

The traditional use of fungi in Sicily, Italy

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Abstract. Notwithstanding the use of fungi as food and medicine dating back to past times, ethnomycological studies are still a neglected branch of ethnobotany. This work is a contribution to the knowledge of the traditional use of fungi in Sicily. The vernacular names and

uses of 72 macromycetes mainly used as food in rural communities of Sicily are listed and discussed. The use of three taxa, quoted as edible in literature, is here critically analysed.

Key words: Ethnomycology, Fungi, Italy, Sicily

The progress of mankind has been made possible thanks to the use of a considerable number of plant and animal organisms. In Europe the use of fungi as food or therapeutics dates back to prehistory, but ethnomycological studies are still inadequate, particularly in Sicily.

A large number of people are engaged in collecting fungi as food in Sicily. The names in dialect of the fungi or the local name of the host-plant are of great importance in discriminating between poisonous and edible species for many fungi gatherers.

Ethnomycological investigations in Sicily began with the works of BOCCONE (1674) and CUPANI (1696-1697). Later, Father BERNARDINO DA UCRIA (1789), in "Hortus Regius Panormitanus", reported the names in dialect of ten fungi and the healing properties of two of them. *Pisolithus arhizus*, erroneously included in the genus *Tuber* F. H. Wigg., is reported as an aphrodisiac while taxa belonging to genus *Bovista* Pers. are listed as curatives for amputations, haemorrhages, haemorrhoids, ulcer and excoriations. A large number of ethnomycological findings are included in Inzenga's monograph on Sicilian fungi (INZENGA 1865-1869).

Based on data reported in literature and on recent investigations in Sicilian rural communities, the folk uses of 72 taxa are reported in Table 1.

A high alimentary value is attributed to horse agaricus (*Agaricus arvensis*), meadow agaricus (*A. campester*) and Caesar's amanita (*Amanita*

caesarea). The latter can be eaten raw and is particularly favored in salads with olive oil, pepper and salt. *Amanita ovoidea*, *A. strobiliformis*, and *A. vaginata* s.l. are also included among the edible amanitas. Moreover, in the second half of the XIX century, *A. vaginata* f. *vaginata* and *A. vaginata* f. *plumbea* were sold cheaply in the local markets. The alimentary properties of these amanitas are rather questionable and they could be responsible for gastro-intestinal disorders. Field volvariellas (*Volvariella gloiocephala*, *V. volvacea*) are moderately edible too and, in many villages of the Madonie Mts (north Sicily), are eaten only after they have been well cooked.

The basidiomata of fly amanita (*Amanita muscaria*) are dried, reduced to powder and mixed with sugar. The powder is used to catch flies and other insects. Fly amanita is also used as a luxury item in some municipalities on the Madonie where it is dried, crumbled, mixed with tobacco and smoked. This is an unadvisable practice due to the content of muscarine which can cause hallucinations and serious neurological damage.

The summer bolete (*Boletus reticulatus*), king bolete (*B. edulis*) and black bolete (*B. aereus*) are eaten raw in salads or cooked in many recipes. They are also suitable for freezing and as alimentary preserves. Although the flesh of *Boletus luridus* and *B. erythropus* turns bright blue to green-bluish when cut, the large basidiomata are edible if well cooked. The rare Satan's bolete (*Boletus satanas*) was for a long time considered

Table 1 - Taxa, common names, vernacular names and uses of fungi in Sicily.

