Investigating the basidiomycete diversity of Grosseto province (Italy, Tuscany): an annotated check-list

MARCO CLERICUZIO[1*], DIEGO CANTINI[2], ALFREDO VIZZINI[3], FRANCESCO DOVANA[4]

[1]Dipartimento di Scienze e Innovazione Tecnologica (DISIT), Università del Piemonte Orientale, Via T. Michel 11, 15121 Alessandria, Italy, e-mail: marco.clericuzio@uniupo.it

[2]Via delle Fonderie 32, 58024 Massa Marittima (Grosseto), Italy, e-mail: diego.c.raziel@gmail.com

[3]Alfredo Vizzini, Via S. Pietro d'Ollesia 13b, 10053 Bussoleno (TO), Italy. e-mail: alfredovizzini@libero.it

[4]Via Quargnento 17, 15029 Solero (AL), Italy, e-mail: francescodovana@gmail.com

Abstract: We present a list of 1,619 species of *Basidiomycota,* subphylum *Agaricomycotina,* growing in Grosseto province (Italy, Tuscany), obtained from our own collections and from literature data. Our survey included a systematic census of 18 sampling sites distributed throughout the province. Details of habitat and frequency are presented for each species. We recognized six categories of species frequency: rare, uncommon, occasional, fairly frequent, locally common and common, ranged in order of increasing commonness. Rare species (defined as those occurring in less than 8% of sample sites) were the majority, accounting for more than 40% of the total. Native habitats inside the province were divided into four large vegetation units: evergreen Mediterranean vegetation, thermophile deciduous oak woods, mixed mesophile broad-leaved woods, and beech woods; conifer woods, being mainly introduced, were considered in separate units. The thermophile deciduous oak woods displayed the maximum fungal biodiversity, with 656 records, followed by the mixed mesophile broad-leaved woods (592), by Mediterranean evergreens (580), and finally by beech woods (217); conifer woods had 303 records, divided into 136 for coastal pines and 167 for mountain conifers. Two new species, *Tephrocybella constrictospora* and *Cortinarius lentus* (proposed elsewhere), were discovered in the course of this work, and some species new to Italy were noted, such as *Crepidotus macedonicus, Tephroderma fuscopallens* and *Cortinarius chailluzi*.

Keywords: Agaricomycetes, Apennines, deciduous oak woods, fungal biodiversity, fungal ecology, Mediterranean habitats, species frequency

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INTRODUCTION

Floristic studies (check-lists) of higher fungi (here the Agaricomycotina subphylum of Basidiomycota) are of increasing importance: current taxonomy, based on molecular studies, has demonstrated that in most groups, the number of species is greater than previously believed (for an up-to-date report of Basidiomycota systematics, see He & al. 2019). Many common species have been shown to be complexes of several morphologically similar, or even cryptic, genomic taxa. Typical examples are *Cantharellus cibarius* (Buyck & al. 2014), *Tricholoma equestre* (Christensen and Heilmann-Clausen 2013), *Hebeloma crustuliniforme* (Beker & al. 2016), *Cortinarius calochrous* (Frøslev & al. 2007b). In addition, several species seem to exhibit a relatively narrow geographical range: an example is the recent separation of *Fomes inzengae* from *F. fomentarius* (Peintner & al. 2019), where the former is probably a strictly southern European taxon. At present, little is known about the distribution patterns of most Basidiomycota, in striking contrast to higher plants, where the growing areas of most species have been studied for several decades. In Italy, a national check-list has been compiled (Onofri & al. 2005); regional check-lists have been provided for Liguria (Zotti and Orsino 2001; Zotti & al. 2008), Emilia-Romagna (Padovan 2006) and Umbria (Angelini & al. 2017). In Tuscany, an important contribution was made by Antonini and Antonini (2006): these authors published a detailed list of species from the entire region, comprising both their own collections, and the reports of amateur mycologists from local mycological groups. They also provided a list of rare and threatened species, which should be part of a Tuscany macrofungal red list.

Physical and vegetational characters of the investigated region

Geographic description

The province of Grosseto lies in Central Italy and corresponds to the southernmost part of region Tuscany (Fig. 1). It extends for 4,503 km^2, ranging in latitude, from 43.2 to 42.4 N, and in longitude, from 10.8 to 11.7 E. It stretches along the Tyrrhenian coastline for about 130 km; the highest elevation is Monte Amiata, 1738 m above sea level, located on the easternmost side of the province, bordering the province of Siena. The terrain is mostly hilly, with elevations more frequently in the 250–600 m range.

Geology and pedology

A map with detailed information about Grosseto geology can be viewed on the ISPRA site (http://www.apat.gov.it/Media/carta_geologica_italia/). Grosseto province has many different kind of igneous, sedimentary, and metamorphic rocks. Here we only present a very short outline, mainly to provide a rationale for the nature of the soil, probably the most important feature in mycology. Siliceous rocks, such as quarzites and ophiolites, are frequently found in northern Grosseto, but are muchless common elsewhere. These rocks give rise to the most acidic soils in the province, e.g. in site 1 (Valle del Farma). Calcareous rocks, giving rise to basic soils, are found mostly in the southern part, e.g. the Albegna valley (site 12, Rocconi), the massif known as “Monti di Castell’Azzara” (site 11), and Monti dell’Uccellina (site 15). In addition, more or less extended calcareous islands are present in many other places of Grosseto province, e.g., the region known as “Le Cornate”, in the northernmost part, and the vicinity of Massa Marittima (site 2). One of the most diffused rocks emerging in Grosseto is a compact variety of sandstone, known as “Macigno”, found, among the other places, in sites 5, 13 and 14. Neutral to slightly acidic soils originate from these sedimentary rocks; in addition, these soils tend to have a rather coarse texture (relatively sandy). Igneous rocks are found in the Mount Amiata relief (sites 7 and 8), Mount Sassoforte (site 3), and the Lente valley (site 16). Here neutral, strongly clayey soils are found. Finally, alluvial soils are present along the coast (sites 10, 17, 18), giving rise to slightly acidic, sandy soils.

Climate

The province has wide climatic variation within its small area. We follow the climatic definitions of Blasi (1994), referred to Latium, but applicable to nearby Southern Tuscany with good approximation. The coastal range lies completely in the Mediterranean climatic region (Mediterranean region), with average yearly temperatures around 15–16.5 °C, and precipitation around 600–800 mm/y. This region has severe summer drought, with several months of little or no rain, and a dry period of about 3 months. Rain falls mainly from October to March. July average temperatures are around 24–25 °C, while January average temperatures are seldom lower than 7 °C, and may reach 8–9 °C. The hilly region lying immediately inside (at about 200–600 m above sea level) shows a typical sub-Mediterranean climate (transition Mediterranean region and transition temperate region), with average yearly temperatures around 13–15 °C, summertime temperatures (July average) generally lower than 24 °C, and average wintertime temperatures (January) in the 4–7 °C range. Yearly precipitation is around 800–1000 mm, and the dry period generally does not last more than 1.5 months, concentrated between July and August. The mountain region, located over 700–800 m, shows a temperate

climate (temperate region, Blasi 1994), with an average annual temperature less than 13 °C, and precipitation over 1000 mm/year, up to 1400 mm in the Amiata region. January average temperature drops to values lower than 4 °C, and can reach 1 °C at higher elevations. Summer drought is virtually non-existent or limited to 2–3 weeks. The rain is much more evenly distributed year around, but summer is always the least rainy season.

Vegetation

The diverse climate accommodates an equally diverse vegetation, documented by several workers: Arrigoni & al. (1990), Selvi & Stefanini (2005), Frignani & al. (2007, 2008), Bonari & al. (2013) including references therein; Blasi & al. (2004), Ubaldi & al. (1990), including references therein. In the Mediterranean region, evergreen vegetation dominates, mainly composed of *Quercus ilex* L. forests, with a few strands of *Quercus suber* L. on more acidic soils. Pines (*Pinus pinea* L. and *Pinus pinaster* Aiton, rarely also *Pinus halepensis* Mill.) are found extensively along the coast, and sometimes in the hills, but only *P. pinaster* is native to the region; *P. pinea* was planted widely in the 18th and 19th century, mostly in former marshy areas. In the text, species found in this habitat are labeled "*Quercus ilex"*, reserving "Coastal pines" for those associated with conifers, inside the Mediterranean region. "Sand dunes" has been separated from other Mediterranean vegetation types and refers to the very few Basidiomycetes growing in this peculiar biotope, most of them being exclusively found there. The submediterranean region is indicated in the text as "thermophilous deciduous oaks", and largely corresponds to the order *Quercetalia pubescenti-petreae* Klika. *Quercus pubescens* Willd. is more abundant on thin, rocky soils, and on steep slopes (as well as *Ostrya carpinifolia* Scop., also sparsely present in this vegetation district), but the more evolved vegetation types are mainly characterized by *Quercus cerris* L. (Turkey oak), which may form almost pure strands (Arrigoni 1990), or mixed with *Q. pubescens, Fraxinus ornus* L. and *Acer monspessulanum* L.. A more mesophilous vegetation ("mesophilous broad-leaved forests", approximately corresponding to *Carpinion betuli* Isler) follows the thermophilous oaks at higher altitude, or in ravines and near riverbeds. This plant community again features a wide presence of *Quercus cerris*, but this time mainly mixed with *Carpinus betulus* L. and other deciduous broad-leaved trees, e.g. *Acer* and *Tilia sp.pl.*. A large part of this vegetation type has been transformed into *Castanea sativa* Mill. (chestnut) plantations, mainly on siliceous soils. At higher elevations (>900–1000 m) *Fagus sylvatica* L. is the dominant tree, generally forming pure stands; these are indicated as "*Fagus"* in the text. Occasionally, *Abies alba* Mill. (white fir) intermixes with beech. Genetic studies have confirmed that *Abies* is native to the area (http://www.lifepigelleto.it/doc_pdf/PROGETTIrev01.pdf), but it has also been widely introduced, so that nowadays it is difficult to distinguish native from introduced stands. Several more conifers have been planted in the hilly and montane regions, the most common one being *Pinus nigra* J.F. Arnold, which forms large pure woods in many areas. Occasional and sparse stands of other introduced conifers are also found: *Pinus sylvestris* L., *Picea abies* (L.) H. Karst., *Larix decidua* Mill. and even *Pseudotsuga menziesii* (Mirb.) Franco. These plantations have all been indicated as "Mountain conifers": they host those fungi that are typically associated with alpine conifers. Two extra-zonal vegetation types have been considered. Riparian vegetation ("Riparian" in the text), characterized by *Populus, Salix* and *Alnus,* only survives in very limited stands in Grosseto province, and has not been investigated to a great extent in this work. Very few Basidiomycota allied to this biotope have been found, e.g. some *Alnicola sp*. Anthropomorphic nitrogen-rich sites, such as gardens and city parks are labelled "synanthropic". Several saprotrophic basidiomycetes are particularly common here. The label "widespread" has been used for those species that do not show a habitat preference.

Previous studies of Grosseto mycota

Investigation of the mycota of Grosseto provimce has been very scant up to WW2: as reported in the detailed historical research by Antonini & Antonini (2004), most work by past mycologists has been confined to the northern provinces of Tuscany. More recently, a wide array of mycological contributions has appeared from Grosseto: e.g. Perini & al. (1989), De Dominicis & al. (1992), Barluzzi & al. (1996), Antonini & al. (2005), Mammarella & al. (2014). For some taxonomic groups, Grosseto has been favoured by the presence of detailed mycological studies, e.g. *Russula*, where the works by Sarnari (1998, 2005) contain a large number of reports and type collections. Several other reports of Grosseto collections can be found in the specialized contributions by A. Bernicchia on polyporoid and corticioid fungi (Bernicchia 2005; Bernicchia & al. 2007a,b, 2008, Bernicchia & Gorjon 2010), and more sporadically in other works: *Lepiota* sl. (Candusso & Lanzoni 1990), *Hebeloma* (Beker & al. 2016; Grilli & al. 2020), Marasmiaceae (Antonin & Noordeloos 2010), *Hemimycena* and allied genera (Antonin & Noordeloos 2004), *Cortinarius* (Consiglio & al. 2003-2012), and a few others. We used data from the previous studies critically: not all reports were accepted in full. The list of non-accepted taxa, and the reason for non-acceptance, follows the main list.

METHODS

The organization of the present work

To gain quantitative information about the relative frequency of the species, we selected 18 sampling sites inside the province, trying to cover the various vegetation patterns of Grosseto province, from north to south, and from the coast to higher elevations. Each site, with an approximate 0.5 km^2 extension (50 ha), was surveyed annually for 10–20 years at fruiting times. A value of 1.0 was given to each species when collected inside one of the sampling sites, and 0.5 when collected outside the sampling sites. Records from previous studies are indicated by "Lit." and have been kept separate from our data.

Scores

For every species, the overall score in the list is made up by the sum of all records. Scores less than 1 are recorded as <1, and those higher than 10, as >10. According to the total score, each species is classified as rare, uncommon, occasional, fairly frequent, locally common, common. Locally common species have been given the value of 10; this score, however, does not correspond to a sum of records. The label definitions and their ranges have been arbitrarily chosen by us. Note that no list of records is provided for Common and Locally common species.

>10 Common: found in >56% of the sample sites, and/or in an equivalent number of sites outside the sample ones. Common and abundant species, having a wide distribution (widespread).

10 Locally common. Here we have placed those species which are again frequent and abundant, but only in a restricted habitat, sometimes even associated with a single tree: these species can be much less common or even absent elsewhere. The preferred or exclusive habitats follow the "Locally common" label. This category was deemed necessary to include, for instance, some species having obligatory mycorrhizal partners (e.g. *Pinus, Abies, Fagus*, etc.), whose presence would be strongly underrated if not considered in a special category.

>6.0–10 Fairly frequent: 33–56% of sample sites or extensions. These species are rather frequent, but less common and abundant than those of the above two categories.

>3.5–6.0 Occasional: found in 20–33% of sample sites or extensions. These species are not rare: they have a scattered distribution, and may be more frequent in some areas than in others.

>1.5–3.5 Uncommon: found in 8–20% of sample sites or extensions. These species are relatively rare, with few reports in Grosseto province, but have been found in at least two sites.

≤1.5 Rare: found in <8% of sample sites or extensions. Rare species, so far reported from only one or two sites (exceptionally three, if always outside sample sites).

The sample sites (numbered in a NW-SE direction, see Fig. 3)

1. **Valle del Farma - Belagaio**

   Town: Roccastrada. Apprx. centre (DD): 43.072° N; 11.215° E. Elev.: 300–550 m; geology: metamorphic rocks (quarziti del Verrucano, phyllites); soil: acidic, slightly sandy; vegetation: Mesophilous broad-leaved forests (dominant), Thermophilous deciduous oaks, *Quercus ilex,* with a few stands of both Coastal pines and Mountain conifers. A restricted population of native *Betula pendula* is present (Morrocchi & al. 1997).

2. **Valpiana - Lillatraia**

   Town: Massa Marittima. Apprx. centre: 43.013° N; 10.858° E. Elev.: 150–250 m; geology: sedimentary rocks (travertines, limestones); soil: slightly basic; vegetation: *Quercus ilex.*

3. **Monte Sassoforte**

   Town: Roccastrada. Apprx. centre: 43.031° N; 11.099° E. Elev.: 550–750 m; geology: volcanic igneous rocks ("Riolite"); soil: neutral to slightly acidic, rich in clay; vegetation: Mesophilous broad-leaved forests (almost pure stand of *Castanea sativa*), *Fagus*.

4. **Montioni / Poggio Tre Cancelli**

   Town: Follonica. Apprx. centre: 43.003° N; 10.743° E. Elev.: 100–300 m; geology: sedimentary rocks (shale, limestone); soil: neutral; vegetation: *Quercus ilex,* Thermophilous deciduous oaks. There is a small old-growth *Quercus ilex* inside the area (Poggio Tre Cancelli).

5. **Cala Violina / Cala Martina**

   Town: Scarlino. Apprx. centre: 42.846° N; 10.796° E. Elev.: 0–150 m; geology: sandstone (Macigno); soil: sandy, slightly acidic; vegetation: *Quercus ilex,* Thermophilous deciduous oaks, Coastal pines. Lit: Perini & al. 1989

6. Fattoria di Pietratonda

Town: Civitella-Paganico. Apprx. centre: 42.948° N; 11.234° E. Elev.: 100–250 m; geology: metamorphic rocks; soil: acidic; vegetation: Thermophilous deciduous oaks (dominant), *Quercus ilex*.

7. Prato delle Macinaie and vicinities

Towns: Castel del Piano, Seggiano. Apprx. centre: 42.891° N; 11.592° E. Elev.: 1100–1500 m; geology: effusive igneous rocks (ignimbrite, trachite); soil: neutral to slightly acidic, clayey; vegetation: *Fagus,* Mountain conifers.

8. Amiata chestnut woods

Town: Santa Fiora. Apprx. centre 42.847° N; 11.586° E. Elev.: 650–900 m; geology: effusive igneous rocks (ignimbrite, trachite); soil: neutral to slightly acidic, clayey; vegetation: Mesophilous broad-leaved forests (*Castanea*).

9. Roselle

City: Grosseto. Apprx. centre 42.823° N; 11.154° E. Elev.: 70–180 m; geology: sedimentary rocks (sandstone, shale, limestone); soil: neutral to moderately basic; vegetation: *Quercus ilex* (dominant), Thermophilous deciduous oaks.

10. Coastline between Marina di Grosseto and Castiglione della Pescaia

City/Town: Grosseto, Castiglione della Pescaia. Apprx. centre 42.753° N; 10.937° E. Elev.: 0 m; geology: alluvial deposits; soil: sandy, slightly acidic; vegetation: *Quercus ilex,* Coastal pines, Sand dunes.

11. Monte Penna - Montevitozzo

Towns: Castell'Azzara, Sorano. Apprx. centre 42.767° N; 11.665° E. Elev.: 700–1000 m; geology: sedimentary rock, mainly limestone; soil: calcareous, basic, rich in clay; vegetation: mesophilous broad-leaved forests (dominant)*, Fagus,* Mountain conifers, Thermophilous deciduous oaks. Lit: Pecoraro & al. 2021.

12. Rocconi – Rocchette di Fazio

Towns: Roccalbegna, Semproniano. Apprx. centre 42.751° N; 11.498° E. Elev.: 200–500 m; geology: sedimentary rock (limestone) dominant, with smaller insets of ophiolitic rock; soil: calcareous, basic, wth more acidic siliceous outcrops; vegetation: Thermophilous deciduous oaks*,* with small sections of Mesophilous broad-leaved forests and *Quercus ilex*. Lit: Clericuzio 2010, 2011, 2012, 2014, 2019.

