" taxa. In the studied region, different botanical species were locally grouped within a unique classification unit by use their use (and according to the so-called "utilitarian factor" described by Hunn 1982). Plants were therefore listed and ordered within the study following these vernacular taxa and not the modern botanical taxa.

Cultural food significance index (CFSI).— The Cultural Food Significance Index, specifically elaborated to evaluate the cultural significance of wild edibles, was calculated as:

$$CFSI = QI \times AI \times FUI \times PUI \times MFFI \times TSAI \times FMRI \times 10^{-2}$$

The formula takes in account seven indexes which express the frequency of

quotation (QI), the availability (ALI), the frequency of utilisation (FUI), the plant parts used (PUI), the multifunctional food use (MFFI), taste score appreciation (TSAI), and the food-medicinal role (FMRI).

Similarly, as for the ICS and EICS of Turner (1988) and Stoffle et al. (1990), the components of the index are multiplied. Yet, differently from those indexes, the total number of uses and/or plant parts is not taken into account by adding the multiplied factors, but by specific independent indexes (PUI and MFRI). This method was chosen in order to avoid an overestimation of plants which do not present a unique useful morphological part. In contrast to medicinal taxa, diverse parts of food herbs are in fact commonly used for food.

The seven indexes were then multiplied and not added, in order to amplify eventual variations. They are calculated as described below; TSAI and FMRI were calculated for each taxa considering the raw average value of those provided by the informants.

Quotation Index (QI).— The quotation index (QI) expresses the number of all the positive responses given by the informants about a particular plant, while answering a request to spontaneously mention all the known *and* used wild edibles. Taxa with less than two responses were not considered.

Availability Index (AI).— This index (Table 1) expresses the availability of the plants, perceived by locals and corrected by a factor that considers if the use of the plant is ubiquitous or localised within the studied area. In this last case AI is diminished by half or a whole unit. In this way, AI does not represent a "determined" availability index as in the work of Lepofsky, Turner, and Kuhnlein (1985), but rather a "perceived" availability index. In cultural significance evaluation studies, ecological factors such as relative abundance in the natural milieu cannot be directly considered as criteria because they are not culturally dependent. On the contrary, the perception of the availability of a given species, which only *indirectly* expresses its availability in the natural context, also represents a factor which influences the cultural meanings of that species within a given cultural group and a given natural context.

Frequency of Use Index (FUI).— This index (Table 2) represents the frequency of the utilisation of each plant. As a reference, we use the average value between the quoted frequency "once" (corresponding at about 30 years ago) and that mentioned by the informants for the present times.

TABLE 1.—Availability Index (AI) categories.

Availability	Index value
Very common	4.0
Common	3.0
Middle	2.0
Rare	1.0
Localisation of the use	**Index value**
Ubiquitary	=
Localised	-0.5
Very localised	-1.0

TABLE 2.—Utilisation Frequency Index (UFI) categories

Utilisation Frequency	Index value
> Once/week	5.0
Once/week	4.0
Once/month	3.0
> Once/year but < once/month	2.0
Once/year	1.0
No longer used during the past 30 years	0.5

Part Used Index (PUI).— This value (Table 3) expresses the multiple use of diverse parts of the same plant. It takes into account whether multiple morphological plant parts are collected and eaten instead of single parts. The contemporary use of multiple plant parts for different food aims is evaluated higher than the use of young tissues of the whole plant.

TABLE 3.—Part Used Index (PUI) categories

Part used	Index value
bark	1.0
roots or rootstocks	1.5
roots, only younger parts	1.0
bulbs	1.5
stems	1.0
leaves	1.5
leaves stalks	1.0
young whorls of leaves	1.0
leaves with a few stems	2.0
shoots	1.25
shoots, only younger parts	0.75
buds	0.75
flowers	0.75
receptacles	0.75
fruits	1.5
seeds	1.0
whole aerial parts	3.0
whole aerial parts of very young plants	2.0
caps (mushrooms)	1.5
whole fruiting body (mushrooms)	2.0

Multi-Functional Food Use Index (MFFI).— This index (Table 4) considers the possible food uses of each single vernacular taxa. Values were assigned to traditional food preparations, excluding new "imported" or "creative" utilisation. In the case of species which are boiled and then further processed (stewed, stuffing for diverse preparations), the value attributed to the boiling process is increased by a half unit. If the plant is generally used in mixtures of more than three species, the index value is diminished by a half unit.