Taxa	Common name	Vernacular name	Use
<i>Agaricus arvensis</i> Schaeff. : Fr.	Horse agaricus	Funcia campagnola, Funcia picurina	Food
<i>Agaricus campester</i> L. : Fr.	Meadow agaricus	Funcia campagnola, Funcia picurina	Food
<i>Agrocybe cylindracea</i> (DC. : Fr.) Maire	—	Funcia di chiuppu, Funcia di caccamo	Food
<i>Amanita caesarea</i> (Scop. : Fr.) Pers.	Caesar's amanita	Funcia d'ovu	Food
<i>Amanita muscaria</i> (L. : Fr.) Lam.	Fly amanita	Acchiappamuschi	Various
<i>Amanita ovoidea</i> (Bull. : Fr.) Link	—	—	Food
<i>Amanita strobiliformis</i> (Paul.) Bertillon	—	—	Food
<i>Amanita vaginata</i> (Bull. : Fr.) Lam. f. <i>vaginata</i>	—	Funci palummi	Food
<i>Amanita vaginata</i> (Bull. : Fr.) Lam. f. <i>plumbea</i> (Schaeffer) Vesely	—	Funci palummi	Food
<i>Armillaria mellea</i> (Vahl. : Fr.) Kumm.	Honey mushroom	Funcia di chiuppu, Funcia di ceusu Funcia di salici, Funcia di urmu Funcia di speziu, Funcia di aranciu Funcia di pirali	Food
<i>Armillaria tabescens</i> (Scop. : Fr.) Emeland	Honey mushroom	Funcia di traversa	Food
<i>Astraeus hygrometricus</i> (Pers. : Pers.) Morg.	Barometer earth star	Piditu di lupu a stidda	Food
<i>Boletus aereus</i> Bull. : Fr.	Black bolete	Purcini	Food
<i>Boletus badius</i> (Fr. : Fr.) Fr.	—	Funcia castagnara	Food
<i>Boletus chrysenteron</i> Bull. S. str.	Red-cracking bolete	Funci 'i filici	Food
<i>Boletus edulis</i> Bull. : Fr. s. str.	King bolete	Purcini	Food
<i>Boletus erythropus</i> Pers. : Fr.	—	—	Food
<i>Boletus luridus</i> Schaeff. : Fr.	—	Funciu vilinusu, Mussu di voi	Food
<i>Boletus reticulatus</i> Schaeff.	Summer bolete	Purcini	Food
<i>Boletus rhodoxanthus</i> (Krombh.) Kallenb.	Purple-orange bolete	Funcia lardara	Food
<i>Cantharellus cibarius</i> Fr. : Fr.	Common chanterelle	Funcia spizzera, Cricchia di iaddu	Food
<i>Cantharellus cinereus</i> (Pers. : Fr.) Fr.	Black trumpet	Trombette dei morti	Food
<i>Craterellus cornucopioides</i> (L. : Fr.) Pers.	Black trumpet	Trombette dei morti	Food
<i>Clitocybe geotropa</i> (Lam. & DC.) Quéf.	Stout-stalked funnel cap	Funci 'i rota, Funci filera, Campagnoli	Food
<i>Clitocybe gibba</i> (Pers. : Fr.) Kumm.	—	Funcia campagnuledda	Food
<i>Clitocybe nebularis</i> (Batsch : Fr.) Kumm.	Clouded-funnel cap	Funcia di pampina	Food
<i>Clitocybe odora</i> (Bull. : Fr.) Kumm.	Anise funnel cap	—	Food
<i>Coprinus comatus</i> (Müll. : Fr.) Pers.	Shaggy-mane inky cap	Calamaru	Food
<i>Coprinus comatus</i> (Müll. : Fr.) Pers. var. <i>ovatus</i> (Schaeff.) Fr.	—	Calamaricchiu	Food
<i>Fistulina hepatica</i> Bull. : Fr.	Beefsteak polypore	Lingua di bue	Food
<i>Fomes fomentarius</i> (L. : Fr.) Kickx	—	Funciu d'isca, Isca di voscu	Various, Medicinal
<i>Grifola frondosa</i> (Dicks. : Fr.) S. F. Gray	—	Funciu jaddu	Food
<i>Gyroporus castaneus</i> (Bull. : Fr.) Quéf.	Chestnut bolete	Funcia di vigni	Food
<i>Helvella crispa</i> (Scop. : Fr.) Fr.	Common white saddle	Spugnola crespa	Food
<i>Hericium coralloides</i> (Scop. : Fr.) Pers.	—	Funcia varvavitrana masculina	Food
<i>Hericium erinaceus</i> (Bull. : Fr.) Pers.	—	Varvazzi; Varvavitrano; Varva di vecchiu Funcia varvavitrana	Food
<i>Hypsizygus ulmarius</i> (Bull. : Fr.) Redhead	—	Funcia d'urmu	Food
<i>Lactarius deliciosus</i> (L. : Fr.) S. F. Gray	Orange latex lactarius	—	Food
<i>Lactarius piperatus</i> (L. : Fr.) Pers	Peppery lactarius	Funcia lattara, Funcia pipirata	Food
<i>Laetiporus sulphureus</i> (Bull. : Fr.) Murrill	Chicken polypore	Funcia di carrubbu	Food
<i>Langermannia gigantea</i> (Batsch : Pers.) Rostk.	Giant puffball	Bissinu, Fissinu, Sbissinu Ricuttuni	Food Medicinal, Various
<i>Leccinum corsicum</i> (L. Rolland) Singer	—	Funcia di rusedda, Funci ebrei	Food
<i>Leccinum lepidum</i> (Bouchet ex Essette) Quadr.	—	Funcia aranciuni	Food
<i>Lepista nuda</i> (Fr. : Fr.) Cooke	True blewit	Funcia di latticuogno	Food
<i>Lycoperdon perlatum</i> Pers. : Pers.	Common puffball	Piditu di lupu	Food
<i>Lycoperdon pyriforme</i> Schaeff. : Pers.	Stump puffball	Piditu di lupu	Food
<i>Macrolepiota excoriata</i> (Schaff. : Fr.) Wasser	Flaky agaric	Funcia picurina, Funcia campagnola	Food
<i>Macrolepiota procera</i> (Scop. : Fr.) Singer	Parasol lepiota	Funciu cappiddinu	Food
<i>Marasmius oreades</i> (Bolt: Fr.) Fr.	Fairy ring marasmius	—	Food
<i>Morchella esculenta</i> (L. : Fr.) Pers.	—	Sponsi, Cugni di vecchia	Food
<i>Phellinus ignarius</i> (L. : Fr.) Quéf.	—	Funcia russigna dura	Handcraft
<i>Pisolithus arhizus</i> (Scop. : Pers.) S. Rauschert	False truffle	Catatunfuli, falsi tartufi	Food, Handcraft
<i>Pleurotus eryngii</i> (DC. : Fr.) Quéf. var. <i>eryngii</i>	—	Funcia di panicaudu, Funcia di mastigogna Funcia di spina	Food
<i>Pleurotus eryngii</i> (DC. : Fr.) Quéf. var. <i>ferulae</i> Lanzi	—	Funcia di Levanzu, Funcia di ferra	Food
<i>Pleurotus eryngii</i> (DC. : Fr.) Quéf. var. <i>elaeoselini</i> Venturella, Zervakis & La Rocca	—	Funcia di dabs	Food