13. Monte Bottigli

Town: Magliano in Toscana. Apprx. centre 42.690° N; 11.227° E. Elev.: 150–300 m; geology: sedimentary rock, mainly sandstone (Macigno); soil: slightly acidic; vegetation: *Quercus ilex,* Thermophilous deciduous oaks.

14. Monte Auto

Town: Scansano. Apprx. centre 42.683° N; 11.314° E. Elev.: 400–550 m; geology: sandstone of the Macigno type; soil: neutral to slightly acidic; vegetation: Thermophilous deciduous oaks (dominant)*,* Mesophilous broad-leaved forests. Lit: Clericuzio 2015a, 2015b; Clericuzio and Vizzini 2011.

15. Monti dell'Uccellina – Parco Naturale della Maremma

City: Grosseto. Apprx. centre 42.657° N; 11.095° E. Elev.: 0–350 m; geology: both sedimentary (limestone) and metamorphic (marble) rock are present; soil: mainly calcareous, basic; vegetation: *Quercus ilex* (dominant)*,* Thermophilous deciduous oaks, Coastal pines. Lit: Mammarella & al. 2014.

16. Alta valle del Lente

Town: Sorano. Apprx. centre 42.689° N; 11.733° E. Elev.: 350–550 m; geology: volcanic effusive rock; soil: neutral, rich in clay; vegetation: Mesophilous broad-leaved forests (dominant), Thermophilous deciduous oaks*,* with small sections of *Fagus* and Riparian.

17. Duna Feniglia

Town: Orbetello. Apprx. centre 42.424° N; 11.254° E. Elev.: 0 m; geology: alluvial coastal deposits; soil: sandy, slightly acidic; vegetation: *Quercus ilex,* Coastal pines, Sand dunes.

18. Lago di Burano

Town: Capalbio. Apprx. centre 42.403° N; 11.372° E. Elev.: 0 m; geology: alluvial coastal deposits; soil: sandy, slightly acidic; vegetation: *Quercus ilex*, Sand dunes. Lit: Barluzzi & al. 1995, 1996.

Nomenclature

As much as possible, we have tried to follow Index Fungorum (IF), with the understanding that some names may change during the writing of the manuscript. Exceptions to IF have been adopted in the case of specialist contributions, ie. Polyporales (Bernicchia 2005, and Bernicchia & Gorjón 2020), Corticiales s.l. (Bernicchia & Gorjón 2010), *Agaricus* (Parra Sanchez 2013), *Hebeloma* (Becker & al. 2017), *Conocybe* s.l. (Hauskneckt 2009) and few others: when the nomenclature proposed by these authors is different from IF, we have followed the specialists' suggestions. For some intricate taxonomic groups, we resorted to the aid of known specialists (listed in the Acknowledgements).

DNA extraction, amplification, and sequencing

Genomic DNA was extracted from dry fragments of the analyzed specimens using the NaOH extraction method employed by Dovana & al. (2017), or the CTAB procedure of Doyle & Doyle (1987). The nrDNA ITS region was amplified with primers ITS1F (White & al. 1990; Gardes & Bruns 1993). Sequencing was performed at ALVALAB of Pablo Alvarado (Oviedo, Spain). The sequences were assembled and edited in Geneious v. 11.1.5 (http://www.geneious.com, Kearse & al. 2012) and submitted to GenBank. The accession numbers are reported in Table 1, and in the list, under each sequenced species. Blast database searches were performed with ITS-fragment queries to reveal relationships to published sequences. Detailed results are reported in Table 1.
Voucher specimens of all species are conserved in MC's personal herbarium.

RESULTS

The list

The list is organized as follows: higher taxonomic units, like classes, orders and families, are presented in phylogenetic order (Tree of life 2007; He & al. 2019; Varga & al. 2019). Genera and species, inside families, are in alphabetic order. Infraspecific taxa have been omitted (with a few exceptions for more significant taxa), and have been indicated by a lowercase letter, keeping the same progressive number. The list syntax is as shown in the following example:

260. *Byssomerulius corium* (Pers.) Parmasto (= *Meruliopsis c.* (Pers.) Ginns)
Fairly frequent 8.5 (1, 2, 13, 14, 16, 18), Massa Marittima, Scansano, Scarlino; Lit: Santa Fiora (Bernicchia & Gorjon 2010). Thermophilous deciduous oaks*, Quercus ilex,* mesophilous broad-leaved forests
should be read as follows:

progressive n.; *binomial*; authors; (= *synonymies* if any);

frequency class: this species is fairly frequent; score: 8.5; list of records in sample sites: found in Valle del Farma (1), Valpiana, (2), Monte Bottigli (13), Monte Auto (14), Alta Valle del Lente (16), Lago di Burano (18); list of ours records outside sample sites (naming the community inside which borders the collection was made): it was recorded from Massa Marittima, Scansano and Scarlino; Lit: literature reports; list of habitats: Thermophilous deciduous oaks*, Quercus ilex,* mesophilous broad-leaved forests.

Note: by the term "included" we mean that the taxon is not differentiated by us in the list, even if it may have a taxonomic value. This happens mainly for taxa whose status is not universally accepted, or for groups of closely related taxa not yet fully differentiated.
With "=?" we indicate a likely synonymy, but not universally accepted.

TREMELLOMYCETES - TREMELLALES

Tremellaceae Fr.

Phaeotremella Rea

1. *Phaeotremella foliacea* (Pers.) Wedin, J.C. Zamora & Millanes (= *Tremella f.* Pers.)
   Uncommon 2.0 (5), Roccastrada; Lit: Monterotondo Marittimo (AGMT 2012). *Quercus ilex*

Tremella Pers.

2. *Tremella encephala* Pers.
   Rare 1.0 (11). Mountain conifers

3. *Tremella indecorata* Sommerf.
   Rare 1.0 (4). *Quercus ilex* P

4. *Tremella mesenterica* Retz. (incl.: *T. aurantia* Schwein.)
   Locally common 10. Thermophilous deciduous oaks, sometimes mesophilous broad-leaved forests, rare elsewhere

DACRYMYCETES - DACRYMYCETALES

Dacrymycetaceae J. Schröt.

Calocera (Fr.) Fr.

5. *Calocera cornea* (Batsch) Fr.
   Occasional 4.5 (2, 7, 12, 15), Massa Marittima. Thermophilous deciduous oaks, mesophilous broad-leaved forests, sometimes *Quercus ilex*

6. *Calocera viscosa* (Pers.) Fr.
   Rare 1.0 (7). Mountain conifers

Dacrymyces Nees

7. *Dacrymyces stillatus* Nees
   Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*

8. *Dacrymyces tortus* (Willd.) Fr.
   Rare <1 Lit: Montieri (Pecoraro & al. 2014). Thermophilous deciduous oaks

9. *Dacrymyces variisporus* McNabb
   Rare <1 Lit: Isola del Giglio (Gargano & al. 2010). *Quercus ilex*

AGARICOMYCETES - AURICULARIALES

Auriculariaceae Fr.

Auricularia Bull.

10. *Auricularia auricula-judae* (Bull.) Quél.
    Common >10. Widespread, often synanthropic

11. *Auricularia mesenterica* (Dicks.) Pers.
    Common >10. Widespread

Exidia Fr.

12. *Exidia glandulosa* (Bull.) Fr. (= *E. truncata* Fr.)
Fairly frequent 7.5 (1, 6, 12, 13, 14), Manciano, Roccastrada, Massa Marittima; Lit: (11) (Pecoraro & al. 2021). Mainly thermophilous deciduous oaks, sometimes mesophilous broad-leaved forests or *Quercus ilex*

13. *Exidia nigricans* (With.) P. Roberts
Rare 1.0 Lit: (15) (Mammarella & al. 2014). *Quercus ilex*

Exidiopsis (Bref.) Möller

14. *Exidiopsis calcea* (Pers.) K. Wells
Fairly frequent 7.0 (2, 9, 11, 13, 14, 16), Castell'Azzara, Massa Marittima. *Quercus ilex*, thermophilous deciduous oaks, mesophilous broad-leaved forests

15. *Exidiopsis effusa* (Bref. ex Sacc.) Möller
Uncommon 3.5 (11, 12, 14), Scansano. Mainly thermophilous deciduous oaks

Heteroradulum Lloyd ex Spirin & Malysheva

16. *Heteroradulum deglubens* (Berk. & Broome) Spirin & Malysheva (= *Eichleriella d.* (Berk. & Broome) Lloyd)
Rare <1 Arcidosso. Mesophilous broad-leaved forests P

AGARICOMYCETES - SEBACINALES

Sebacinaceae K. Wells & Oberw.

Sebacina Tul. & C. Tul.

17. *Sebacina grisea* Bres. (= *Exidiopsis gr.* (Bres.) Bourdot & Maire)
Rare 1.0 (Lit: (15) (Mammarella & al. 2014). *Quercus ilex*

18. *Sebacina incrustans* (Pers.) Tul. & C. Tul.
Rare <1 Lit: Castiglione della Pescaia (Antonini & Antonini 2006). *Quercus ilex*

AGARICOMYCETES - CANTHARELLALES

Botryobasidiaceae Jülich

Botryobasidium Donk

19. *Botryobasidium aureum* Parmasto
Rare1.0 Lit: (15) (Mammarella & al. 2014). *Quercus ilex*

20. *Botryobasidium laeve* (J. Erikss.) Parmasto
Rare 1.0 Lit: (18) (Bernicchia & Gorjón 2010). *Quercus ilex*

21. *Botryobasidium subcoronatum* (Höhn. & Litsch.) Donk
Rare 1.0 Lit: (15) (Mammarella & al. 2014). Coastal pines

Botryohypochnus Donk

22. *Botryohypochnus isabellinus* (Fr. ex Schleicher) J. Erikss. (= *Botryobasidium i.* (Fr.) D.P. Rogers)
Uncommon 2.0 (14) Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* thermophilous deciduous oaks

Ceratobasidiaceae G.W. Martin

Thanatephorus Donk

23. *Thanatephorus cucumeris* (A.B. Frank) Donk
Rare 1.0 (18) Lit: (Bernicchia & Gorjón 2010). *Quercus ilex*

Cantharellaceae J. Schröt.

Cantharellus Adans. ex Fr.

24. *Cantharellus alborufescens* (Malençon) Papetti & S. Alberti (= *C. lilacinopruinatus* Hermitte, Eyssart. & Poumarat; = *C. cibarius* Fr. var. *alborufescens* Malençon)
Fairly frequent 6.5 (2, 4, 6, 12, 14), Massa Marittima; Lit: Castel del Piano, Castiglione della Pescaia (Antonini & Antonini 2006). Thermophilous deciduous oaks*, Quercus ilex*

25. *Cantharellus amethysteus* (Quél.) Sacc.
Rare <1 Lit: (Antonini & Antonini 2006) Arcidosso. Mesophilous broad-leaved forests

26. *Cantharellus ferruginascens* P.D. Orton (= *C. cibarius* Fr. var. *f.* (P.D. Orton) Courtec.)
Uncommon 3.5 (1, 3, 16), Roccalbegna. Mainly mesophilous broad-leaved

27. *Cantharellus friesii* Quélet
Rare <1 Lit: Roccastrada (Barluzzi & al. 1992). Mesophilous broad-leaved forests

28. *Cantharellus pallens* Pilát (= *C. subpruinosus* Eyssart. & Buyck)
Common >10. Widespread

Craterellus Pers.

29. *Craterellus cinereus* (Pers.) Pers. (= *Cantharellus c.* (Pers.) Fr.)
Occasional 5.0 (4, 12), Castiglione della Pescaia, Massa Marittima; Lit: Castel del Piano, Massa Marittima, Castiglione della Pescaia (Antonini & Antonini 2006); Montieri (Leonardi & al. 2010). Thermophilous deciduous oaks*, Quercus ilex,* mesophilous broad-leaved forests

30. *Craterellus cornucopioides* (L.) Pers.
Locally common 10. Thermophilous deciduous oaks, mesophilous broad-leaved forests, sometimes *Quercus ilex*

31. *Craterellus lutescens* (Fr.) Fr. (= *C. luteocomus* H.E. Bigelow; = *Cantharellus aurora* (Batsch) Kuyper)
Locally common 10. Coastal pines, sometimes mountain conifers

32. *Craterellus melanoxeros* (Desm.) Pérez-De-Greg. (= *Cantharellus m.* Desm.)
Rare 1.5 Lit: (1), Monterotondo Marittimo (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks P
Note: A rare and localized species in Grosseto, but more widespread in the north of Tuscany (Antonini & Antonini 2006).

33. *Craterellus tubaeformis* (Fr.) Quél. (= *Cantharellus t.* Fr.)
Uncommon 3.0 Castiglione della Pescaia, Monterotondo Marittimo; Lit: Castel del Piano, Roccastrada, Castiglione della Pescaia, Seggiano (Antonini & Antonini 2006). Mainly mesophilous broad-leaved forests, rare *Fagus* or *Quercus ilex*

34. *Craterellus undulatus* (Pers.) E. Campo & Papetti (= *Pseudocraterellus sinuosus* (Fr.) Corner)
Occasional 5.5 (1, 5, 12, 14), Scarlino; Lit: Castiglione della Pescaia, Roccastrada (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks, sometimes *Quercus ilex*

Clavulinaceae Donk

Clavulina J. Schröt.

35. *Clavulina coralloides* (L.) J. Schröt. (= *C. cristata* (Holmsk.) J. Schröt.)
Common >10 Widespread

36. *Clavulina reae* Olariaga (= *C. cinerea* (Bull.) J. Schröt. ss. Auct.)
Fairly frequent 8.5 (11, 13, 16), Roccastrada, Scansano, Sorano; Lit: (5), Castiglione della Pescaia, Gavorrano (Perini & al. 1989); Monterotondo Marittimo, Roccastrada, Santa Fiora (Antonini & Antonini 2006); Massa Marittima (Franchi and Marchetti 2021). Mesophilous broad-leaved forests, thermophilous deciduous oaks

Note: We adopt the proposal by Olariaga and Salcedo (2012) that *C. cinerea* is a species limited to Northern Europe, while *C. reae* is its relative in Southern Europe.

37. *Clavulina rugosa* (Bull.) J. Schröt.
Occasional 5.5 (6, 12), Roccalbegna, Scansano, Monterotondo Marittimo; Lit: (5), Scarlino (Perini & al. 1989); Castiglione della Pescaia, Gavorrano (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests

Hydnaceae Chevall.

Hydnum L.

38. *Hydnum albidum* Peck
Rare <1 Monterotondo Marittimo. *Quercus ilex*

39. *Hydnum repandum* L.
Common >10. Widespread

40. *Hydnum rufescens* Pers. s.l.
Common >10. Widespread
Note: Recent phylogenetic work by Grebenc & al. (2009), Vizzini & al. (2013) and Niskanen & al. (2018), have shown that the separation between *H. rufescens* and *H. repandum* is much more complex than previously thought, and that the former is a species complex.

Tulasnellaceae Juel

Tulasnella J. Schröt.

41. *Tulasnella violea* (Quél.) Bourdot & Galzin
Rare <1 Lit: Santa Fiora (Bernicchia & al. 2007a). Mountain conifers

AGARICOMYCETES - TRECHISPORALES

Hydnodontaceae Jülich

Fibriciellum J. Erikss. & Ryvarden

42. *Fibriciellum silvae-ryae* J. Erikss. & Ryvarden (= *Trechispora s.* (J. Erikss. & Ryvarden) K.H. Larss.)
Rare 1.0 (4). *Quercus ilex*

Litschauerella Oberw.

43. *Litschauerella clematidis* (Bourdot & Galzin) J. Erikss. & Ryvarden (= *Peniophora cl.* Bourdot & Galzin)
Rare <1 Lit: Santa Fiora (Bernicchia & al. 2007a). Mountain conifers

Subulicystidium Parmasto

44. *Subulicystidium longisporum* (Pat.) Parmasto
Uncommon 3.0 (11, 16) Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* mesophilous broad-leaved forests

Trechispora P. Karst.

45. *Trechispora farinacea* (Pers.) Liberta
Rare 1.0 (14). Thermophilous deciduous oaks

46. *Trechispora microspora* (P. Karst.) Liberta
Uncommon 2.0 (14) Lit: (15) (Mammarella & al. 2014). *Quercus ilex*, thermophilous deciduous oaks

47. *Trechispora mollusca* (Pers.) Liberta
Occasional 4.0 (1, 7, 16) Lit: (15) (Mammarella & al. 2014). Widespread

48. *Trechispora nivea* (Pers.) K.H. Larss.
Occasional 4.0 (1, 11, 14) Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests
Collection from site 14: GenBank accession number: OM417564

49. *Trechispora praefocata* (Bourdot & Galzin) Liberta
Rare 1.0 Lit: (15) (Mammarella & al. 2014). *Quercus ilex*

Tubulicium Oberw.

50. *Tubulicium vermiferum* (Bourdot) Oberw. ex Jülich
Rare 1.0 Lit: (15) (Mammarella & al. 2014). *Quercus ilex*

AGARICOMYCETES - GOMPHALES, **PHALLALES, GEASTRALES**

Clavariadelphaceae Corner

Beenakia D.A. Reid

51. *Beenakia mediterranea* (A. Ortega & Contu) Borgarino, P.-A. Moreau & F. Rich. (= *Sarcodon m.* Ortega & Contu)
Rare 1.0 (18). *Quercus ilex*

Clavariadelphus Donk

52. *Clavariadelphus flavoimmaturus* R.H. Petersen
Fairly frequent 6.5 (2, 4, 12, 13, 14), Monterotondo Marittimo; Lit: Castiglione della Pescaia, Massa Marittima (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks
Note: The *C. pistillaris* collections made under oaks were all assigned here (Franchi and Marchetti 2021).

53. *Clavariadelphus pistillaris* (L.) Donk
Uncommon 2.5 (7, 11); Lit: Roccastrada (Antonini & Antonini 2006). Mainly *Fagus*
Note: According to Franchi & Marchetti (2021), this species is almost exclusively associated with *Fagus* in the Apennines.

Gomphaceae Donk

Phaeoclavulina Brinkmann (= *Ramaria* subgen. *Echinoramaria*)

54. *Phaeoclavulina carovinacea* Franchi & M. Marchetti
Rare 1.0 Lit: (10) (Franchi & Marchetti 2021). Coastal pines P

55. *Phaeoclavulina caroviridula* Franchi & M. Marchetti
Rare <1 Lit: Orbetello (Franchi & Marchetti 2021). Coastal pines P
Note: Franchi & Marchetti (2021) demonstrated that the number of species in this group of former *Ramaria* is greater than previously known. In particular, *Ph. carovinacea* and *Ph. caroviridula* are found in mixed *Pinus*-*Quercus ilex* coastal woods, known, to date, only from a handful sites of the Tuscany coast. *Phaeoclavulina. myceliosa* and sometimes *Ph. curta* are found in the same habitat.