TABLE 4.—Multi-Functional Food Use Index (MFFI) categories

Usage	Index value
Raw, as snack	0.5
Raw, in salads	1.5
Fried in fat, without or with beaten eggs ("Frittata")	1.0
Boiled	1.0
Boiled, then stewed of fried	1.5
Boiled, than as stuffing for diverse preparations (pies, "tortelli"...)	1.5
Soups (mixtures)	0.75
Stewed	1.0
Roasted	1.0
Condiment	1.0
Condiment for restricted purposes	0.75
Jams or Jellies	1
Syrups	1
(Usage in mixtures)	(-0.5)

Taste Score Appreciation Index (TSAI).— This index (Table 5) represents the scores by which locals expressed their taste appreciation for each plant. Scores are based on a possible range of values between 4 and 10 (4: lowest, terrible taste; 10: highest, best taste). Similarly, Kuhnlein, Turnep, and Kluckner (1982) used a five-step-scale (1: very poor; 2: poor; 3: fair; 4: good; 5: very good) in a previous work dealing with the taste acceptability of roots used by native people on the coast of British Columbia. A range of values between 4 and 10 was specifically adopted in the present study in order to make it easier for the informants to make their personal evaluation. This range was more applicable because the same values were and still are the values used as marks in the Italian school system, and this mechanism is very familiar to Italians of all ages.

TABLE 5.—Taste Score Appreciation Index (TSAI) categories

Taste Appreciation	Index value
Best	10
Very good	9
Good	7.5
Fair	6.5
Poor	5.5
Terrible	4

Food-Medicinal Role Index (FMRI).— A few species had "special" significance because of their supposed health properties. This index (Table 6) reflects the perceived properties as food-medicine for each quoted species. Supposed ritual or magical "health" aspects related to the ingestion of some particular species were considered in the evaluation of these values. Higher values are attributed in cases of well-defined medicinal properties ascribed to the ingested plants. For the more general assessment of a plant as "healthy," without any specifications, minor FMRI values were assigned.

TABLE 6.—Food-Medicinal Role Index (FMRI) categories

Role as Food-Medicine	Index value
Very high ("that food is a medicine!")	5.0
High ("that food is quite a medicine", with clear specification of the treated affections)	4.0
Middle-high ("that food is very healthy")	3.0
Middle-low ("that food is healthy", no specification of a particular therapeutic action)	2.0
Not recognised	1.0

RESULTS

CFSI values were calculated following the aforementioned formula (see Table 7 for an example of how the scores for a few vernacular taxa were determined are reported). CFSI values of each recognised wild food botanical are listed in Table 8. Plants are ordered according to decreasing ICS values and are listed by their vernacular name. ICS values varied between 0.1 and 662, and it was possible to classify the cited botanicals into six groups: species with very high significance (ICS = 300 and over), with high significance (ICS = 100-299), moderate significance (ICS = 20-99), low significance (ICS = 5-19), very low significance (ICS = 1-4) and negligible significance (ICS< 4).

Food species with very high cultural significance values.— The group with very high significance (ICS = 300+) was mainly comprised of wild "greens" which are used in different preparations (*Borago, Urtica, Taraxacum, Cichorium, Campanula* spp.), and also two species (*Rosa canina* and *Rubus ulmifolius*) which are well known in the local gastronomy for both their fruits and green aerial parts (shoots). All the species included in this first category represent the most frequently quoted edibles. Rose shoots are eaten as snacks and their petals had ritual significance in the past for bringing good omens during St. Rita's day. The taste score of these plants is generally never very high, but they do play a central role in the daily traditional diet.