Table 1 - Continuation

Taxa	Common name	Vernacular name	Use
<i>Pleurotus eryngii</i> (DC. : Fr.) Quéf. var. <i>thapsiae</i> Venturolla, Zervakis & Saitta	—	Funcia di firrazzolo	Food
<i>Pleurotus nebrodensis</i> (Inzenga) Quéf.	—	Funcia di basiliscu, Funcia di curmu Funcia di li Madunii	Food
<i>Pleurotus opuntiae</i> (Dur. & Lév.) Sacc.	—	Funcia di ficudinia	Food
<i>Pleurotus ostreatus</i> (Jacq. : Fr.) Kumm.	Oyster mushroom	Funcia di nipitedda, Funcia di olivella	Food
<i>Polyporus arcularius</i> (Batsch : Fr.) Fr.	—	Funcia di suvaru	Food
<i>Russula delica</i> Fr. s. str.	Milk white russula	Funcia di ilici, Funcia pipirita	Food
<i>Russula heterophylla</i> (Fr. : Fr.) Fr.	—	Funcia di ferra	Food
<i>Russula virescens</i> (Schaeff.) Fr.	Green quilt russula	Palummedda virdi	Food
<i>Suillus bellinii</i> (Inzenga) O. Kuntze	—	—	Food
<i>Suillus collinitus</i> (Fr.) O. Kuntze	—	Vavusi, Funci 'i pigna	Food
<i>Suillus granulatus</i> (L. : Fr.) Roussel	Dotted-stalk bolete	Vavusi, Funci 'i pigna	Food
<i>Suillus luteus</i> (L. : Fr.) Roussel	Slippery jack bolete	Vavusi, Funci 'i pigna	Food
<i>Terfelia arenaria</i> (Morris) Trappe	—	Traffulu, Catatunfuli janchi	Food
<i>Tricholoma tridentinum</i> Singer var. <i>cedretorum</i> M. Bon	—	Funcia di cedro	Food
<i>Tuber aestivum</i> Vittad.	Euro summer truffle	—	Food
<i>Volvariella gloiocephala</i> (DC. : Fr.) Boekhout & Enderle	Field volvariella	Funcia di pagghia	Food
<i>Volvariella volvacea</i> (Bull. : Fr.) Sing.	—	Funcia di pagghia	Food

as edible and sold in markets of the province of Catania. This blunder, which caused many cases of poisoning, was due to the resemblance between Satan's bolete and the edible, if well cooked, purple-orange bolete (*B. rhodoxanthus*).

In Sicily the most renowned *Leccinum* species is *Leccinum corsicum*, a cistus symbiont. According to a local recipe, the caps are stuffed with chopped garlic, onion, olive oil, salt, pepper and salted anchovies and recoated with bread-crumbs and pecorino cheese after they have been cooked.

A group of boletes with sticky cuticles and soft flesh are also used as food in Sicily. They grow in pine woods and mixed reforestations of pine, Atlantic cedar and common cypress. The dotted-stalk bolete (*Suillus granulatus*) and the slippery jack bolete (*Suillus luteus*) are generally of medium edibility as they have a strong laxative effect which can be reduced by removing the cuticle and most of the hymenium.