56. *Phaeoclavulina curta* (Fr.) Giachini (= *Ramaria pusilla* Corner)
Rare1.0 (18) (Barluzzi & al. 1996). *Quercus ilex*

57. *Phaeoclavulina decurrens* (Pers.) J.H. Petersen
Fairly frequent 8.5 (1, 2, 4, 5, 6, 10, 16); Lit: Massa Marittima, Montieri, Castiglione della Pescaia (Antonini & Antonini 2006). Widespread, also synanthropic

58. *Phaeoclavulina flaccida* (Fr.) Giachini
Uncommon 3.0 (9, 11, 14). Thermophilous deciduous oaks, mesophilous broad-leaved forests

Note: Collections made under oaks could correspond to *Ph. f.* var. *fraceolens* Franchi & M. Marchetti (Franchi & Marchetti 2021).

59. *Phaeoclavulina murrillii* (Coker) Franchi & M. Marchetti
Rare 1.0 Lit: (10) (Franchi & Marchetti 2021). Coastal pines

60. *Phaeoclavulina myceliosa* (Peck) Franchi & M. Marchetti
Occasional 4.0 (1, 10, 11, 18). *Quercus ilex,* Coastal pines, sometimes thermophilous deciduous oaks

61. *Phaeoclavulina ocracea* (Bres.) Giachini
Rare 1.0 Lit: (4) (Franchi & Marchetti 2021). Thermophilous deciduous oaks

Ramaria Fr. ex Bonord.

62. *Ramaria albidoflava* Schild
Uncommon 2.5 (4, 12); Lit: Monterotondo Marittimo (Franchi & Marchetti 2021). Thermophilous deciduous oaks
Collection from site 4: GenBank accession number: OM417569
Note: This is probably the most widespread "yellow *Ramaria*" in thermophilous deciduous oaks on calcareous soil. We also have some collections from Latium. The pure lemon-yellow colour of its branches, without any pink or salmon hue, and the complete absence of clamp-connections, are good indicators of *R. albidoflava*.

63. *Ramaria aurea* (Schaeff.) Quél.
Rare 1.5 (1); Lit: Arcidosso (Antonini & Antonini 2006). *Fagus,* mesophilous broad-leaved forests

64. *Ramaria botrytis* (Pers.) Ricken s.l.
Fairly frequent 6.5 (1, 3, 7, 8, 11); Lit: Santa Fiora, Arcidosso, Castel del Piano (Antonini & Antonini 2006). Mesophilous broad-leaved forests, sometimes *Fagus* or thermophilous deciduous oaks

65. *Ramaria brunneomaculata* Schild
Rare1.0 Lit: (4) (Franchi & Marchetti 2021). Thermophilous deciduous oaks

66. *Ramaria flava* (Schaeff.) Quél s.l.
Occasional 4.5 (1, 6); Lit: Massa Marittima, Castel del Piano, Civitella-Paganico, Monterotondo Marittimo, Roccastrada (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests
Note: All reports of *R. flava* should be double-checked, in the light of the several taxa presently recognized in the "yellow *Ramaria*" group (Franchi & Marchetti 2021). For instance, we found *R. albidoflava* to be more common than *R. flava*, at least in thermophilous oak woods.

67. *Ramaria flavescens* (Schaeff.) R.H. Petersen
Occasional 6.0 (1, 4, 11, 14), Massa Marittima; Lit: Massa Marittima, Civitella-Paganico, Castel del Piano (Antonini & Antonini 2006). Thermophilous deciduous oaks, sometimes mesophilous broad-leaved forests

68. *Ramaria flavobrunnescens* (G.F. Atk.) Corner
Rare 1.0 (8). Mesophilous broad-leaved forests

69. *Ramaria formosa* (Pers.) Quél.
Fairly frequent 7.0 (1, 8, 11, 12), Arcidosso; Lit: Roccastrada, Montieri, Castel del Piano, Arcidosso, Massa Marittima (Antonini & Antonini 2006). Widspread, rare *Quercus ilex*

70. *Ramaria fumigata* (Peck) Corner (= *R. fennica* (P. Karst.) Ricken p.p.)
Uncommon 2.5 (12); Lit: (6) Franchi & Marchetti (2021); Roccastrada (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks P

71. *Ramaria mediterranea* Schild & Franchi
Rare 1.0 Lit: (6) (Franchi & Marchetti 2021). Thermophilous deciduous oaks

72. *Ramaria stricta* (Pers.) Quél.
Fairly frequent 7.5 (1, 4, 9, 12, 14), Massa Marittima, Scansano; Lit: Castiglione della Pescaia, Roccastrada, Castel del Piano (Antonini & Antonini 2006). Widespread

73. *Ramaria subbotrytis* (Coker) Corner
Rare <1 Lit: Castel del Piano (Antonini & Antonini 2006). Mesophilous broad-leaved forests

Lentariaceae Jülich

Hydnocristella R.H. Petersen

74. *Hydnocristella himantia* (Schwein.) R.H. Petersen (= *Kavinia h.* (Schwein.) J. Erikss.)
Rare <1 Lit: Santa Fiora (Bernicchia & al. 2007a). Mountain conifers

Phallaceae Corda

Clathrus P. Micheli ex. L.

75. *Clathrus ruber* P. Micheli ex Pers.
Fairly frequent 9.0 (2, 4, 5, 10, 12, 15, 16), Massa Marittima, Scansano; Lit: Castel del Piano, Roccastrada (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks, synanthropic

Mutinus Fr.

76. *Mutinus caninus* (Huds.) Fr.
Occasional 5.0 (1, 12); Lit: (5), Scarlino, Gavorrano (Perini & al 1989); Monterotondo Marittimo, Castiglione della Pescaia (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks, synanthropic

Phallus Junius ex L.

77. *Phallus hadrianii* Vent.
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*

78. *Phallus impudicus* L.
Occasional 6.0 (9, 12, 16), Massa Marittima, Roccalbegna; Lit: Arcidosso, Massa Marittima, Roccastrada, Seggiano (Antonini & Antonini 2006). Widespread, often synanthropic

Geastraceae Corda

Geastrum Pers.

79. *Geastrum berkeleyi* Massee
Rare <1 Capalbio. Synanthropic

80. *Geastrum corollinum* (Batsch) Hollós
Rare 1.5 (18), Capalbio. Thermophilous deciduous oaks*, Quercus ilex*

81. *Geastrum coronatum* Pers.
Rare 1.0 (18). *Quercus ilex*

82. *Geastrum fimbriatum* Fr. (= *G. sessile* (Sowerby) Pouzar)
Uncommon 3.0 (12, 14); Lit: Arcidosso (Antonini & Antonini 2006); Montieri (Pecoraro & al. 2021). Thermophilous deciduous oaks, Mountain conifers

83. *Geastrum fornicatum* (Huds.) Hook
Rare 1.0 (18). *Quercus ilex,* Coastal pines P

84. *Geastrum lageniforme* Vittad.
Rare 1.0 (10). Coastal pines

85. *Geastrum minimum* Schwein.
Rare <1 Lit: Montieri (Pecoraro & al. 2021). Mesophilous broad-leaved forests

86. *Geastrum pectinatum* Pers.
Rare1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex* P

87. *Geastrum rufescens* Pers.
Rare <1 Scarlino. *Quercus ilex*

88. *Geastrum saccatum* Fr.
Uncommon 2.0 (16); Lit: (18) (Barluzzi & al. 1996). Mesophilous broad-leaved forests, thermophilous deciduous oaks

89. *Geastrum schmidelii* Vittad.
Rare 1.5 Capalbio; Lit: (18) (Barluzzi & al. 1996). *Quercus ilex,* Coastal pines

90. *Geastrum striatum* DC.
Rare 1.5 Capalbio Lit: (18) (Barluzzi & al. 1996). Thermophilous deciduous oaks*, Quercus ilex*

91. *Geastrum triplex* Jungh. s.l.
Occasional 6.0 (2, 4, 5, 9, 10, 11). Thermophilous deciduous oaks*, Quercus ilex*

Note: Zamora & al. (2014) have published a thorough revision of this genus. In particular, *G. triplex,* an apparently cosmopolitan species, has turned out to correspond to several different species: *G. michelianum* Berk. & Broome should be the correct name of the European taxon. The present list of *Geastrum* species has been mostly compiled from literature data.

Myriostoma Desv.

92. *Myriostoma coliforme* (Dicks.) Corda s.s.
Rare 1.5 (15), Massa Marittima. *Quercus ilex* P

Note: Recent research has proven that this is a species complex (Sousa & al. 2017), made up of four different taxa. Our specimens belong to *M. coliforme* s.s.

Sphaerobolus Tode

93. *Sphaerobolus stellatus* Tode
Uncommon 3.5 (1, 5), Massa Marittima; Lit: (18) (Barluzzi & al. 1996). *Quercus ilex,* thermophilous deciduous oaks

AGARICOMYCETES - HYMENOCHAETALES

Hymenochaetaceae Donk

Coltricia Gray

94. *Coltricia perennis* (L.) Murrill
Occasional 4.0 (3, 7, 8, 10). Widespread

Fomitiporia Murrill (= *Phellinus* p.p.)

95. *Fomitiporia punctata* (P. Karst.) Murrill
Uncommon 3.5 (3, 11, 13), Castell'Azzara. Thermophilous deciduous oaks, mesophilous broad-leaved forests

96. *Fomitiporia robusta* (P. Karst.) Fiasson & Niemelä
Uncommon 3.0 (4, 14); Lit: (15) (Mammarella & al. 2014). Thermophilous deciduous oaks, synanthropic *(Robinia)*

Fuscoporia Murrill (= *Phellinus* p.p.)

97. *Fuscoporia contigua* (Pers.) G. Cunn.
Uncommon 2.0 (5, 14). *Quercus ilex,* thermophilous deciduous oaks

98. *Fuscoporia ferrea* (Pers.) G. Cunn.

Rare 1.0 Lit: (15) (Mammarella & al. 2014). *Quercus ilex*

99. *Fuscoporia ferruginosa* (Schrad.) Murrill
Uncommon 3.5 (1, 11, 16), Montieri. Mainly mesophilous broad-leaved forests

100. *Fuscoporia torulosa* (Pers.) T. Wagner & M. Fisch.
Locally common 10. Thermophilous deciduous oaks, *Quercus ilex,* more rare mesophilous broad-leaved forests

Hymenochaete Lév.

101. *Hymenochaete cinnamomea* (Pers.) Bres. (incl.: *H. c.* ssp. *spreta* (Peck) Parmasto)
Uncommon 3.0 (4), Capalbio, Massa Marittima; Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* thermophilous deciduous oaks

102. *Hymenochaete fuliginosa* (Pers.) Lév.
Rare 1.0 (4). *Quercus ilex* P

103. *Hymenochaete rubiginosa* (Dicks.) Lév.
Fairly frequent 6.5 (2, 11, 12, 14, 16), Civitella-Paganico; Lit: (15) (Mammarella & al. 2014). Mainly thermophilous deciduous oaks, mesophilous broad-leaved forests

Inocutis Fiasson & Niemelä (= *Inonotus* p.p.)

104. *Inocutis tamaricis* (Pat.) Fiasson & Niemelä
Rare <1 Follonica. *Quercus ilex* (*Tamarix sp.*)

Inonotus P. Karst.

105. *Inonotus hastifer* Pouzar
Rare 1.5 (16), Montieri. Mesophilous broad-leaved forests

106. *Inonotus hispidus* (Bull.) P. Karst.
Rare 1.0 Lit: Massa Marittima, Arcidosso (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks

Phellinus Quél. s.s.

107. *Phellinus alni* (Bondartsev) Parmasto
Rare 1.5 (14), Orbetello. Synanthropic
Note: Sell (2008) demonstrated by morphologic and molecular analysis that true *Ph. igniarius* is restricted to *Salix*, while the closely related *Ph. alni* is found on a variety of broad-leaved hosts, including various genera of Rosaceae. Our two collections were made on *Prunus dulcis* and on *Platanus orientalis*, so they were assigned to *Ph. alni*. Conversely, the presence of *Ph. igniarius* in Grosseto is not documented to date.

108. *Phellinus tuberculosus* Niemelä (= *Ph. pomaceus* (Pers.) Maire)
Locally common 10. Synanthropic (*Prunus sp. pl.)*

Phylloporia Murrill

109. *Phylloporia ribis* (Schumach.) Ryvarden
Occasional 4.0 (1, 12, 14, 16). Thermophilous deciduous oaks, mesophilous broad-leaved forests

Pseudoinonotus T. Wagner & M. Fisch. (= *Inonotus* p.p.)

110. *Pseudoinonotus dryadeus* (Pers.) T. Wagner & M. Fisch.
Uncommon 3.0 (1, 12), Montieri, Scansano. *Quercus ilex,* thermophilous deciduous oaks

Tubulicrinis Donk

111. *Tubulicrinis medius* (Bourdot & Galzin) Oberw.

Uncommon 2.0 (11); Lit: (18) (Bernicchia & Gorjón 2010). *Quercus ilex,* mesophilous broad-leaved forests

112. *Tubulicrinis sororius* (Bourdot & Galzin) Oberw.
Rare 1.0 Lit: (18) (Bernicchia & Gorjón 2010). *Quercus ilex*

Schizoporaceae Jülich

Fibrodontia Parmasto

113. *Fibrodontia gossypina* Parmasto
Rare 1.0 (18). *Quercus ilex*

Hyphodontia J. Erikss.

114. *Hyphodontia arguta* (Fr.) J. Erikss.
Uncommon 2.0 (14, 16). Mesophilous broad-leaved forests

115. *Hyphodontia pallidula* (Bres.) J. Erikss.
Rare <1 Lit: Santa Fiora (Bernicchia & al. 2007a). Mountain conifers

Lagarobasidium Jülich

116. *Lagarobasidium detriticum* (Burdot & Galzin) Jülich
Uncommon 3.0 (12); Lit: (15) (Mammarella & al. 2014); (18) (Bernicchia & Gorjón 2010). *Quercus ilex,* thermophilous deciduous oaks

Lyomyces P. Karst.

117. *Lyomyces crustosus* (Pers.) P. Karst.
Uncommon 2.0 (7, 11). Mesophilous broad-leaved forests*, Fagus*

118. *Lyomyces sambuci* (Pers.) P. Karst.
Common >10. Widespread

Schizopora Velen.

119. *Schizopora flavipora* (Berk. & M.A. Curtis ex Cooke) Ryvarden (= *Xylodon fl.* (Berk. & M.A. Curtis ex Cooke) Riebesehl & Langer)
Occasional 4.0 (4, 14, 16); Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

120. *Schizopora paradoxa* (Schrad.) Donk
Common >10. Widespread

121. *Schizopora radula* (Pers.) Hallenb. (= *Xylodon raduloides* (Pers.) Riebesehl & Langer; = *Hyphodontia r.* (Pers.) Langer & Vesterh.)
Uncommon 2.5 (4), Arcidosso; Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* thermophilous deciduous oaks

Trichaptum Murrill

122. *Trichaptum abietinum* (Dicks.) Ryvarden
Uncommon 2.0 (11), Santa Fiora; Lit: Santa Fiora (Bernicchia & al. 2007a). Mountain conifers

123. *Trichaptum biforme* (Fr.) Ryvarden
Locally common 10. Thermophilous deciduous oaks, *Quercus ilex,* rare mesophilous broad-leaved forests

124. *Trichaptum fuscoviolaceum* (Ehrenb.) Ryvarden (= *Irpex violaceum* (Pers.) Quél.; = *T. hollii* (J.C. Schmidt) Kreisel)
Uncommon 3.5 (1, 10, 17); Lit: Montieri (Pecoraro & al. 2021). Coastal pines, Mountain conifers

Xylodon (Pers.) Gray (= *Hyphodontia* J. Erikss. p.p.)

125. *Xylodon asperus* (Fr.) Hjortstam & Ryvarden
Occasional 4.0 (1, 11, 14); Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

126. *Xylodon brevisetus* (P. Karst.) Hjortstam & Ryvarden
Rare 1.5 Sorano; Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* mesophilous broad-leaved forests

127. *Xylodon juniperi* (Bourdot & Galzin) Hjortstam & Ryvarden
Rare 1.5 Scansano; Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* thermophilous deciduous oaks

128. *Xylodon nespori* (Bres.) Hjortstam & Ryvarden
Occasional 4.0 (4, 13), Scansano; Lit: (15) (Mammarella & al. 2014); Santa Fiora (Bernicchia & al. 2007b). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

129. *Xylodon pruni* (Lasch) Hjortstam & Ryvarden
Occasional 5.0 (9, 11, 13, 14); Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

130. *Xylodon quercinus* (Pers.) Gray
Uncommon 2.5 (11), Sorano; Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* thermophilous deciduous oaks

131. *Xylodon radula* (Fr.) Ţura, Zmitr., Wasser & Spirin (= *Basidioradulum r.* (Fr.) Nobles)
Uncommon 2.0 (13) ; Lit: (15) (Mammarella & al. 2014). *Quercus ilex*, thermophilous deciduous oaks

Rickenellaceae Vizzini

Cotylidia P. Karst.

132. *Cotylidia pannosa* (Sowerby) D.A. Reid
Rare <1 Lit: Santa Fiora (Bernicchia & Gorjón 2010). *Fagus* P

Peniophorella P. Karst.

133. *Peniophorella pallida* (Bres.) K.H. Larss.
Rare 1.5 Lit: (18) (Bernicchia & Gorjón 2010); Santa Fiora (Bernicchia & al. 2007a). Coastal pines, Mountain conifers

134. *Peniophorella praetermissa* (P. Karst.) K.H. Larss. s.l.
Uncommon 3.0 (11, 16); Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* mesophilous broad-leaved forests
Note: We use the name in a broad sense. Molecular studies by Hallenberg & al. (2007) revealed that it is a species complex with several genetic species.

135. *Peniophorella pubera* (Fr.) P. Karst.
Rare <1 Lit: Santa Fiora (Bernicchia & al. 2007a). Mountain conifers

Rickenella Raithelh.

136. *Rickenella fibula* (Bull.) Raithelh.
Common >10. Widespread

Sidera Miettinen & K.H. Larss.

137. *Sidera lenis* (Fr.) Miettinen (= *Skeletocutis l.* (Fr.) Niemelä & Y.C. Dai)
Uncommon 2.0 (3, 11). Mountain conifers, mesophilous broad-leaved forests
Collection from site 11 (021020) GenBank accession number: OM417563; Collection from site 11 (200818) GenBank accession number: OM401934

138. *Sidera vulgaris* (Fr.) Miettinen (= *Skeletocutis v.* (Fr.) Niemelä & Y.C. Dai)
Uncommon 3.0 (1, 14), Massa Marittima, Castell'Azzara. *Quercus ilex*, thermophilous deciduous oaks

Note: The morphologic boundaries between the two *Sidera* species are rather variable and hardly allow clear distinction (we tried to follow Bernicchia & Gorjón 2020). We were able to sequence two of our collections (see under *S. lenis*), but even with the ITS sequences at hand, a sound determination was not possible. As a consequence, our specific assignments should be considered tentative.