Food botanicals with high cultural significance values.— The species included in this group typically play a role as the main vegetable source, especially in the spring. The most commonly gathered species are usually eaten raw in mixed salads and are viewed as having a "cleansing" property. The group also includes the two most commonly used wild aromatic species: wild fennel (*Feoniculum vulgare* spp.*vulgare*) and calamint (*Calamintha nepeta*). The first is actually only used to aromatise typical seasonal preparations such as boiled chestnuts or roasted pig liver, but it's "magical" properties against evil-eye when applied inside a closed piece of red cloth ("breo") are also well-known.

The high value attributed to a poisonous species (*Clematis vitalba*) whose young shoots represent the basic ingredient of a kind of traditional spring pancake called "frittata di vezzadri" are also interesting. Studies about the toxic component's intake and evaluation of the efficacy of detoxification processing (cooking) for this species could represent an interesting step toward developing risk assessment research (Uiso and Johns, 1995).

TABLE 7.—Example of derivation of the CFSI for three vernacular taxa gathered in the studied area.

Vernacular taxa	Botanical taxa	Values of the partial indexes (QI/AI/UFI/PUI/MFFI/TSAI/FMRI)	Details of calculation of the CFSI	CFSI
Boragine or ***Buragine***	*Borago officinalis* and Echium vulgare (both Boraginaceae);	QI: 35 AI: common, ubiquitary = 3.0; UFI: < once/week; > once/week = 3.5; PUI: whole aerial parts = 3.0; MFFI: boiled, and stewed and as stuffing for diverse preparations; fried in fat: 1.0+0.5+0.5+1.0 = 3.0; TSAI: = 8.0; FMRI: < "that food is very healthy"; > "that food is healthy" = 2.5	35 x 3.0 x 3.0 x 3.0 x 8.0 x 2.5 x 10^{-2} =	662
Sambuco	*Sambucus nigra* (Caprifoliaceae)	**QI: 13;** AI: common, ubiquitary = 3.0; UFI: < once/month; > once/year = 2.0; PUI: fruits = 1.5; MFFI: syrups =1.0 TSAI = 7.5; FMRI: "that is very healthy" = 3.0;	13 x 3.0 x 2.0 x 1.5 x 1.0 x 7.5 x 3.0 x 10^{-2} =	26.3
Coccora or ***Cocco***	*Bovista nigrescens* (Amanitaceae)	QI: 5; AI: rare, localised = 1.0-0.5 = 0.5; UFI: once/year = 1.0; PUI: whole fruiting body = 2.0; MFFI: raw, salads; fried in fat: 1.0+1.0 = 2.0; TSAI: 9.5; FMRI: not recognised: 1;	5 x 0.5 x 1.0 x 3.0 x 2.0 x 9.5 x 1 x 10^{-2} =	1.19

TABLE 8.—Cultural Food Significance Index (CFSI) values of gathered wild botanicals in Serchio Valley.