In pine woods many *Lactarius* species, with red-carrot coloured latex, are also collected. The orange latex lactarius (*Lactarius deliciosus*) can be cooked in tomato sauce for pasta or roasted on the barbecue. The flesh of peppery lactarius (*Lactarius piperatus*) secretes a white latex when cut. This mushroom is virtually inedible as it is difficult to digest, but it is eaten by a few people who appreciate its bitter taste. Similar to *L. piperatus* is the milk white russula (*Russula delica*). It does not

exude latex and the basidiomata are cooked in the oven with garlic, parsley, oil, salt and pepper.

The common name black trumpet indicates two apparently identical species: *Cantharellus cinereus* and *Craterellus cornucopioides*. In Sicily black trumpets are dried, ground and used as a substitute for pepper or they are cooked with other fungi and a little flour as a sauce for pasta and rice.

The most common species recorded by fungi gatherers is parasol lepiota (*Macrolepiota procera*) and its related group. The large caps can be coated with breadcrumbs then cooked under the grill while the stipe can be dried, finely chopped and used as a seasoning in cooking.

The stout-stalked funnel cap (*Clitocybe geotropa*) is of great interest to fungi gatherers for its nutritional and commercial value. As with the smaller *C. gibba*, it is used all over Sicily to flavour tomato or meat sauces or sliced and cooked with oil and garlic as a sauce for pasta.

The anise funnel cap (*Clitocybe odora*) gives off a pleasant and intense smell of aniseed. In small quantities this mushroom may be added to dishes or mixed in with other fungi to improve their taste. The flesh of true blewit (*Lepista nuda*) is also aromatic and in some villages it is finely sliced and cooked in oil and garlic to be served with other fungi as an accompaniment to meat or as a sauce for pasta.

In the last decade the use of clouded funnel cap

(*Clitocybe nebularis*) has progressively decreased. In fact many cases of poisoning and allergic reactions have been recorded among the fungi gatherers.

Other smaller fungi with a smell of garlic, such as the fairy ring marasmius (*Marasmius oreades*) are used as flavourings.

A wide group of lignicolous fungi are used as food in Sicily. The young basidiomata of honey mushrooms (*Armillaria mellea*) and *A. tabescens* are preserved in olive oil while the caps of *Agrocybe cylindracea* are cooked in risottos, added to the sauce, or preserved in vinegar.

The beefsteak polypore (*Fistulina hepatica*) is collected on the stumps of chestnut and holm-oak and eaten in salads, added to tomato sauce or preserved in olive oil. The young basidiomata of chicken polypore (*Laetiporus sulphureus*) are mainly used as food in the province of Ragusa (south-eastern Sicily) while, according to ancient documents, the basidiomata of *Hericium erinaceum* are sliced and boiled then fried in olive oil.

The giant puffball (*Langermania gigantea*) is used as food and its powdery spores are used to block haemorrhages while, in past times, the mycelium cords were used in tinder preparation. *Fomes fomentarius* and *Phellinus ignarius* are tinder-fungi too and, before the introduction of matches, they were dried in the sun and used to light the fire with a flint.

The possibility of collecting truffles in Sicily has always represented a fascinating occasion to increase the personal income of local populations. Until the end of the XIX century, the basidiomata of *Pisolithus arhizus* and *Terfetia arenaria* were collected as false truffles in eastern Sicily and they were sold for the considerable price of 15 ITL (= 0.01 Euro) per kilo. The spore powder of *Pisolithus arhizus* was formerly used for tanning.

The presence of true truffles in Sicily was reported by INZENZA (1865-1869) and MATTIROLO (1900) and recently confirmed by VENTURELLA (1995, 2000). In particular the presence of the euro summer truffle (*Tuber aestivum*) is noteworthy from the economic point of view.

The assessment of fungal biodiversity and the recovery of ethnomycological informations are also the base for exploiting natural resources for novel products. An interesting example is that of the so-named *Pleurotus eryngii* group, which include several taxa growing on umbellifers. These fungi have a very high nutritional content and can be sold locally for very high prices. In Sicily *P. eryngii* var. *eryngii* and *P. eryngii* var. *ferulae* are much sought after because of their excellent nutritional value and it can be eaten fresh or dried. *P. nebrodensis* is a principal ingredient, either raw or cooked, in local recipes dating back to the XVIII century. Inzenga in his publications described it as “the most delicious edible fungus in Sicily”, a most pertinent comment if we refer to its economic value and its cost today ranges from 41,32 to 51,64 euro per kilo.

A specific project on the cultivation of *P. eryngii* species-complex in Sicily was elaborated to provide opportunities for mushroom growing as an alternative high-income rural activity in conjunction with an increased awareness of the conservation of valuable genetic materials.

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