AGARICOMYCETES - CORTICIALES s.s. (= VUILLEMINIALES)

Corticiaceae Herter

Corticium Pers.

139. *Corticium roseum* Pers. (incl.: *C. meridioroseum* Boidin & Lanq.)
Occasional 4.0 (11, 13, 14); Lit: (15) (Mammarella & al. 2014). *Quercus ilex*, thermophilous deciduous oaks, mesophilous broad-leaved forests

Note: *C. meridioroseum* is sometimes separated by its smaller spores; no other difference has been reported (Bernicchia & Gorjón 2010). For the time being we lump them together: should they turn out to be two different species, then both are present in Grosseto.

Dendrothele Höhn. & Litsch.

140. *Dendrothele griseocana* (Bres.) Bourdot & Galzin
Rare 1.0 Lit: (18) (Bernicchia & Gorjón 2010). *Quercus ilex*

Mutatoderma (Parmasto) C.E. Gómez

141. *Mutatoderma mutatum* (Peck) C.E. Gómez (= *Hyphoderma mutatum* (Peck) Donk)
Uncommon 2.0 (16); Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* mesophilous broad-leaved forests

Vuilleminia Maire

142. *Vuilleminia comedens* (Nees) Maire
Occasional 5.0 (14, 17), Capalbio, Arcidosso, Sorano; Lit: (15) (Mammarella & al. 2014); Montieri (Pecoraro & al. 2021). *Quercus ilex*, thermophilous deciduous oaks, mesophilous broad-leaved forests

Collection from Sorano (100221) GenBank accession number: OM417565; collection from Sorano (291220) GenBank accession number: OM417570

143. *Vuilleminia coryli* Boidin, Lanq. & Gilles
Rare 1.5 Arcidosso; Lit: (8) (Bernicchia & Gorjón 2010). Mesophilous broad-leaved forests

144. *Vuilleminia macrospora* (Bres.) Hjortstam
Rare <1 Lit: Isola del Giglio (Bernicchia & Gorjón 2010). *Quercus ilex*

145. *Vuilleminia megalospora* Bres.
Uncommon 2.0 (13); Lit: (15) (Mammarella & al. 2014). *Quercus ilex*

Punctulariaceae Donk

Dendrocorticium M.J. Larsen & Gilb.

146. *Dendrocorticium polygonioides* (P. Karst.) M.J. Larsen & Gilb.
Rare 1.0 (1). *Quercus ilex* P

GenBank accession number: OM417572

AGARICOMYCETES - GLOEOPHYLLALES

Gloeophyllaceae Jülich

Gloeophyllum P. Karst.

147. *Gloeophyllum abietinum* (Bull.) P. Karst.

Rare <1 Follonica. Synanthropic

148. *Gloeophyllum sepiarium* (Wulfen) P. Karst.
Rare 1.5 Lit: (15) (Mammarella & al. 2014); Isola del Giglio (Gargano & al. 2010). Coastal pines

AGARICOMYCETES - THELEPHORALES

Bankeraceae Donk

Boletopsis Fayod

149. *Boletopsis leucomelaena* (Pers.) Fayod (incl.: *B. grisea* (Peck) Bondartsev & Singer)
Rare 1.5 Montieri; Lit: Arcidosso, Castel del Piano (Antonini & Antonini 2006). Mountain conifers, mesophilous broad-leaved forests

Hydnellum P. Karst. (= *Calodon* P. Karst. p.p.)
Note: Here we followed Larsson & al. (2019), and therefore, several former species of *Sarcodon* were moved to *Hydnellum*.

150. *Hydnellum aurantiacum* (Batsch) P. Karst.
Rare 1.5 Massa Marittima, Roccastrada; Lit: Castiglione della Pescaia (Antonini & Antonini 2006). Coastal pines

151. *Hydnellum concrescens* (Pers.) Banker s.l.
Fairly frequent 7.5 (1, 4, 5, 11, 12), Massa Marittima, Castell'Azzara, Montieri; Lit: Castiglione della Pescaia (Barluzzi & al. 1992); Roccastrada (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks, rare *Quercus ilex*
Note: According to Parfitt & al. (2007), it seems that our present concept of *H. concrescens* comprises more than one genetic species.

152. *Hydnellum ferrugineum* (Fr.) P. Karst.
Uncommon 3.0 (10), Roccastrada, Monterotondo Marittimo; Lit: Massa Marittima, Castiglione della Pescaia (Antonini & Antonini 2006). Coastal pines

153. *Hydnellum glaucopus* (Maas Geest. & Nannf.) E.Larss., K.H.Larss. & Kõljalg (= *Sarcodon g*. Maas Geest. & Nannf.)
Rare <1 Lit: Santa Fiora (Antonini & Antonini 2006). Mountain conifers

154. *Hydnellum lepidum* (Maas Geest.) E. Larss., K.H. Larss. & Kõljalg (= *Sarcodon l.* Maas Geest.)
Rare <1 Lit: Massa Marittima (Antonini & Antonini 2006). Thermophilous deciduous oaks P

155. *Hydnellum scabrosum* (Fr.) E. Larss., K.H .Larss. & Kõljalg (= *Sarcodon sc.* Fr.)
Rare 1.0 Lit: Massa Marittima, Roccastrada (Antonini & Antonini 2006). Coastal pines

Phellodon P. Karst.

156. *Phellodon confluens* (Pers.) Pouzar
Rare 1.0 (1). Mesophilous broad-leaved forests P

157. *Phellodon melaleucus* (Sw. ex Fr.) P. Karst.
Rare 1.5 Roccastrada; Lit: Castiglione della Pescaia (Barluzzi & al. 1992). Coastal pines

158. *Phellodon niger* (Fr.) P. Karst.
Locally common 10. Coastal pines

Sarcodon Quél. ex P. Karst.

159. *Sarcodon cyrneus* Maas Geest.
Uncommon 2.5 (1), Monterotondo Marittimo; Lit: Castiglione della Pescaia, Monterotondo Marittimo (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks

Thelephoraceae Chevall.

Thelephora Ehrh. ex Willd.

160. *Thelephora caryophyllea* (Schaeff.) Pers.
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex,* Coastal pines

161. *Thelephora terrestris* Ehrh.
Rare 1.5 Lit: (18) (Barluzzi & al. 1996); Santa Fiora (Antonini & Antonini 2006). Mountain conifers, coastal pines

162. *Thelephora wakefieldiae* Zmitr., Shchepin, Volobuev & Myasnikov (= *Tomentella sublilacina* (Ellis & Holw.) Wakef.
Rare 1.0 (13). Thermophilous deciduous oaks

Tomentella Pers. ex Pat.

163. *Tomentella bryophila* (Pers.) M.J. Larsen
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*

164. *Tomentella punicea* (Alb. & Schwein.) J. Schröt.
Uncommon 2.0 (4, 10). *Quercus ilex*

AGARICOMYCETES - POLYPORALES

Incrustoporiaceae Jülich

Skeletocutis Kotl. & Pouzar

165. *Skeletocutis nivea* (Jungh.) Jean Keller
Occasional 4.5 (11, 14, 16) Lit: Gavorrano (Perini & al. 1989). Mesophilous broad-leaved forests, sometimes thermophilous deciduous oaks

166. *Skeletocutis percandida* (Malençon & Bertault) Jean Keller
Occasional 5.5 (1, 11, 13, 14, 17) Lit: Castiglione della Pescaia (Antonini & Antonini 2006). *Quercus ilex,* Coastal pines, thermophilous deciduous oaks, rare mesophilous broad-leaved forests

Sparassidaceae Herter

Sparassis Fr.

167. *Sparassis laminosa* Fr.
Rare <1 Scansano. *Quercus ilex* P

Fomitopsidaceae Jülich, **Laetiporaceae** Jülich, **Dacryobolaceae** Jülich

Amyloporia Singer

168. *Amyloporia sinuosa* (Fr.) Rajchenb., Gorjón & Pildain (= *Antrodia s.* (Fr.) P. Karst.)
Rare 1.0 (10). Coastal pines

Antrodia P. Karst.

169. *Antrodia heteromorpha* (Fr.) Donk (= *A. albida* (Fr.) Donk)
Rare 1.0 (1). *Quercus ilex*

170. *Antrodia ramentacea* (Berk. & Broome) Donk
Rare 1.0 Lit: (15) (Mammarella & al. 2014). *Quercus ilex*

171. *Antrodia tanakae* (Murrill) Spirin & Miettinen

Rare <1 Sorano. Coastal pines
Note: Until this find, confirmed by molecular studies, this species has been reported only from Russia and Finland (Chen & Cui 2016; Bernicchia & Gorjón 2020). Our collection was made on a wooden fence, probably originating from Cupressaceae wood.
GenBank accession number: OM417571

Daedalea Pers.

172. *Daedalea quercina* (L.) Pers.
Occasional 4.5 (1, 8, 9, 12) Lit: Santa Fiora (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests

Fibroporia Parmasto

173. *Fibroporia vaillanti* (DC.) Parmasto (= *Antrodia v.* (DC.) Ryvarden)
Rare <1 Follonica. Coastal pines

Fomitopsis P. Karst.

174. *Fomitopsis pinicola* (Sw.) P. Karst.
Rare 1.5 (11), Cinigiano. Mountain conifers

Laetiporus Murrill

175. *Laetiporus sulphureus* (Bull.) Murrill
Occasional 5.0 (2, 5, 7), Pitigliano; Lit: Arcidosso, Santa Fiora, Castel del Piano (Antonini & Antonini 2006). Mesophilous broad-leaved forests, *Fagus*

Oligoporus Bref. (= *Postia* Fr. p.p.)

176. *Oligoporus caesius* (Schrad.) Gilb. & Ryvarden
Uncommon 2.5 (7, 11) Lit: Santa Fiora (Bernicchia & al 2007a). Mountain conifers

177. *Oligoporus floriformis*
Rare <1 Lit: Santa Fiora (Bernicchia & al 2007a). Mountain conifers

178. *Oligoporus leucomallelus* (Murrill) Gilb. & Ryvarden
Rare 1.5 (10), Scansano. Coastal Pines, thermophilous deciduous oaks

179. *Oligoporus lowei*
Rare <1 Lit: Santa Fiora (Bernicchia & al. 2007a). Mountain conifers P

180. *Oligoporus rennyi* (Berk. & Broome) Donk
Uncommon 2.0 (1, 11). Coastal pines, Mountain conifers

181. *Oligoporus simanii* (Pilát) Bernicchia
Rare 1.5 Massa Marittima; Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* Coastal pines, thermophilous deciduous oaks

182. *Oligoporus stipticus* (Pers.) Gilb. & Ryvarden
Rare 1.5 (7) Lit: Seggiano (Antonini & Antonini 2006). Mountain conifers*, Fagus*

183. *Oligoporus subcaesius* (A. David) Ryvarden & Gilb.
Uncommon 3.0 (4, 13, 16). Mainly mesophilous broad-leaved forests

184. *Oligoporus tephroleucus* (Fr.) Gilb. & Ryvarden
Occasional 4.5 (3, 11, 16) Lit: (15) (Mammarella & al. 2014); Grosseto (Antonini & Antonini 2006). Widespread

185. *Oligoporus undosus* (Peck) Gilb. & Ryvarden

Rare <1 Lit: Santa Fiora (Bernicchia & al. 2007a). Mountain conifers P

Phaeolus (Pat.) Pat.

186. *Phaeolus schweinitzii* (Fr.) Pat.
Uncommon 2.0 (6), Massa Marittima. Lit: Seggiano (Antonini & Antonini 2006). Mountain conifers, rare thermophilous deciduous oaks

Grifolaceae Jülich

Grifola Gray

187. *Grifola frondosa* (Dicks.) Gray
Uncommon 2.0 (16), Montieri; Lit: Castel del Piano (Antonini & Antonini 2006). Mesophilous broad-leaved forests, *Fagus*

Polyporaceae Fr. ex Corda

Aurantiporus Murrill

188. *Aurantiporus fissilis* (Berk. & M.A. Curtis) H. Jahn ex Ryvarden
Uncommon 2.0 (1, 8). Mesophilous broad-leaved forests, Riparian P

Cerioporus Quél. (= *Polyporus* P. Micheli ex Adans p.p.)

189. *Cerioporus meridionalis* (A. David) Zmitr. & Kovalenko
Uncommon 2.0 (10) Lit: Grosseto, Massa Marittima (Antonini & Antonini 2006). *Quercus ilex,* Coastal pines

190. *Cerioporus varius* (Pers.) Zmitr. & Kovalenko
Locally common 10. *Fagus*

Coriolopsis Murrill (= *Funalia* Pat. p.p.)

191. *Coriolopsis gallica* (Fr.) Ryvarden
Uncommon 3.0 (14, 17, 18). *Quercus ilex,* thermophilous deciduous oaks

192. *Coriolopsis trogii* (Berk.) Domański
Occasional 4.0 (1, 4, 16), Massa Marittima, Monterotondo Marittimo mainly Riparian *(Populus),* sometimes mesophilous broad-leaved forests or thermophilous deciduous oaks
Collection from site 16: GenBank accession number: OM417561

Daedaleopsis J. Schröt.

193. *Daedaleopsis confragosa* (Bolton) J. Schröt. (Incl: *D. tricolor* (Bull.) Bondartsev & Singer)
Rare 1.0 (1). Thermophilous deciduous oaks

Dichomitus D.A. Reid

194. *Dichomitus campestris* (Quél.) Domański & Orlicz
Occasional 5.0 (8, 14, 16, 18) Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

Faerberia Pouzar

195. *Faerberia carbonaria* (Alb. & Schwein.) Pouzar (= *Geopetalum c.* (Alb. & Schwein.) Pat.)
Rare 1.0 Roccastrada; Lit: Castel del Piano (Antonini & Antonini 2006). Mesophilous broad-leaved forests, *Quercus ilex*

Fomes (Fr.) Fr.

196. *Fomes fomentarius* (L.) Fr.
Rare 1.0 (11). *Fagus*
Note: After the recent separation of *F. inzengae* from *F. fomentarius* (Peintner & al. 2020), we could apply the latter name to only one collection on *Fagus*. All others, mostly collected on *Quercus* or *Populus,* are here assigned to *F. inzengae*.

197. *Fomes inzengae* (Ces. & De Not.) Cooke
Occasional 5.0 (1, 14, 16), Follonica, Scansano; Lit: Roccastrada, Massa Marittima (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, Riparian

Hexagonia Fr. (= *Apoxona* Donk)

198. *Hexagonia nitida* Durieu & Mont. (= *Daedaleopsis n.* (Durieu & Mont.) Zmitr. & Malysheva)
Occasional 6.0 (1, 2, 4), Scarlino, Massa Marittima, Roccastrada, Castiglione della Pescaia; Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* thermophilous deciduous oaks

Lentinus Fr.

199. *Lentinus tigrinus* (Bull.) Fr.
Uncommon 2.5 (1, 13), Massa Marittima. Widespread

Lenzites Fr.

200. *Lenzites betulina* (L.) Fr.
Uncommon 2.0 (1), Massa Marittima, Roccastrada. Mainly Riparian

Neofavolus Sotome & T. Hatt.

201. *Neofavolus alveolaris* (DC.) Sotome & T. Hatt. (= *Polyporus a.* (DC.) Bondartsev & Singer; = *P. mori* (Pollini) Fr.)
Rare 1.0 Sorano; Lit: Isola del Giglio (Gargano & al. 2010). *Quercus ilex,* mesophilous broad-leaved forests

Nigroporus Murrill

202. *Nigroporus durus* (Jungh.) Murrill (= *Rigidoporus d.* (Jungh.) Imazeki)
Rare 1.0 Lit: Seggiano, Santa Fiora (Antonini & Antonini 2006). Mountain conifers*, Fagus*

Perenniporia Murrill

203. *Perenniporia fraxinea* (Bull.) Ryvarden
Rare 1.0 (16). Mesophilous broad-leaved forests

204. *Perenniporia meridionalis* Decock & Stalpers
Rare <1 Sorano. Thermophilous deciduous oaks P

205. *Perenniporia ochroleuca* (Berk.) Ryvarden
Fairly frequent 8.5 (2, 5, 12, 13, 14, 18) Lit: (15) (Mammarella & al. 2014); Massa Marittima, Monterotondo Marittimo, Castiglione della Pescaia (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks, rare mesophilous broad-leaved forests

206. *Perenniporia rosmarini* A. David & Malençon
Rare <1 Lit: Grosseto (Antonini & Antonini 2006). *Quercus ilex* P

Picipes Zmitr. & Kovalenko (= *Polyporus* p.p.)

207. *Picipes badius* (Pers.) Zmitr. & Kovalenko
Rare 1.0 (16). Mesophilous broad-leaved forests P

208. *Picipes melanopus* (Pers.) Zmitr. & Kovalenko

Uncommon 3.0 (1, 7), Montieri; Lit: Seggiano (Antonini & Antonini 2006). Mesophilous broad-leaved forests, *Fagus*

Collection from site 7: GenBank accession number: OM417567

Podofomes Pouzar

209. *Podofomes trogii* (Fr). Pouzar
Rare <1 Lit: Santa Fiora (Bernicchia & al. 2007a). Mountain conifers

Polyporus P. Micheli ex Adans. (= *Polyporellus* P. Karst. p.p.)

210. *Polyporus arcularius* (Batsch) Fr. (= *Lentinus a.* (Batsch) Zmitr.)
Uncommon 2.5 (12, 14) Lit: Arcidosso (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks, *Quercus ilex*

211. *Polyporus ciliatus* Fr. (= *Lentinus substrictus* (Bolton) Zmitr. & Kovalenko)
Uncommon 3.0 (12) Lit: (1, 7) (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, *Fagus*

212. *Polyporus tuberaster* (Jacq. ex Pers.) Fr.
Common >10. Widespread

Trametes Fr. (= *Coriolus* Quél.)

213. *Trametes gibbosa* (Pers.) Fr.
Uncommon 3.0 (1, 11, 16). Mesophilous broad-leaved forests

214. *Trametes hirsuta* (Wulfen) Lloyd
Occasional 4.5 (1, 8, 11, 14), Grosseto. Thermophilous deciduous oaks, mesophilous broad-leaved forests

215. *Trametes ochracea* (Pers.) Gilb. & Ryvarden
Rare <1 Sorano. Mesophilous broad-leaved forests

216. *Trametes pubescens* (Schumach.) Pilát
Uncommon 3.5 (16), Castell'Azzara, Grosseto; Lit: Montieri, Roccastrada Seggiano (Barluzzi & al. 1992). Widespread

217. *Trametes versicolor* (L.) Lloyd
Common >10. Widespread

Trametopsis Tomšovský

218. *Trametopsis cervina* (Schwein.) Tomšovský
Rare 1.0 (11). Mesophilous broad-leaved forests P

Tyromyces P. Karst.