Vernacular Names	Scientific Names	Botanical Family	QII	AI	UFI	PUI	MFFI	TSAI	FMRI	ICS
Boragine or ***Buragine***	*Borago officinalis* L. and *Echium italicum* L.	Boraginaceae	35	3	3.5	3	3	8	2.5	**662**
Ortica	*Urtica* sp. pl.	Urticaceae	87	4	3	1.5	2.5	7.5	2	**587**
Piscialletto	*Taraxacum officinale* WEB.	Asteraceae	35	4	3.5	2	2.5	7.5	3	**551**
Scepe or ***Scepon*** or ***Rovo*** or ***Mora***	*Rubus ulmifolius* SCHOTT.	Rosaceae	23	4	2.5	2.5	3.5	7.5	3	**453**
Pittellenga or ***Pettellenga*** or ***Peterlenga*** or ***Rosa selvatica***	*Rosa canina* L.	Rosaceae	44	3	3	2.5	2	7.5	3.5	**446**
Radicchio di campo or ***Radicchio selvatico***	*Cichorium intybus* L., *Crepis* sp.pl. and *Picris* sp. pl.	Asteraceae	33	3	3.5	2	2.5	7.5	3	**390**
Raponzolo	*Campanula rapunculus* L.	Campanulaceae	32	3	3.5	2.25	2.5	8	2.5	**302**
Ingrassaporci or ***Grassaporci*** or ***Piattello***	*Hypochoeris radicata* L.	Asteraceae	27	3.5	2.5	2	3.5	8	2.5	**265**
Nipitella or ***Nepitella*** or ***Empitella***	*Calamintha nepeta* (L.) SAVI	Lamiaceae	45	4	3	1.5	2.5	8	1.5	**243**
Cicerbita or ***Riccino*** or ***Ricciolo*** or ***Riccetto***	*Sonchus* sp. pl.	Asteraceae	36	3	3.5	2	2.5	8	1.5	**227**
Crescione	*Apium nodiflorum* L. and *Veronica beccabunga* L.	Apiaceae	31	2	3	2.5	2.5	7.5	2.5	**174**
Pancagiolo or ***Pancagiotto*** or ***Gallinella***	*Valerianella carinata* LOISEL.	Valerianaceae	55	2.5	3.5	1.5	2	8	1.5	**173**
Finocchio selvatico or ***Anacini***	*Foeniculum vulgare* L. spp. *vulgare*	Apiaceae	50	3	2.5	2	0.75	8	3.5	**158**
Vezzadro	*Clematis vitalba* L.	Ranunculaceae	58	3.5	3	1	1.5	8	2	**146**
Erba striscia or ***Strisciola*** or ***Cucina***	*Silene vulgaris* (MOENCH) GARCKE	Caryophyllaceae	25	3	3	1.75	2.5	9	1.5	**133**
Tassellora or ***Casellora*** or ***Tassella*** or ***Cassella***	*Crepis capillaris* (L.) WALLR.	Asteraceae	17	2.5	3.5	2	3	9	1.5	**120**
Bagola or ***Mirtillo***	*Vaccinium myrtillus* L.	Ericaceae	24	2	2.5	1.5	2	8	3	**87**
Peporino or ***Pepurino***	*Thymus pulegioides* L.	Lamiaceae	32	3.5	2.5	1.5	1.5	9	1.5	**85**
Tirafilo or Tirafila or Lingua di vacca or Orecchie d'asino	*Plantago lanceolata* L.	Plantaginaceae	11	4	3	2	2.5	7.5	1.5	**74**
Pan e vino or ***Erba putta*** or ***Zezzora***	*Rumex acetosa* and *Rumex acetosella* L.	Polygonaceae	35	3	2	1.5	1.5	7.5	2	**70**
Órbaco or ***Alloro***	*Laurus nobilis* L.	Lauraceae	38	2	3	1.5	1.5	8	1.5	**62**
Sassello or ***Sassaiolo***	*Reichardia picroides* L.	Asteraceae	14	2.5	3	2	2	9	1.5	**57**
Pastinella or ***Pastineggio***	*Daucus carota* L.	Apiaceae	20	3	2.5	2	1.5	8	1.5	**54**
Pupattole or ***Belle bimbe***	*Papaver rhoes* L.	Papaveraceae	13	2	3	2	2.5	8.5	1.5	**50**

TABLE 8 (continued).