219. *Tyromyces wynneae* (Berk. & Broome) Donk
Rare 1.0 (7). *Fagus* P

Yuchengia B.K. Cui & K.T. Steffen

220. *Yuchengia narymica* (Pilát) B.K. Cui, C.L. Zhao & K.T. Steffen (= *Perenniporia n.* (Pilát) Pouzar)
Rare 1.0 (4). *Quercus ilex* P
GenBank accession number: OM401933

Ganodermataceae Donk

Ganoderma P. Karst.

221. *Ganoderma applanatum* (Pers.) Pat. (= *G. lipsiense* (Batsch) G.F. Atk. ss. Auct.)
Uncommon 3.0 (11, 12, 18). Thermophilous deciduous oaks, mesophilous broad-leaved forests, rare *Quercus ilex*

222. *Ganoderma australe* (Fr.) Pat. (= *G. adspersum* (Schulzer) Donk)
Rare 1.0 (11). Mesophilous broad-leaved forests

223. *Ganoderma lucidum* (Curtis) P. Karst.
Fairly frequent 7.0 (2, 12), Massa Marittima; Lit: (5), Gavorrano (Perini et al 1989); (15) (Mammarella & al. 2014); Massa Marittima, Roccastrada, Scarlino, Civitella-Paganico (Antonini & Antonini 2006). Widespread

224. *Ganoderma pfeifferi* Bres.
Uncommon 2.0 (11), Scansano; Lit: Scarlino (Antonini & Antonini 2006) Mountain conifers, thermophilous deciduous oaks

225. *Ganoderma resinaceum* Boud.
Rare 1.0 Massa Marittima, Gavorrano. Mainly thermophilous deciduous oaks

Podoscyphaceae D.A. Reid

Abortiporus Murrill

226. *Abortiporus biennis* (Bull.) Singer
Fairly frequent 6.5 (1, 4, 11, 12), Massa Marittima, Montieri, Monterotondo Marittimo; Lit: Monterotondo Marittimo, Castiglione della Pescaia (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

Podoscypha Pat.

227. *Podoscypha multizonata* (Berk. & Broome) Pat.
Rare 1.0 (14). Thermophilous deciduous oaks P

Meripilaceae Jülich

Meripilus P. Karst.

228. *Meripilus giganteus* (Pers.) P. Karst.
Uncommon 2.0 (11), Sorano; Lit: Santa Fiora (Antonini & Antonini 2006). Mesophilous broad-leaved forests

Rigidoporus Murrill

229. *Rigidoporus undatus* (Pers.) Donk
Rare 1.5 (16), Scansano thermophilous deciduous oaks, mesophilous broad-leaved forests P

Cerrenaceae Miettinen, Justo & Hibbett

Cerrena Gray

230. *Cerrena unicolor* (Bull.) Murrill
Rare <1 Massa Marittima. Synanthropic

Panaceae Miettinen, Justo & Hibbett

Panus Fr.

231. *Panus conchatus* (Bull.) Fr.
Rare <1 Roccastrada. Thermophilous deciduous oaks

Hyphodermataceae Jülich

Hyphoderma Wallr.

232. *Hyphoderma capitatum* J. Erikss. & Å. Strid
Rare 1.0 Lit: (11) (Pecoraro & al. 2021). *Fagus*

233. *Hyphoderma cremeoalbum* (Höhn. & Litsch.) Jülich
Rare 1.0 Lit: (7) (Bernicchia & al. 2007a). Mountain conifers

234. *Hyphoderma cryptocallimon* B. de Vries
Rare 1.0 Lit: (18) (Bernicchia & Gorjón 2010). Coastal pines

235. *Hyphoderma etruriae* Bernicchia
R 1.0 Lit: (18) (Bernicchia & Gorjón 2010). *Quercus ilex* P

236. *Hyphoderma galactinum* Manjón, G. Moreno & Hjortstam
Rare 1.0 Lit: (15) (Mammarella & al. 2014). *Quercus ilex*

237. *Hyphoderma incrustatum* K.H. Larss.
Rare 1.0 Lit: (18) (Bernicchia & Gorjón 2010). *Quercus ilex*

238. *Hyphoderma litschaueri* (Burt) J. Erikss. & Å. Strid
Rare 1.0 (11). Mesophilous broad-leaved forests

239. *Hyphoderma medioburense* (Burt) Donk
Rare 1.0 Lit: (15) (Mammarella & al. 2014). *Quercus ilex*

240. *Hyphoderma multicystidium* (Hjortstam & Ryvarden) Hjortstam & Tellería
Uncommon 2.0 (14) Lit: (18) (Bernicchia & Gorjón 2010). *Quercus ilex,* thermophilous deciduous oaks

241. *Hyphoderma nemorale* K.H. Larss.
Rare 1.0 Lit: (18) (Bernicchia & Gorjón 2010) *Quercus ilex* P

242. *Hyphoderma occidentale* (D.P. Rogers) Boidin & Gilles (= *H. subdefinitum* J. Erikss. & Å. Strid)
Uncommon 3.0 (14, 16) Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

243. *Hyphoderma orphanellum* (Bourdot & Galzin) Donk
Rare 1.0 Lit: (15) (Mammarella & al. 2014). *Quercus ilex*

244. *Hyphoderma roseocremeum* (Bres.) Donk
Uncommon 2.5 (11) Lit: (15) (Mammarella & al. 2014); Santa Fiora (Bernicchia & al. 2008). *Quercus ilex,* mesophilous broad-leaved forests

245. *Hyphoderma setigerum* (Fr.) Donk
Uncommon 3.0 (4, 11), Scansano; Lit: Santa Fiora (Bernicchia & al. 2007a). Widespread

246. *Hyphoderma transiens* (Bres.) Parmasto
Uncommon 2.0 (14) Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* thermophilous deciduous oaks

Hypochnicium J. Erikss.

247. *Hypochnicium bombycinum* (Sommerf.) J. Erikss.
Rare <1 Lit: Santa Fiora (Bernicchia & Gorjón 2010). Mountain conifers

248. *Hypochnicium erikssonii* Hallenb. & Hjortstam
Rare <1 Lit: Santa Fiora (Bernicchia & Gorjón 2010). *Fagus,* Mountain conifers

249. *Hypochnicium geogenium* (Bres.) J. Erikss.
Rare <1 Lit: Santa Fiora (Bernicchia & Gorjón 2010). Mountain conifers

250. *Hypochnicium punctulatum* (Cooke) J. Erikss. s.l.
Rare 1.0 (11). Mesophilous broad-leaved forests
Note: This is a species complex (Nilsson and Hallenberg 2003, Telleria & al. 2010). Our collection showed rather large spores, and consequently, should be referred to *H. albostramineum* (Bres.) Hallenb.

Steccherinaceae Parmasto

Junghuhnia Corda

251. *Junghuhnia nitida* (Pers.) Ryvarden
Occasional 5.5 (4, 11, 14, 16), Capalbio; Lit: (15) (Mammarella & al. 2014). Mainly thermophilous deciduous oaks, mesophilous broad-leaved forests, sometimes *Quercus ilex*

252. *Junghuhnia semisupiniformis* (Murrill) Ryvarden
Rare 1.0 Lit: (15) (Mammarella & al. 2014). *Quercus ilex*

Steccherinum Gray

253. *Steccherinum bourdotii* Saliba & A. David
Rare 1.0 Lit: (15) (Mammarella & al. 2014). *Quercus ilex*

254. *Steccherinum fimbriatum* (Pers.) J. Erikss.
Rare 1.5 (3) Lit: Gavorrano (Bernicchia & al. 2008). *Quercus ilex,* mesophilous broad-leaved forests

255. *Steccherinum ochraceum* (Pers.) Gray
Common >10. Widespread

256. *Steccherinum robustius* (J. Erikss. & S. Lundell) J. Erikss.
Rare 1.0 Lit: (15) (Mammarella & al. 2014). *Quercus ilex*

257. *Steccherinum straminellum* (Bres.) Melo
Rare <1.0 Scansano. Mesophilous broad-leaved forests P
GenBank accession number: OM417566

Xenasmataceae Oberw.

Xenasma

258. *Xenasma tulasnelloideum* (Höhn. & Litsch.) Donk (= *Phlebiella t.* (Höhn. & Litsch.) Oberw.)
Rare 1.0 (4). *Quercus ilex*

Xenasmatella Oberw.

259. *Xenasmatella vaga* (Fr.) Stalpers
Rare <1 Lit: Santa Fiora (Bernicchia & al. 2007a). Mountain conifers

Meruliaceae P. Karst., **Irpicaceae** Spirin & Zmitr.

Byssomerulius Parmasto

260. *Byssomerulius corium* (Pers.) Parmasto (= *Meruliopsis c.* (Pers.) Ginns)
Fairly frequent 8.5 (1, 2, 13, 14, 16, 18), Massa Marittima, Scansano, Scarlino; Lit: Castiglione della Pescaia (Bernicchia & al. 2008); Santa Fiora (Bernicchia-Gorjón 2010). Thermophilous deciduous oaks, *Quercus ilex,* mesophilous broad-leaved forests

261. *Byssomerulius hirtellus* (Burt) Parmasto
Rare 1.5 Lit: (18) (Bernicchia & al. 2008); Isola del Giglio (Gargano & al. 2010). *Quercus ilex*

Crystallicutis El-Gharabawy, Leal-Dutra & G.W. Griff.

262. *Crystallicutis serpens* (Tode) El-Gharabawy, Leal-Dutra & G.W. Griff. (= *Ceraceomyces s.* (Tode) Ginns)
Uncommon 2.0 (11) Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* mesophilous broad-leaved forests

Gelatoporia Niemelä

263. *Gelatoporia dichroa* (Fr.) Ginns (= *Gloeoporus d.* (Fr.) Bres.)
Fairly frequent 8.5 (2, 4, 12, 14, 16, 18), Scansano, Massa Marittima, Manciano; Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* thermophilous deciduous oaks, rare mesophilous broad-leaved forests

Gloeoporus Mont.

264. *Gloeoporus taxicola* (Pers.) Gilb. & Ryvarden
Rare 1.0 (11). Mountain conifers P

Irpex Fr.

265. *Irpex lacteus* (Fr.) Fr.
Rare 1.0 Lit: (15) (Mammarella & al. 2014). *Quercus ilex*

Phlebia Fr. (Incl: *Mycoacia* Donk)

266. *Phlebia aurea* (Fr.) Nakasone (= *Mycoacia a.* (Fr.) J. Erikss. & Ryvarden)
Rare <1 Lit: Santa Fiora (Bernicchia & al. 2007a). *Fagus*

267. *Phlebia deflectens* (P. Karst.) Ryvarden (= *Phanerochaete d.* (P. Karst.) Hjortstam)
Rare 1.0 Lit: (15) (Mammarella & al. 2014). Coastal pines

268. *Phlebia fuscoatra* (Fr.) Nakasone (= *Mycoacia f.* (Fr.) Donk)
Uncommon 2.0 (7, 11). *Fagus,* mesophilous broad-leaved forests

269. *Phlebia lilascens* (Bourdot) J. Erikss. & Hjortstam
Occasional 4.5 (3, 11, 14), Sorano; Lit: (15) (Mammarella & al. 2014). Thermophilous deciduous oaks, mesophilous broad-leaved forests, rare *Quercus ilex*

270. *Phlebia livida* (Pers.) Bres.
Rare 1.0 (3). Mesophilous broad-leaved forests P

271. *Phlebia radiata* Fr.
Uncommon 2.5 (4), Capalbio; Lit: (11) (Pecoraro & al. 2021). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

272. *Phlebia rufa* (Pers.) M.P. Christ.
Occasional 4.0 (1, 11, 14), Scansano, Sorano. Thermophilous deciduous oaks*, Quercus ilex*

273. *Phlebia subochracea* (Alb. & Schwein.) J. Erikss. & Ryvarden
Rare 1.0 (13). Thermophilous deciduous oaks

274. *Phlebia subserialis* (Bourdot & Galzin) Donk
Uncommon 2.5 (2, 13) Lit: Castiglione della Pescaia (Bernicchia & Gorjón 2010). Coastal pines, *Quercus ilex*
Collection from site 2: GenBank accession number: OM417573

275. *Phlebia tremellosa* (Schrad.) Nakasone & Burds. (= *Merulius t*. Schrad.)
Occasional 5.5 (1, 4, 9, 11, 14), Massa Marittima. Widespread

276. *Phlebia uda* (Fr.) Nakasone (= *Mycoacia u.* (Fr.) Donk)
Occasional 4.5 (2, 13, 14, 16) Lit: Santa Fiora (Bernicchia 2007b). Thermophilous deciduous oaks, mesophilous broad-leaved forests, rare *Quercus ilex*

Scopuloides (Massee) Höhn. & Litsch.

277. *Scopuloides leprosa* (Bourdot & Galzin) Boidin, Lanq. & Gilles
Rare <1 Montieri. Mesophilous broad-leaved forests
GenBank accession number: OM417568

Phanerochaetaceae Jülich

Antrodiella Ryvarden & I. Johans.

278. *Antrodiella romellii* (Donk) Niemelä
Rare 1.0 (5). *Quercus ilex*

Bjerkandera P. Karst.

279. *Bjerkandera adusta* (Willd.) P. Karst.
Locally common 10. *Fagus,* mesophilous broad-leaved forests

Ceriporia Donk

280. *Ceriporia excelsa* (Lundell) Parmasto
Rare 1.0 (11). Mesophilous broad-leaved forests

281. *Ceriporia purpurea* (Fr.) Donk
Rare 1.0 (16). Mesophilous broad-leaved forests

282. *Ceriporia reticulata* (Hoffm.) Domański
Rare 1.0 Lit: (15) (Mammarella & al. 2014). *Quercus ilex*

283. *Ceriporia viridans* (Berk. & Broome) Donk
Rare 1.0 Lit: (18) (Bernicchia & al. 2008). *Quercus ilex*

Ceriporiopsis Domański

284. *Ceriporiopsis gilvescens* (Bres.) Domański
Uncommon 3.0 (11, 14, 16). Mesophilous broad-leaved forests

Hapalopilus P. Karst.

285. *Hapalopilus rutilans* (Pers.) Murrill (= *H. nidulans* (Fr.) P. Karst.)
Locally common 10. Thermophilous deciduous oaks*, Quercus ilex,* sometimes mesophilous broad-leaved forests

Hyphodermella J. Erikss. & Ryvarden

286. *Hyphodermella corrugata* (Fr.) J. Erikss. & Ryvarden
Rare 1.0 Lit: (15) (Mammarella & al. 2014). *Quercus ilex*
Note: This finding should also be compared with *H. rosae*, a species likely to be more widespread in the Mediterranean region.

287. *Hyphodermella rosae* (Bres.) Nakasone
Rare 1.0 (1). *Quercus ilex*

Phanerochaete P. Karst.

288. *Phanerochaete galactites* (Bourdot & Galzin) J. Erikss. & Ryvarden
Uncommon 2.0 Lit: (15) (Mammarella & al. 2014); (18) (Bernicchia & Gorjón 2010). *Quercus ilex*

289. *Phanerochaete laevis* (Fr.) J. Erikss. & Ryvarden
Rare <1 Lit: Isola del Giglio (Gargano & al. 2010). *Quercus ilex*

290. *Phanerochaete martelliana* (Bres.) J. Erikss. & Ryvarden
Rare 1.0 Scansano; Lit: Isola del Giglio (Bernicchia & Gorjón 2010). *Quercus ilex,* thermophilous deciduous oaks

291. *Phanerochaete sanguinea* (Fr.) Pouzar
Rare 1.0 (2). *Quercus ilex*

292. *Phanerochaete sordida* (P. Karst.) J. Erikss. & Ryvarden
Uncommon 2.5 (13), Castell'Azzara; Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* thermophilous deciduous oaks

293. *Phanerochaete tuberculata* (P. Karst.) Parmasto
Uncommon 3.0 (2, 13) Lit: (18) (Bernicchia & Gorjón 2010). *Quercus ilex,* thermophilous deciduous oaks

294. *Phanerochaete velutina* (DC.) P. Karst.
Uncommon 2.0 (3) Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* mesophilous broad-leaved forests

Phlebiopsis Jülich

295. *Phlebiopsis ravenelii* (Cooke) Hjortstam (incl.: *Ph. roumeguerei* (Bres.) Jülich & Stalpers)
Uncommon 2.0 Massa Marittima, Montieri; Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* mesophilous broad-leaved forests

Porostereum Pilát

296. *Porostereum spadiceum* (Pers.) Hjortstam & Ryvarden (= *Lopharia s.* (Pers.) Boidin)
Occasional 4.5 (2, 11, 12), Manciano; Lit: (18) (Bernicchia & Gorjón 2010). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

Terana Adans.

297. *Terana caerulea* (Lam.) Kuntze (= *Pulcherricium c.* (Lam.) Parmasto)
Occasional 6.0 (2, 16, 18), Roccastrada, Scansano; Lit: (15) (Mammarella & al. 2014); Massa Marittima, Castiglione della Pescaia (Antonini & Antonini 2006). Widespread

AGARICOMYCETES - RUSSULALES

Bondarzewiaceae Kotl. & Pouzar

Heterobasidion Bref.

298. *Heterobasidion annosum* (Fr.) Bref. s.l.
Locally common 10. Mountain conifers (*Abies*)
Note: Bernicchia & Gorjón (2020) reported that the taxon growing on *Abies* is a separate species, viz. *H. abietinum* Niemelä & Korhonen.

Albatrellaceae Nuss

Albatrellus Gray

299. *Albatrellus subrubescens* (Murrill) Pouzar
Rare 1.5 Massa Marittima, Monterotondo Marittimo, Roccastrada. Coastal pines P

Laeticutis Audet (= *Albatrellus* Gray p.p.)

300. *Laeticutis cristata* (Schaeff.) Audet
Rare <1 Lit: Castel del Piano (Antonini & Antonini 2006). Mesophilous broad-leaved forests

Scutiger Paulet (= *Albatrellus* Gray p.p.)

301. *Scutiger pes-caprae* (Pers.) Bondartsev & Singer
Uncommon 2.0 Lit: (1, 7) (Antonini & Antonini 2006). *Fagus,* mesophilous broad-leaved forests

Hericiaceae Donk

Hericium Pers.

302. *Hericium erinaceus* (Bull.) Pers.
Rare 1.0 Scansano, Scarlino. *Quercus ilex*

303. *Hericium clathroides* (Pall.) Pers.
Uncommon 2.5 (4, 16), Massa Marittima. Thermophilous deciduous oaks

Laxitextum Lentz

304. *Laxitextum bicolor* (Pers.) Lentz
Rare <1 Montieri. Mesophilous broad-leaved forests

Auriscalpiaceae Maas Geest.

Artomyces Jülich

305. *Artomyces pyxidatus* (Pers.) Jülich (= *Clavicorona p.* (Pers.) Doty)
Occasional 5.5 (1, 4, 13, 14, 16), Massa Marittima. Thermophilous deciduous oaks

Auriscalpium Gray

306. *Auriscalpium vulgare* Gray
Occasional 5.5 (1, 7, 11), Roccalbegna; Lit: Castiglione della Pescaia, Seggiano, Monterotondo Marittimo (Antonini & Antonini 2006); Montieri (Pecoraro & al. 2021). Mountain conifers, Coastal pines

Lentinellus P. Karst.

307. *Lentinellus cochleatus* (Pers.) P. Karst. (incl.: *L. c.* var. *inolens* Konrad & Maubl.)
Rare 1.5 (7) Lit: Castel del Piano (Antonini & Antonini 2006). *Fagus,* mesophilous broad-leaved forests

308. *Lentinellus micheneri* (Berk. & M.A. Curtis) Pegler (= *L. omphalodes* (Fr.) P. Karst.)
Locally common 10. Coastal pines, also *Fagus*

309. *Lentinellus ursinus* (Fr.) Kühner (incl.: *L. castoreus* (Fr.) Kühner & Maire)
Fairly frequent 7.5 (1, 4, 6, 9, 12, 14, 16) Lit: Massa Marittima (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, rare *Quercus ilex*

Amylostereaceae Boidin, Mugnier & Canales

310. *Amylostereum chailletii* (Pers.) Boidin
Rare <1 Santa Fiora (Bernicchia & al. 2007a). Mountain conifers P

Stereaceae Pilát

Aleurodiscus Rabenh. ex J. Schröt. (= *Acantophysellum* Parmasto p.p.)

311. *Aleurodiscus cerussatus* (Bres.) Höhn. & Litsch.
Rare 1.0 Lit: (18) (Bernicchia & Gorjón 2010). *Quercus ilex*

312. *Aleurodiscus dextrinoideocerussatus* Manjón, M.N. Blanco & G. Moreno
Rare 1.5 Lit: (15) (Mammarella & al. 2014); Isola del Giglio (Bernicchia & Gorjón 2010). *Quercus ilex*

Aleurocystidiellum Lemke

313. *Aleurocystidiellum disciforme* (DC.) Boidin, Terra & Lanq.
Uncommon 2.5 (2, 12), Massa Marittima. *Quercus ilex,* thermophilous deciduous oaks

Stereum Hill ex Pers.

314. *Stereum gausapatum* (Fr.) Fr.
Uncommon 2.5 (16), Massa Marittima; Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* mesophilous broad-leaved forests

315. *Stereum hirsutum* (Willd.) Pers.
Common >10. Widespread

316. *Stereum ochraceoflavum* (Schwein.) Sacc.
Locally common 10. Mainly thermophilous deciduous oaks and mesophilous broad-leaved forests

317. *Stereum reflexulum* Lloyd
Uncommon 2.5 Lit: (15) (Mammarella & al. 2014); (18) (Bernicchia & Gorjón 2010); Gavorrano (Bernicchia & al. 2008). *Quercus ilex*

318. *Stereum rugosum* Pers.
Uncommon 3.0 (11) Lit: (5) (Perini & al. 1989); Gavorrano, Castiglione della Pescaia (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

319. *Stereum sanguinolentum* (Alb. & Schwein.) Fr.
Uncommon 2.0 (7, 11). Mountain conifers*, Fagus*

320. *Stereum subtomentosum* Pouzar
Common >10. Widespread

Xylobolus P. Karst.

321. *Xylobolus subpileatus* (Berk. & M.A. Curtis) Boidin
Uncommon 2.0 (4, 5). Thermophilous deciduous oaks, *Quercus ilex*

Peniophoraceae Lotsy

Peniophora Cooke

322. *Peniophora boidinii* D.A. Reid
Uncommon 2.5 (1), Scansano; Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* thermophilous deciduous oaks

323. *Peniophora cinerea* (Pers.) Cooke
Uncommon 2.5 (16), Scansano; Lit: (15) (Mammarella & al. 2014). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

324. *Peniophora incarnata* (Pers.) P. Karst.
Rare 1.0 (14). Thermophilous deciduous oaks

325. *Peniophora laeta* (Fr.) Donk
Rare <1 Santa Fiora (Bernicchia & al. 2008). Thermophilous deciduous oaks

326. *Peniophora lycii* (Pers.) Höhn. & Litsch.
Fairly frequent 7.0 (1, 2, 13, 16, 18), Massa Marittima; Lit: (15) (Mammarella & al. 2014); Isola del Giglio (Bernicchia & Gorjón 2010). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

327. *Peniophora meridionalis* Boidin
Uncommon 2.0 (10) Lit: (15) (Mammarella & al. 2014). *Quercus ilex*, thermophilous deciduous oaks

328. *Peniophora piceae* (Pers.) J. Erikss.
Rare 1.0 (7). Mountain conifers

329. *Peniophora quercina* (Pers.) Cooke
Locally common 10. *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

330. *Peniophora versicolor* (Bres.) Sacc. & P. Syd.
Uncommon 2.0 Lit: (15) (Mammarella & al. 2014); (18) (Bernicchia & Gorjón 2010). *Quercus ilex*

Scytinostroma Donk

331. *Scytinostroma galactinum* (Fr.) Donk
Rare 1.0 Lit: (18) (Bernicchia & Gorjón 2010). *Quercus ilex*

332. *Scytinostroma praestans* (H.S. Jacks.) Donk
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*

Vararia P. Karst.

333. *Vararia maremmana* Bernicchia
Rare 1.0 Lit: (18) (Bernicchia & Gorjón 2010). *Quercus ilex*

Vesiculomyces E. Hagstr.

334. *Vesiculomyces citrinus* (Pers.) E. Hagstr. (= *Gloiothele c.* (Pers.) Ginns & G.W. Freeman)
Uncommon 2.0 (1), Arcidosso; Lit: Santa Fiora (Bernicchia & al. 2007a). Mountain conifers

Russulaceae Lotsy

Lactarius Pers.

335. *Lactarius acerrimus* Britzelm.
Occasional 5.0 (1, 12, 18), Sorano, Roccastrada; Lit: Santa Fiora, Massa Marittima (Antonini & Antonini 2006). Mainly mesophilous broad-leaved forests, sometimes thermophilous deciduous oaks

336. *Lactarius acris* (Bolton) Gray
Rare 1.5 (7) Lit: Arcidosso (Antonini & Antonini 2006). *Fagus* P

337. *Lactarius atlanticus* Bon
Locally common 10. *Quercus ilex*

338. *Lactarius aurantiacus* (Pers.) Gray
Rare <1 Lit: Seggiano (Antonini & Antonini 2006). Mountain conifers

339. *Lactarius azonites* (Bull.) Fr. (= *L. fuliginosus* (Fr.) Fr. *var. albipes* (J.E. Lange) Bon)
Locally common 10. Thermophilous deciduous oaks, *Quercus ilex,* mesophilous broad-leaved forests

340. *Lactarius blennius* (Fr.) Fr.
Locally common 10. *Fagus*

341. *Lactarius britannicus* D.A. Reid
Uncommon 2.0 (7, 11). mesophilous broad-leaved forests

342. *Lactarius camphoratus* (Bull.) Fr.
Rare 1.0 Lit: Roccastrada, Santa Fiora (Antonini & Antonini 2006). Mesophilous broad-leaved forests

343. *Lactarius chrysorrheus* Fr.
Common >10. Widespread, absent *Fagus*

344. *Lactarius circellatus* Fr.

Rare1.0 (11). Mesophilous broad-leaved forests

345. *Lactarius cistophilus* Bon & Trimbach
Rare 1.0 (14). Thermophilous deciduous oaks (*Cistus*)

346. *Lactarius controversus* Pers.
Occasional 5.5 (1, 4, 7), Montieri. Lit: Arcidosso, Santa Fiora, Castel del Piano, Seggiano (Antonini & Antonini 2006). Ripar, mesophilous broad-leaved forests, rare thermophilous deciduous oaks

347. *Lactarius decipiens* Quél.
Fairly frequent 9.0 (1, 5, 6, 12, 13, 14, 16), Manciano; Lit: Gavorrano (Perini & al. 1989); Santa Fiora, Castiglione della Pescaia (Antonini & Antonini 2006). Widespread, rare *Fagus*

348. *Lactarius deliciosus* (L.) Gray
Locally common 10. Coastal pines, sometimes Mountain conifers

349. *Lactarius evosmus* Kühner & Romagn.
Uncommon 2.0 (1, 11). Mesophilous broad-leaved forests

350. *Lactarius flavidus* Boud.
Uncommon 2.0 (1, 16). Mesophilous broad-leaved forests

351. *Lactarius fluens* Boud.
Rare <1 Lit: Arcidosso (Antonini & Antonini 2006). Mesophilous broad-leaved forests

352. *Lactarius fraxineus* Romagn.
Rare <1 Capalbio. *Quercus ilex*

353. *Lactarius fulvissimus* Romagn.
Uncommon 3.0 (7, 11, 12). Thermophilous deciduous oaks, mesophilous broad-leaved forests, Mountain conifers

354. *Lactarius ilicis* Sarnari
Uncommon 2.5 (5), Roccastrada, Capalbio. Lit: Capalbio (Sarnari 1993). *Quercus ilex*

355. *Lactarius intermedius* Krombh. ex Berk. & Broome
Rare 1.5 (7) Lit: Arcidosso (Antonini & Antonini 2006). Mountain conifers

356. *Lactarius lacunarum* Romagn. ex Hora
Rare 1.0 (6). Thermophilous deciduous oaks

357. *Lactarius luridus* (Pers.) Gray
Occasional 4.5 (1, 11, 12) Lit: Civitella-Paganico, Santa Fiora, Monterotondo Marittimo (Antonini & Antonini 2006). Thermophilous deciduous oaks*, Quercus ilex,* rare mesophilous broad-leaved forests

358. *Lactarius mairei* Malençon (incl: *L. m.* var. *ilicis* Lalli & Pacioni)
Occasional 4.5 (2, 15, 16), Massa Marittima; Lit: Monterotondo Marittimo, Massa Marittima (Antonini & Antonini 2006). *Quercus ilex*, thermophilous deciduous oaks, rare mesophilous broad-leaved forests

359. *Lactarius mediterraneensis* Llistosella & Bellù
Rare <1 Lit: Monterotondo Marittimo (Antonini & Antonini 2006). *Quercus ilex* P

360. *Lactarius pallidus* Pers.
Locally common 10. *Fagus*

361. *Lactarius pyrogalus* (Bull.) Fr.
Locally common 10. Associated with *Corylus*

362. *Lactarius quieticolor* Romagn.
Rare 1.0 (12). Mountain conifers

363. *Lactarius quietus* (Fr.) Fr.
Occasional 4.5 (1, 4, 12), Roccastrada, Scansano; Lit: Castiglione della Pescaia (Antonini & Antonini 2006). Thermophilous deciduous oaks*, Quercus ilex*, mesophilous broad-leaved forests

364. *Lactarius rubrocinctus* Fr. (= *L. tithymalinus* ss. Auct. pl.)
Rare 1.5 (7), Seggiano. *Fagus*

365. *Lactarius ruginosus* Romagn.
Rare 1.0 (18). *Quercus ilex*

366. *Lactarius salmonicolor* R. Heim & Leclair
Locally common 10. Mountain conifers *(Abies)*

367. *Lactarius sanguifluus* (Paulet) Fr. (incl: *L. vinosus* (Quél.) Bataille)
Locally common 10. Coastal pines, rare Mountain conifers

368. *Lactarius scrobiculatus* (Scop.) Fr.
Rare <1 Lit: Seggiano (Antonini & Antonini 2006). Mountain conifers

369. *Lactarius semisanguifluus* R. Heim & Leclair
Rare <1 Lit: Santa Fiora (Antonini & Antonini 2006). Mountain conifers

370. *Lactarius serifluus* (DC.) Fr. (= *L. cimicarius* ss. Auct.)
Rare 1.0 (1). Mesophilous broad-leaved forests

371. *Lactarius subdulcis* (Pers.) Gray
Uncommon 3.0 (7, 8, 11). *Fagus*, mesophilous broad-leaved forests

372. *Lactarius subumbonatus* Lindgr.
Locally common 10. Thermophilous deciduous oaks*, Quercus ilex,* rare mesophilous broad-leaved forests

373. *Lactarius tesquorum* Malençon
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex (Cistus)* P

374. *Lactarius violascens* (J. Otto) Fr.
Uncommon 3.5 (1, 5, 7) Lit: Castiglione della Pescaia (Perini & al. 1989). Mesophilous broad-leaved forests, *Fagus, Quercus ilex* P

375. *Lactarius zonarius* (Bull.) Fr.
Locally common 10. *Quercus ilex,* thermophilous deciduous oaks, rare mesophilous broad-leaved forests

Lactifluus (Pers.) Roussel (= *Lactarius* Pers. p.p.)

376. *Lactifluus brunneoviolascens* (Bon) Verbeken (= *L. luteolus* (Peck) Verbeken ss. Auct. Eur.; = *Lactarius kuehnerianus* Malençon)
Uncommon 3.0 (10) Lit: (18) (Barluzzi & al. 1996); Orbetello (Sarnari 1998); Castiglione della Pescaia (Basso 1999). *Quercus ilex*

377. *Lactifluus glaucescens* (Crossl.) Verbeken (= *Lactarius pergamenus* ss. Auct. pl.)
Occasional 4.0 (6, 7, 14, 16). Mesophilous broad-leaved forests, thermophilous deciduous oaks

378. *Lactifluus oedematopus* (Scop.) Kuntze
Rare 1.0 (5). Thermophilous deciduous oaks

379. *Lactifluus piperatus* (L.) Roussel
Common >10. Widespread, rare *Fagus*

380. *Lactifluus rugatus* (Kühner & Romagn.) Verbeken

Fairly frequent 6.5 (2, 5, 14, 16) Lit: (18) (Barluzzi & al. 1996); Scarlino, Castiglione della Pescaia, Orbetello (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks

381. *Lactifluus vellereus* (Fr.) Kuntze (incl: *L. v.* var. *hometii* (Gillet) Boud.)
Fairly frequent 7.5 (1, 2, 7, 11, 12, 18) Lit: Massa Marittima, Castiglione della Pescaia, Roccastrada (Antonini & Antonini 2006). *Fagus,* mesophilous broad-leaved forests, rare thermophilous deciduous oaks

382. *Lactifluus volemus* (Fr.) Kuntze s.l.
Occasional 5.0 (1, 7, 12, 14). Thermophilous deciduous oaks, mesophilous broad-leaved forests*, Fagus*
Note: Recent studies (DeCrop & al. 2017) have proven that the binomial *L. volemus* comprises more than one species. In Grosseto, *L. volemus* s.s. is probably the dominant species.

Russula Pers.

383. *Russula acetolens* Rauschert (= *R. vitellina* Gray)
Uncommon 2.0 (3, 8). Mesophilous broad-leaved forests

384. *Russula acrifolia* Romagn.
Common >10. Widespread

385. *Russula adusta* (Pers.) Fr.
Rare <1 Monterotondo Marittimo. Thermophilous deciduous oaks

386. *Russula albonigra* (Krombh.) Fr.
a. var. *albonigra*
Fairly frequent 6.5 (7, 14), Capalbio, Roccastrada; Lit: Orbetello, Capalbio (Sarnari 1998); Roccastrada, Seggiano, Arcidosso, Castiglione della Pescaia, Santa Fiora (Antonini & Antonini 2006). Widespread
b. var. *pseudonigricans* (Romagn.) Bon
Occasional 4.0 (2, 8, 12), Montieri, Capalbio. Mainly thermophilous deciduous oaks
Note: This is a species complex (De Lange & al. 2021). We did not attempt any morphological assignment of the various species inside the complex.

387. *Russula alternata* (Melzer & Zvára) J. Blum ex Bon
Rare <1 Lit: Orbetello (Sarnari 2005). Thermophilous deciduous oaks

388. *Russula amoena* Quél.
Occasional 4.0 (7, 8, 11), Montieri; Lit: Capalbio (Sarnari 1998). Mountain conifers, *Fagus,* mesophilous broad-leaved forests, rare *Quercus ilex*

389. *Russula amoenicolor* Romagn.
Locally common 10. Mainly *Quercus ilex*, thermophilous deciduous oaks

390. *Russula amoenolens* Romagn.
Occasional 4.0 (11, 13, 14), Capalbio, Roccastrada. *Quercus ilex,* Coastal pines, thermophilous deciduous oaks

391. *Russula anatina* Romagn.
Occasional 4.0 (12), Roccastrada, Capalbio; Lit: Capalbio, Manciano, Roccastrada (Sarnari 1998); Roccastrada (Antonini & Antonini 2006). Thermophilous deciduous oaks, sometimes *Quercus ilex*

392. *Russula annae* Sarnari
Uncommon 2.5 (13) Lit: Capalbio, Roccastrada, Civitella-Paganico (Sarnari 2005). Thermophilous deciduous oaks, *Quercus ilex*

393. *Russula atramentosa* Sarnari
Uncommon 2.5 (13) Lit: Capalbio, Orbetello (Sarnari 1998); Monterotondo Marittimo (Antonini & Antonini 2006). Thermophilous deciduous oaks

394. *Russula atropurpurea* (Krombh.) Britzelm. (= *R. krombholzii* Shaffer)

Fairly frequent 6.5 (1, 5, 12), Roccastrada; Lit: (11) (Pecoraro & al. 2021); Capalbio, Orbetello, Roccastrada (Sarnari 1998); Roccastrada (Antonini & Antonini 2006). Widespread

395. *Russula aurea* Pers. (= *R. aurata* Fr.)
Common >10 widespread

396. *Russula aurora* Krombh. (= *R. rosea* Quél. pp.; = *R. velutipes* Velen.)
Occasional 6.0 (1, 5, 12, 14) Lit: Roccastrada, Arcidosso, Castel del Piano, Santa Fiora (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks, rare *Fagus*

397. *Russula blumiana* Bon
Rare <1 Lit: Manciano (Sarnari 2005). Thermophilous deciduous oaks

398. *Russula caerulea* Fr. (= *R. amara* Kučera)
Rare <1 Castiglione della Pescaia. Coastal pines

399. *Russula carminipes* J. Blum
Fairly frequent 6.5 (1, 12, 13, 14) Lit: Capalbio, Manciano, Roccastrada, Orbetello, Civitella-Paganico (Sarnari 2005). Thermophilous deciduous oaks, *Quercus ilex*

400. *Russula carpini* R. Girard & Heinem.
Uncommon 3.5 (12, 14, 16), Montieri. Mainly mesophilous broad-leaved forests

401. *Russula cavipes* Britzelm.
Locally common 10. Mountain conifers *(Abies)*

402. *Russula cessans* A. Pearson
Occasional 5.5 (1, 5, 10), Roccastrada, Orbetello; Lit: Orbetello, Manciano, Capalbio (Sarnari 2005). Coastal pines, Mountain conifers

403. *Russula chloroides* (Krombh.) Bres. (incl: *R. c.* var. *trachyspora* (Romagn.) Sarnari)
Locally common 10. Mesophilous broad-leaved forests, *Fagus*

404. *Russula cicatricata* Romagn. ex Bon
Rare 1.0 (14). Thermophilous deciduous oaks

405. *Russula cistoadelpha* M.M. Moser & Trimbach
Uncommon 2.5 Lit: Orbetello, Massa Marittima, Capalbio, Manciano, Civitella-Paganico (Sarnari 2005)
Quercus ilex (Cistus)

406. *Russula clariana* R. Heim ex Kuyper & Vuure
Uncommon 2.0 (12) Lit: Capalbio, Manciano (Sarnari 1998). Thermophilous deciduous oaks, mesophilous broad-leaved forests

407. *Russula convivialis* Sarnari
Uncommon 2.0 (5, 12). Thermophilous deciduous oaks

408. *Russula cuprea* J.E. Lange (incl.: *R. gigasperma* Romagn.)
Occasional 5.0 (1, 4, 11, 12) Lit: Capalbio, Roccastrada (Sarnari 1998). Mesophilous broad-leaved forests, thermophilous deciduous oaks, sometimes *Quercus ilex*
Notes: *R. gigasperma*, found by Sarnari (1998) at Roccastrada, and by at Follonica, is in our opinion, better considered a variety of *R. cuprea*.