Vernacular Names	Scientific Names	Botanical Family	QII	AI	UFI	PUI	MFFI	TSAI	FMRI	ICS
Romicia or ***Rombicia*** or ***Romice***	*Rumex crispus* L. AND *Rumex obtusifolium* L.	Polygonaceae	18	3.5	2	1.5	2	8	1.5	**45**
Porcino (***Rosso*** or ***Moro*** or ***Sangiovannnino*** or ***Estatino***)	*Boletus* sp. pl.	Boletaceae	20	1.5	2.5	2	3	9.5	1	**43**
Menta	*Mentha* sp. pl.	Lamiaceae	12	2.5	2	1.5	2	9	2.5	**41**
Erba cipollina	*Allium schoenoprasum* L.	Liliaceae	18	2	2	2	1.5	8.5	2	**37**
Zinepro or ***Ginevro*** or ***Ginepro***	*Juniperus communis* L.	Cupressaceae	52	1.5	2	1.5	1	7	2	**33**
Prignola or ***Uva bócca*** or ***Palline bócche***	*Prunus spinosa* L.	Rosaceae	32	2	2	1.5	1.5	7	1.5	**30**
Sportavecchia,or ***Sporavecchia***	*Bunias erucago* L. and *Lapsana communis* L.	Cruciferae	9	2.5	2.5	2	2	8	1.5	**27**
Sambuco	*Sambucus nigra* L.	Caprifoliaceae	13	3	2.5	1.5	1.5	7.5	3	**26**
Lampone	*Rubus idaeus* L.	Rosaceae	9	2	1.5	1.5	2.5	9	2.5	**23**
Lupporo or ***Lopporo*** or ***Luppolo***	*Humulus lupulus* L.	Cannabaceae	10	3	3	1.25	1.5	9	1.5	**23**
Melissa or ***Menta limona***	*Melissa officinlis* L.	Labiate	12	2	3.5	1.5	2	9	1	**23**
Orecchietta or ***Boccon di pecora***	*Silene alba* (MILLER) KRAUSE	Caryophyllaceae	10	2.5	1.5	2	2	8.5	1.5	**19**
Salvastrella or ***Pimpinella***	*Sanguisorba minor* L.	Rosaceae	9	3	3	1.5	1.5	8.5	1	**16**
Galletto	*Cantharellus cibarius* FR.:FR.	Cantharellaceae	15	1.5	1.5	2	2	9	1	**12**
Nocella	*Corylus avellana* L.	Betulaceae	12	2	3	1	1.5	8	1	**8.6**
Mazza di tamburo	*Macrolepiota procera* (SCOP.: FR.) SINGER	Agaricaceae	14	1.5	1.5	1.5	2	9	1	**8.5**
Aglio selvatico	*Allium vineale* L.	Liliaceae	2	1.5	2	3	1.5	8	2.5	**8.1**
Spinacio che fa in montagna or ***Bieto cacancero***	*Chenopodium bonus-henricus* L.	Chenopodiaceae	9	0.5	2	2	2	8.5	2.5	**7.7**
Fragola	*Fragaria vesca* L.	Rosaceae	7	2	2.5	1.5	1.5	9	1	**7.1**
Nespola	*Mespilus germanica* L.	Rosaceae	6	1	2	1.5	1.5	7.5	3.5	**7.1**
Erbo de' tedeschi	*Lepidium campestre* L.	Cruciferae	13	1	1.5	2	2	8.5	1	**6.6**
Zucca matta or ***Colacci*** or ***Erba de' bisci***	*Bryonia dioica* L.	Cucurbitaceae	12	2	2	1	1.5	9	1	**6.5**
Stioppone or ***Stramontano*** or ***Perticone***	*Cirsium arvense* (L.) SCOP.	Asteraceae	8	2	1.5	1.5	2	8	1	**5.8**
Morella	*Russula cyanoxantha* (SCHAEFF) FR.	Russulaceae	7	2	1	1.5	2.5	8	1	**4.2**
Lattuccio	*Lactuca serriola* L.	Asteraceae	6	1	1	2	1.5	9	2.5	**4.1**
Malva or ***Malvia***	*Malva sylvestris* L.	Malvaceae	6	4	1	1.5	1	7.5	1.5	**4.1**
Timo	*Satureja montana* L.	Lamiaceae	10	1.5	1.5	1.5	1.5	8	1	**4.1**
Prugnolo	*Thricoloma georgii* KÜHN. ET ROMAGN.	Tricholomataceae	9	1	1	1.5	3	9.5	1	**3.9**
Origano	*Origanum vulgare* L.	Lamiaceae	9	1.5	1	1.5	1.5	8	1.5	**3.6**