409. *Russula curtipes* F.H. Møll. & Jul. Schäff.
Uncommon 2.5 (1, 7) Lit: Arcidosso (Sarnari 2005). *Fagus,* rare mesophilous broad-leaved forests

410. *Russula cyanoxantha* (Schaeff.) Fr.
Common >10. Widespread

411. *Russula decipiens* (Singer) Bon

Common >10. Widespread

412. *Russula delica* Fr. s.l.
Common >10. Widespread

413. *Russula densifolia* Secr. ex Gillet
Fairly frequent 6.5 (10, 11), Roccastrada; Lit: Capalbio, Orbetello, Civitella-Paganico (Sarnari 1998); Castiglione della Pescaia, Gavorrano (Perini & al. 1989); Castel del Piano, Arcidosso, Santa Fiora (Antonini & Antonini 2006). Widespread

414. *Russula dryophila* Sarnari
Uncommon 2.0 Scarlino; Lit: Capalbio, Roccastrada, Civitella-Paganico (Sarnari 2005). Thermophilous deciduous oaks, *Quercus ilex*

415. *Russula emeticicolor* Jul. Schäff.
Rare 1.0 (14). Mesophilous broad-leaved forests

416. *Russula faginea* Romagn.
Locally common 10. *Fagus*

417. *Russula farinipes* Romell
Uncommon 2.5 (7, 8) Lit: Arcidosso (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, rare *Fagus*

418. *Russula faustiana* Sarnari (= *R. subterfurcata* Romagn. p.p.)
Uncommon 2.5 (7, 11) Lit: Orbetello (Sarnari 1998, as *R. subterfurcata*). *Fagus,* mesophilous broad-leaved forests

419. *Russula fellea* (Fr.) Fr.
Uncommon 2.0 (7) Lit: Arcidosso, Seggiano (Antonini & Antonini 2006). *Fagus*

420. *Russula flavispora* Romagn.
Rare 1.0 Lit: Capalbio, Manciano (Sarnari 1998). Thermophilous deciduous oaks*, Quercus ilex*

421. *Russula foetens* Pers. s.s.
Rare 1.5 (11) Lit: (Sarnari 1998). Mesophilous broad-leaved forests, *Fagus*
Notes: Most reports of *R. foetens* should rather be assigned to *R. subfoetens*, see excludenda.

422. *Russula fragilis* Fr.
Common >10. Widespread

423. *Russula fragrantissima* Romagn.
Rare 1.5 Lit: Capalbio, Manciano, Orbetello (Sarnari 1998). Thermophilous deciduous oaks P

424. *Russula fuliginosa* Sarnari
Rare 1.5 (1), Roccastrada. Thermophilous deciduous oaks

425. *Russula galochroa* (Fr.) Fr.
Rare 1.5 (18) Lit: Orbetello (Sarnari 1998). *Quercus ilex* P

426. *Russula galochroides* Sarnari
Occasional4.0 (12, 14) Lit: Capalbio, Orbetello, Massa Marittima (Sarnari 1998); Castiglione della Pescaia (Antonini & Antonini 2006). Thermophilous deciduous oaks, *Quercus ilex*

427. *Russula globispora* (J. Blum) Bon
Locally common 10. Mainly *Quercus ilex,* thermophilous deciduous oaks

428. *Russula graveolens* Romell
Fairly frequent 7.5 (11, 12, 13, 14), Roccastrada, Capalbio; Lit: (18) (Barluzzi & al. 1996); Capalbio, Orbetello, Civitella-Paganico (Sarnari 2005). Thermophilous deciduous oaks*, Quercus ilex*

429. *Russula grisea* Fr. (incl: *R. stenotricha* Romagn.)
Fairly frequent 7.0 (1, 11, 12, 14, 18), Montieri, Capalbio, Scansano; Lit: Capalbio (Sarnari 1998). Widespread

430. *Russula helios* Malençon ex Sarnari
Rare 1.0 Lit: Civitella-Paganico, Roccastrada (Sarnari 2005). *Quercus ilex* P

431. *Russula heterophylla* (Fr.) Fr.
Common >10. Widespread

432. *Russula hortensis* Sarnari
Rare <1 Lit: Orbetello (Sarnari 1998). Synanthropic

433. *Russula ilicis* Romagn., Chevassut & Privat
Fairly frequent 8.5 (2, 5, 10, 12, 15), Roccastrada; Lit: (18) (Barluzzi & al. 1996); Capalbio, Orbetello, Manciano (Sarnari 1998); Monterotondo Marittimo (Antonini & Antonini 2006). *Quercus ilex*, thermophilous deciduous oaks

434. *Russula inamoena* Sarnari
Uncommon 2.0 Lit: Roccastrada, Orbetello, Capalbio (Sarnari 1998); Santa Fiora (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks

435. *Russula insignis* Quél. (= *R. livescens* (Batsch) Bataille ss. Romagn.)
Fairly frequent 7.5 (2, 17, 18), Follonica, Roccastrada, Massa Marittima, Capalbio, Orbetello, Montieri; Lit: Capalbio, Orbetello (Sarnari 1998); Roccastrada (Antonini & Antonini 2006). Thermophilous deciduous oaks, *Quercus ilex,* also synanthropic

436. *Russula ionochlora* Romagn.
Rare <1 Montieri. Mountain conifers

437. *Russula juniperina* Ubaldi
Uncommon 2.5 Capalbio, Massa Marittima; Lit: Manciano, Capalbio, Orbetello (Sarnari 1998). Thermophilous deciduous oaks, *Quercus ilex*

438. *Russula laeta* Jul. Schäff.
Occasional 5.0 (12, 14), Massa Marittima, Capalbio; Lit: Capalbio, Manciano, Roccastrada, Civitella-Paganico (Sarnari 2005). Mesophilous broad-leaved forests, thermophilous deciduous oaks, sometimes *Quercus ilex*

439. *Russula laurocerasi* Melzer (= *R. grata* Britzelm.)
Occasional 5.5 (1, 3, 6) Lit: Roccastrada, Arcidosso, Seggiano, Monterotondo Marittimo (Antonini & Antonini 2006); Montieri (Leonardi & al. 2010). Mainly mesophilous broad-leaved forests

440. *Russula lepida* Fr. (= *R. rosea* Pers.)
Common >10. Widespread

441. *Russula lilacea* Quél.
Uncommon 2.5 Lit: (11) (Pecoraro & al. 2021); Manciano, Santa Fiora (Sarnari 2005); Montieri (Leonardi & al. 2010). Mesophilous broad-leaved forests, rare thermophilous deciduous oaks

442. *Russula lividopallescens* Sarnari
Rare 1.5 (12) Lit: Capalbio (Sarnari 2005). Thermophilous deciduous oaks

443. *Russula lutensis* Romagn.
Uncommon 3.0 (4, 12), Scansano; Lit: Manciano (Sarnari 2005 as *R. impolita* (Romagn.) Bon). Mainly thermophilous deciduous oaks
Collection from site 4 GenBank accession number: OM403086
Note: In our opinion, this is not a rare species in the Apennines, allied to oaks, rarely also *Castanea*; in France also under *Carpinus*, according to Romagnesi (1985), characterized by the rather bright red colours (see the description and notes in Clericuzio 2019). It belongs to sect. *Tenellae*, subsect. *Rhodellinae*, a morphologically rather difficult

group, for which very little genomic work has been done; in fact, the ITS sequence we obtained does not correspond with that of any taxon in GenBank.

444. *Russula luteotacta* Rea
Locally common 10. Mesophilous broad-leaved forests, thermophilous deciduous oaks

445. *Russula maculata* Quél. s.l.
Fairly frequent 8.0 (4, 12, 14), Roccastrada, Capalbio, Montieri; Lit: Capalbio, Manciano (Sarnari 1998); Massa Marittima, Castiglione della Pescaia, Gavorrano, Scarlino, Roccastrada (Antonini & Antonini 2006). Thermophilous deciduous oaks, sometimes *Quercus ilex* or mesophilous broad-leaved forests
Note: This is a species complex (Adamčik & al. 2016). We did not attempt at any morphological assignment to the various species inside the complex.

446. *Russula medullata* Romagn.
Rare 1.5 Montieri; Lit: Orbetello, Civitella-Paganico (Sarnari 1998). Mesophilous broad-leaved forests, thermophilous deciduous oaks

447. *Russula melliolens* Quél.
Fairly frequent 7.5 (1, 4, 8, 12), Capalbio, Roccastrada; Lit: Capalbio, Manciano, Orbetello, Civitella-Paganico, Roccastrada (Sarnari 2005). Thermophilous deciduous oaks, mesophilous broad-leaved forests, sometimes *Quercus ilex*

448. *Russula melzeri* Zvára
Rare 1.5 (7) Lit: Arcidosso (Sarnari 2005). *Fagus,* mesophilous broad-leaved forests

449. *Russula minutula* Velen.
Occasional 5.5 (1, 5, 12, 14) Lit: Capalbio (Sarnari 2005); Arcidosso, Castel del Piano (Antonini & Antonini 2006). Mesophilous broad-leaved forests, sometimes thermophilous deciduous oaks*, Fagus*

450. *Russula monspeliensis* Sarnari
Locally common 10. *Quercus ilex* (*Cistus monspeliensis*)

451. *Russula mustelina* Fr.
Rare 1.5 (7) Lit: Seggiano (Antonini & Antonini 2006). Mountain conifers

452. *Russula nigricans* Fr.
Common >10. Widespread, rare *Quercus ilex*

453. *Russula nobilis* Velen. (= *R. mairei* Singer)
Uncommon 2.0 (7) Lit: Santa Fiora (Sarnari 1998); Seggiano (Antonini & Antonini 2006). *Fagus*

454. *Russula nuragica* Sarnari (incl.: f. *holoxantha* Sarnari)
Uncommon 2.5 (4) Lit: Capalbio, Manciano, Orbetello (Sarnari 2005). *Quercus ilex* P
Note: An important part of the biodiversity of mature *Quercus ilex* woods, originally described by Sarnari (2005) for the old-growth holm oaks of Sardinia, but also found in various sites of the Italian peninsula.

455. *Russula ochracea* Fr.
Rare 1.5 (13) Lit: Civitella-Paganico (Sarnari 2005). *Quercus ilex*

456. *Russula ochroleuca* Fr.
Rare 1.0 (7). *Fagus*

457. *Russula ochrospora* (Nicolaj ex Quadr. & W. Rossi) Quadr.
Occasional 6.0 (2, 16, 18), Follonica, Grosseto, Capalbio; Lit: Capalbio, Manciano, Orbetello (Sarnari 1998). *Quercus ilex,* thermophilous deciduous oaks, often synanthropic

458. *Russula odorata* Romagn.
Fairly frequent 9.5 (5, 11, 12, 13, 14, 15), Capalbio; Lit: (18) (Barluzzi & al. 1996); Capalbio, Civitella-Paganico, Orbetello (Sarnari 2005); Roccastrada (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks, rare mesophilous broad-leaved forests

459. *Russula olivacea* (Schaeff.) Fr.
Locally common 10. *Fagus*

460. *Russula oreades* Sarnari
Rare <1 Lit: Capalbio (Sarnari 2005). *Quercus ilex*

461. *Russula pallidospora* J. Blum ex. Romagn.
Uncommon 2.0 Grosseto, Castiglione della Pescaia; Lit: Capalbio, Manciano (Sarnari 1998). *Quercus ilex,* thermophilous deciduous oaks

462. *Russula parahelios* D. Antonini & M. Antonini
Rare <1 Lit: Monterotondo Marittimo (Antonini & Antonini 2006). Thermophilous deciduous oaks

463. *Russula parazurea* Jul. Schäff.
Occasional 4.5 (8, 18), Capalbio, Scansano; Lit: Orbetello (Sarnari 1998); Arcidosso, Santa Fiora (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, *Quercus ilex*

464. *Russula parodorata* Sarnari
Fairly frequent 9.5 (8, 11, 12, 14, 16), Roccastrada, Castiglione della Pescaia, Massa Marittima, Capalbio; Lit: Capalbio, Manciano, Massa Marittima, Civitella-Paganico, Orbetello (Sarnari 2005). Thermophilous deciduous oaks, *Quercus ilex,* sometimes mesophilous broad-leaved forests

465. *Russula pelargonia* Niolle
Fairly frequent 8.5 (1, 8, 9, 11, 12, 16), Roccastrada, Capalbio; Lit: Capalbio, Castell'Azzara (Sarnari 1998); Arcidosso (Antonini & Antonini 2006). Widespread, rare *Fagus*

466. *Russula persicina* Krombh.
Locally common 10. *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

467. *Russula picrea* Sarnari
Rare <1 Lit: Capalbio (Sarnari 2005). *Quercus ilex*

468. *Russula poikilochroa* Sarnari
R 1.5 Lit: Capalbio, Civitella-Paganico, Orbetello (Sarnari 1998). Mainly *Quercus ilex*

469. *Russula praetervisa* Sarnari (= *R. pectinatoides* Peck ss. Romagn.)
Common >10. Widespread, also synanthropic

470. *Russula prinophila* Sarnari
Uncommon 2.0 Massa Marittima; Lit: Capalbio, Manciano, Orbetello (Sarnari 2005). *Quercus ilex*

471. *Russula pseudoaeruginea* (Romagn.) Kuyper & Vuure
Fairly frequent 9.0 (1, 4, 8, 12), Capalbio, Roccastrada, Massa Marittima, Montieri; Lit: Capalbio, Orbetello (Sarnari, 1998); Massa Marittima, Castiglione della Pescaia, Roccastrada, Orbetello (Antonini & Antonini 2006). Thermophilous deciduous oaks, *Quercus ilex*, sometimes mesophilous broad-leaved forests

472. *Russula pseudoimpolita* Sarnari
Occasional 5.0 (13, 17), Capalbio; Lit: Capalbio, Orbetello, Manciano, Civitella-Paganico (Sarnari 2005); Orbetello (Antonini & Antonini 2006). *Quercus ilex*, thermophilous deciduous oaks

473. *Russula pseudointegra* Arnould & Goris
Rare 1.0 Seggiano; Lit: Capalbio (Sarnari 2005). Thermophilous deciduous oaks

474. *Russula pseudolaeta* Sarnari
Rare <1 Lit: Manciano (Sarnari 2005). Thermophilous deciduous oaks

475. *Russula puellula* Ebbesen, F.H. Møller & Jul. Schäff.
Rare 1.0 (7) *Fagus* P

476. *Russula purpurata* (Crawshay) Romagn.
Uncommon 3.0 (12, 14, 16). Thermophilous deciduous oaks, *Quercus ilex,* sometimes mesophilous broad-leaved forests
Note: As opposed to most authorities, in the absence of genetic investigations, we prefer to keep this *Viridantinae* separate from *R. graveolens*.

477. *Russula queletii* Fr.
Rare <1 Lit: Arcidosso (Sarnari 1998). Mountain conifers

478. *Russula quercilicis* Sarnari
Uncommon 2.0 Massa Marittima; Lit: Capalbio, Manciano, Massa Marittima (Sarnari 1998). *Quercus ilex*

479. *Russula raoultii* Quél.
Rare 1.5 (7) Lit: Montieri (Leonardi & al. 2010). *Fagus*

480. *Russula rhodella* E.J. Gilbert var. *heterosperma* Sarnari
Rare 1.0 (11). *Fagus* P

481. *Russula rhodomarginata* Sarnari
Rare 1.5 Lit: Capalbio, Roccastrada, Manciano (Sarnari 2005). *Quercus ilex,* thermophilous deciduous oaks

482. *Russula rhodomelanea* Sarnari
Rare 1.0 Lit: Capalbio, Manciano (Sarnari 1998). Thermophilous deciduous oaks, *Quercus ilex*

483. *Russula risigallina* (Batsch) Sacc. (= *R. chamaeleontina* (Lasch.) Fr.)
Common >10. Widespread

484. *Russula romellii* Maire
Occasional 6.0 (3, 7, 8), Arcidosso, Castel del Piano, Scansano; Lit: Castel del Piano, Seggiano, Civitella-Paganico (Antonini & Antonini 2006). *Fagus,* mesophilous broad-leaved forests

485. *Russula roseicolor* J. Blum
Rare 1.5 Lit: Capalbio, Manciano, Orbetello (Sarnari 2005). *Quercus ilex,* thermophilous deciduous oaks

486. *Russula roseoaurantia* Sarnari
Uncommon 3.0 (6, 8, 14). Mesophilous broad-leaved forests, thermophilous deciduous oaks

487. *Russula rubra* (Fr.) Fr.
Uncommon 2.0 (11, 12). Mesophilous broad-leaved forests, thermophilous deciduous oaks

488. *Russula rubroalba* (Singer) Romagn.
Locally common 10. Thermophilous deciduous oaks, mesophilous broad-leaved forests, rare *Quercus ilex*

489. *Russula rutila* Romagn.
Occasional 5.5 (1, 4, 5, 12), Montieri; Lit: Capalbio, Manciano (Sarnari 1998). Thermophilous deciduous oaks, mesophilous broad-leaved forests*, Quercus ilex*

490. *Russula sanguinea* Fr.
Occasional 4.5 (1, 2, 5) Lit: Capalbio (Sarnari 1998); Monterotondo Marittimo, Orbetello (Antonini & Antonini 2006). Coastal pines, Mountain conifers

491. *Russula sardonia* Fr. (= *R. drimeia* Cooke)
Uncommon 2.0 (11), Massa Marittima; Lit: Orbetello (Sarnari 1998). Mountain conifers, Coastal pines

492. *Russula seperina* Dupain
Fairly frequent 6.5 (5, 12, 15), Scansano, Capalbio; Lit: (18) (Barluzzi & al. 1996); Capalbio, Orbetello (Sarnari 2005); Gavorrano (Antonini & Antonini 2006). *Quercus ilex,* sometimes thermophilous deciduous oaks

493. *Russula sericatula* Romagn.

Rare 1.0 (11). Mesophilous broad-leaved forests P

Note: This specie is rare, localized, and worthy of protection. Reported from a single site in Liguria (Boccardo and Ostellari 2015), and from only three sites in all Italy by Sarnari (2005). Another example of the extraordinary biodiversity of the Monte Penna nature reserve (site 11).

494. *Russula silvestris* (Singer) Reumaux
Rare 1.0 Lit: Roccastrada (Antonini & Antonini 2006); Montieri (Leonardi & al. 2010). Mesophilous broad-leaved forests

495. *Russula solaris* Ferd. & Winge
Rare 1.5 (7) Lit: Santa Fiora (Sarnari 1998). *Fagus*

496. *Russula sororia* (Fr.) Romell (incl.: *R. s.* f. *pseudoaffinis* (Migl. & Nicolaj) Sarnari)
Occasional 4.5 (6, 12), Roccastrada, Capalbio; Lit: Capalbio, Civitella-Paganico, Manciano (Sarnari 1998). Thermophilous deciduous oaks, *Quercus ilex*, rare mesophilous broad-leaved forests

497. *Russula subazurea* Bon
Uncommon 3.0 (13), Capalbio, Castiglione della Pescaia; Lit: Capalbio, Orbetello (Sarnari 2005). *Quercus ilex*

498. *Russula suberetorum* Dagron
Rare 1.0 (15). *Quercus ilex*

499. *Russula subfoetens* W.G. Sm.
Locally common 10. Thermophilous deciduous oaks, sometimes mesophilous broad-leaved forests or *Quercus ilex*

500. *Russula sublevispora* (Romagn.) Kühner & Romagn.
Rare 1.0 (12). Thermophilous deciduous oaks P

Note: This species, among the rarest of russulas in Europe, has been reported recently by Tortelli (2018) in the UK. In Italy, it has been found by Sarnari (1998) in Umbria, and more recently, by the mycological group "Bruno Cetto" in Veneto. https://www.brunocetto.it/images/bcetto/pubblicazioni/pubblicazioni/schede/russula_sublevispora.pdf

501. *Russula tinctipes* J. Blum ex Bon
Uncommon 2.0 Capalbio; Lit: Capalbio, Manciano, Civitella-Paganico (Sarnari 2005). Thermophilous deciduous oaks, *Quercus ilex* P

502. *Russula torulosa* Bres.
Locally common 10. Coastal pines, sometimes Mountain conifers

503. *Russula turci* Bres.
Rare <1 Lit: Montieri (Pecoraro & al. 2021). Mountain conifers

504. *Russula tyrrhenica* Sarnari
Rare 1.5 Lit: (18) (Barluzzi & al. 1996); Orbetello (Sarnari 2005). Coastal pines, *Cistus*

505. *Russula versatilis* Romagn.
Rare 1.0 (16) Mesophilous broad-leaved forests

506. *Russula vesca* Fr.
Common >10. Widespread

507. *Russula veternosa* Fr.
Rare 1.5 (7), Seggiano. *Fagus*

508. *Russula vinosobrunnea* (Bres.) Romagn. (incl.: *R. v.* var. *perplexa* Sarnari)
Locally common 10. Thermophilous deciduous oaks, sometimes mesophilous broad-leaved forests, *Quercus ilex*

509. *Russula violeipes* Quél.
Locally common 10. Mesophilous broad-leaved forests, *Fagus*, sometimes thermophilous deciduous oaks

510. *Russula virescens* (Schaeff.) Fr.
Locally common 10. Mainly thermophilous deciduous oaks, mesophilous broad-leaved forests

511. *Russula werneri* Maire
Uncommon 2.0 Capalbio; Lit: (18) (Barluzzi & al. 1996); Roccastrada (Sarnari 1998). *Quercus ilex* P

512. *Russula xerampelina* (Schaeff.) Fr.
Rare<1 Lit: Castiglione della Pescaia (Antonini & Antonini 2006). Coastal pines

513. *Russula zvarae* Velen.
a. var. *zvarae*
Fairly frequent 6.5 (11, 12, 13, 14), Capalbio; Lit: Capalbio, Roccastrada, Manciano, Massa Marittima (Sarnari 2005). Thermophilous deciduous oaks, mesophilous broad-leaved forests
b. var. *pusilla* Sarnari
Oc 4.5 (13, 14) Lit: Capalbio, Orbetello, Manciano (Sarnari 2005); Castiglione della Pescaia, Scarlino (Antonini & Antonini 2006). *Cistus sp. pl.*

AGARICOMYCETES - AMYLOCORTICIALES & ATHELIALES

Amylocorticiaceae Jülich

Amyloathelia Hjortstam & Ryvarden

514. *Amyloathelia amylacea* (Bourdot & Galzin) Hjortstam & Ryvarden
Rare 1.0 Lit: (15) (Mammarella & al. 2014). *Quercus ilex*

Amylocorticium Pouzar

515. *Amylocorticium subincarnatum* (Peck) Pouzar
Uncommon 2.5 Lit: (15) (Mammarella & al. 2014); (18), Isola del Giglio (Bernicchia & Gorjón 2010). *Quercus ilex*

Atheliaceae Jülich

Amphinema P. Karst.

516. *Amphinema byssoides* (Pers.) J. Erikss.
Uncommon 2.5 (1) Lit: (18), Santa Fiora (Bernicchia & al. 2007a). Mountain conifers, Coastal Pines

517. *Amphinema diadema* K.H. Larss. & Hjortstam
Rare <1 Santa Fiora (Bernicchia & Gorjón 2010). Mountain conifers

Athelia Pers.

518. *Athelia acrospora* Jülich
Rare 1.0 Lit: (18) (Bernicchia & Gorjón 2010). *Quercus ilex*

519. *Athelia arachnoidea* (Berk.) Jülich
Uncommon 3.0 (13) Lit: (15) (Mammarella & al. 2014); (18) (Bernicchia & Gorjón 2010). *Quercus ilex,* thermophilous deciduous oaks

520. *Athelia epiphylla* Pers.
Uncommon 2.5 (13, 16), Manciano. Thermophilous deciduous oaks, mesophilous broad-leaved forests
Note: a likely species complex, as reported by Bernicchia & Gorjón (2010). The authors suggest that *A. acrospora* could be part of this complex as well.

Byssocorticium Bondartsev & Singer

521. *Byssocorticium atrovirens* (Fr.) Bondartsev & Singer
Rare <1 Lit: Santa Fiora (Bernicchia & Gorjón 2010). Mesophilous broad-leaved forests

Leptosporomyces Jülich

522. *Leptosporomyces fuscostratus* (Burt) Hjortstam
Rare 1.0 (10). Coastal pines

AGARICOMYCETES - AGARICALES

Hygrophoraceae Lotsy

Arrhenia Fr.

523. *Arrhenia griseopallida* (Desm.) Watling
Rare <1 Scansano. *Quercus ilex*

524. *Arrhenia rickenii* (Hora) Watling
Uncommon 3.0 (2, 12, 13). Thermophilous deciduous oaks*, Quercus ilex*

525. *Arrhenia spathulata* (Fr.) Redhead (= *Leptoglossum muscigenus* (Bull.) P. Karst.)
Occasional 4.0 (2, 10, 12) Lit: (18) (Barluzzi & al. 1996). *Quercus ilex,* thermophilous deciduous oaks, sometimes Sand dunes

526. *Arrhenia velutipes* (P.D. Orton) Redhead, Lutzoni, Moncalvo & Vilgalys (= *Omphalina v.* P.D. Orton)
Uncommon 2.0 (2, 12). Thermophilous deciduous oaks, *Quercus ilex*

Chromosera Redhead, Ammirati & Norvell

527. *Chromosera xanthochroa* (P.D. Orton) Vizzini & Ercole (= *Hygrocybe x.* (P.D. Orton) M.M. Moser)
Rare <1 Lit: Roccastrada (Antonini & Antonini 2006). *Quercus ilex* **P**

Cuphophyllus (Donk) Bon (= *Camarophyllus* (Fr.) P. Kumm.; = *Hygrocybe* (Fr.) P. Kumm pp.)

528. *Cuphophyllus colemannianus* (A. Bloxam) Bon
Rare 1.0 (12). Thermophilous deciduous oaks P

529. *Cuphophyllus fuscescens* (Bres.) Bon
Rare 1.0 (10). *Quercus ilex*
Note: Many authors consider this taxon just a form of *C. pratensis* (see Candusso 1997).

530. *Cuphophyllus pratensis* (Fr.) Bon (incl.: *C. berkeleyi* (P.D. Orton & Watling) Bon)
Occasional 4.5 (7), Scansano; Lit: (5), Scarlino (Perini & al. 1989); Castiglione della Pescaia, Gavorrano, Roccastrada (Antonini & Antonini 2006). Mesophilous broad-leaved forests, *Fagus,* thermophilous deciduous oaks

531. *Cuphophyllus russocoriaceus* (Berk. & T.K. Mill.) Bon
Rare 1.5 (14) Lit: Gavorrano (Antonini & Antonini 2006). Thermophilous deciduous oaks, *Quercus ilex*

532. *Cuphophyllus virgineus* (Wulfen) Kovalenko (= *C. niveus* (Scop.) Bon)
Common >10. Widespread

Gliophorus Herink (= *Hygrocybe* (Fr.) P. Kumm. pp.)

533. *Gliophorus irrigatus* (Pers.) A.M. Ainsw. & P.M. Kirk (= *Hygrocybe unguinosa* (Fr.) P. Karst.)
Rare 1.5 (12) Lit: Castiglione della Pescaia (Antonini & Antonini 2006). Thermophilous deciduous oaks, *Quercus ilex* P

534. *Gliophorus psittacinus* (Schaeff.) Herink

Uncommon 3.0 (12, 14) Lit: Monterotondo Marittimo, Civitella-Paganico (Antonini & Antonini 2006). Thermophilous deciduous oaks, *Quercus ilex*

Hygrocybe (Fr.) P. Kumm.

535. *Hygrocybe acutoconica* (Clem.) Singer (= *H. persistens* (Britzelm.) Singer; = *H. konradii* R. Haller Aar.)
Fairly frequent 8.5 (1, 2, 11, 12, 14, 17), Cinig; Lit: (18) (Barluzzi & al. 1996); Massa Marittima, Monterotondo Marittimo (Antonini & Antonini 2006). Widespread

536. *Hygrocybe aurantiolutescens* P.D. Orton var. *parapersistens* Bon
Rare 1.0 (6). Thermophilous deciduous oaks
Note: Boertmann (2010) has a wide concept of *H. acutoconica*, and places the present species in synonymy with it; the same is done for *H. subglobispora* (vide infra).

537. *Hygrocybe cantharellus* (Fr.) Murrill
Rare 1.5 Lit: (18) (Candusso 1997); Roccastrada (Antonini & Antonini 2006). Thermophilous deciduous oaks, *Quercus ilex*

538. *Hygrocybe chlorophana* (Fr.) Wünsche
Rare 1.5 (14), Capalbio. Thermophilous deciduous oaks, *Quercus ilex*

539. *Hygrocybe coccinea* (Schaeff.) P. Kumm.
Rare 1.5 (1) Lit: Castiglione della Pescaia (Antonini & Antonini 2006). Mesophilous broad-leaved forests, *Quercus ilex*

540. *Hygrocybe conica* (Schaeff.) P. Kumm. (= *H. pseudoconica* J.E. Lange)
Fairly frequent 7.0 (1, 2, 10, 12, 14, 16) Lit: Monterotondo Marittimo, Massa Marittima (Antonini & Antonini 2006). Widespread

541. *Hygrocybe conicoides* (P.D. Orton) P.D. Orton & Watling
Uncommon 2.5 Lit: (10) (Candusso 1997); (18) (Barluzzi & al. 1996); Orbetello (Antonini & Antonini 2006). *Quercus ilex,* Sand dunes

542. *Hygrocybe insipida* (J.E. Lange) M.M. Moser
Uncommon 2.5 (14), Scansano, Capalbio, Monterotondo Marittimo. Thermophilous deciduous oaks

543. *Hygrocybe miniata* (Fr.) P. Kumm.
Uncommon 2.5 (14) Lit: (18) (Barluzzi et al 1996); Santa Fiora (Antonini & Antonini 2006). Thermophilous deciduous oaks, Mountain conifers

544. *Hygrocybe mucronella* (Fr.) P. Karst. (= *H. reae* (Maire) Herink)
Occasional 6.0 (1, 13, 14) Lit: (5) (Perini & al. 1989); Scarlino, Castiglione della Pescaia, Gavorrano, Massa Marittima (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, *Quercus ilex*

545. *Hygrocybe olivaceonigra* (P.D. Orton) M.M. Moser
Rare <1 Lit: Grosseto (Candusso 1997) *Quercus ilex*

546. *Hygrocybe quieta* (Kühner) Singer (= *H. obrussea* (Fr.) Wünsche)
Uncommon 3.5 (1, 5, 10), Monterotondo Marittimo. Thermophilous deciduous oaks, *Quercus ilex*

547. *Hygrocybe spadicea* (Scop.) P. Karst.
Uncommon 2.0 (14) Lit: (11) (Pecoraro & al. 2021). Thermophilous deciduous oaks, mesophilous broad-leaved forests

548. *Hygrocybe subglobispora* (P.D. Orton) M.M. Moser
Uncommon 3.5 (1, 12), Scansano Lit: (18) (Barluzzi & al. 1996). Thermophilous deciduous oaks, mesophilous broad-leaved forests, *Quercus ilex*
Collection from site 12 GenBank accession number: OM401932

Note: According to Boertmann (2010), this taxon should be considered only a variety of *H. acutoconica*. Actually, the ITS of one of our specimens had 98% similarity with a collection present in GenBank, named *H. konradi* (a synonym of *H. acutoconica*). Given the incomplete identity of our sequence with the deposited one, and given the presence of literature records, we decided to keep the binomial *H. subglobispora*, waiting for more definitive molecular data.

Hygrophorocybe Vizzini & Contu

549. *Hygrophorocybe nivea* (Velen.) Vizzini & Contu (= *Clitocybe n.* Velen.)
Uncommon 3.0 (16) Lit: (11) (Pecoraro & al. 2021); (18) (Barluzzi & al. 1996). Mesophilous broad-leaved forests*, Quercus ilex*

Hygrophorus Fr.

550. *Hygrophorus agathosmus* (Fr.) Fr.
Rare 1.0 Lit: (7) (Antonini & Antonini 2006). Mountain conifers

551. *Hygrophorus arbustivus* Fr.
Occasional 4.0 (1, 11, 12), Scansano; Lit: Gavorrano (Antonini & Antonini 2006). Thermophilous deciduous oaks
Note: The separation from *H. leucophaeo-ilicis* is unclear (Clericuzio 2010).

552. *Hygrophorus camarophyllus* (Alb. & Schwein.) Dumée, Grandjean & Maire
Rare 1.0 Lit: (7) (Candusso 1997). Mountain conifers

553. *Hygrophorus chrysodon* (Batsch) Fr.
Rare 1.0 Lit: (7) (Candusso 1997). *Fagus*

554. *Hygrophorus cossus* (Sowerby) Fr. (= *H. eburneus* var. *quercetorum* (P.D. Orton) Arnolds)
Locally common 10. Thermophilous deciduous oaks, sometimes *Quercus ilex* or mesophilous broad-leaved forests

555. *Hygrophorus discoxanthus* (Fr.) Rea (= *H. chrysaspis* Métrod)
Uncommon 3.0 (11, 12) Lit: Castiglione della Pescaia, Seggiano (Antonini & Antonini 2006). Mainly mesophilous broad-leaved forests, rare thermophilous deciduous oaks

556. *Hygrophorus eburneus* (Bull.) Fr.
Uncommon 2.0 (7) Lit: (11) (Pecoraro & al. 2021). *Fagus*

557. *Hygrophorus hypothejus* (Fr.) Fr.
Uncommon 3.5 (7, 11), Monterotondo Marittimo, Roccastrada; Lit: Santa Fiora (Antonini & Antonini 2006). Mountain conifers, rare Coastal pines

558. *Hygrophorus latitabundus* Britzelm.
Rare 1.0 Lit: Massa Marittima, Seggiano (Antonini & Antonini 2006). Mountain conifers

559. *Hygrophorus leucophaeo-ilicis* Bon & Chevassut
Uncommon 3.0 (2, 11, 12). *Quercus ilex,* thermophilous deciduous oaks
Notes: The separation from *H. arbustivus* is unclear. See the discussion in Clericuzio (2010).

560. *Hygrophorus lindtneri* M.M. Moser (incl.: *H. carpini* Gröger; =? *H. unicolor* Gröger)
Uncommon 3.0 (2, 11, 12). Mesophilous broad-leaved forests, thermophilous deciduous oaks

561. *Hygrophorus nemoreus* (Pers.) Fr. (incl.: *H. leporinus* ss. auct.)
Fairly frequent 7.0 (1, 2, 5, 6, 16) Lit: Castiglione della Pescaia (Candusso 1997); Roccastrada, Civitella-Paganico, Castiglione della Pescaia (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks, *Quercus ilex*

562. *Hygrophorus penarioides* Jacobsson & E. Larss. (= *H. penarius* Fr. p.p.)

Fairly frequent 7.0 (1, 2, 11, 12, 13), Manciano; Lit: Massa Marittima, Monterotondo Marittimo, Roccastrada (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, sometimes *Quercus ilex*

563. *Hygrophorus persoonii* Arnolds
Occasional6.0 (1, 6, 12, 14) Lit: Castiglione della Pescaia, Massa Marittima, Civitella-Paganico, Monterotondo Marittimo (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks

564. *Hygrophorus poëtarum* R. Heim
Rare 1.5 (7) Lit: Santa Fiora (Antonini & Antonini 2006). *Fagus* P

565. *Hygrophorus pseudodiscoideus* (Maire) Malençon & Bertault var. *cistophilus* Bon & G. Riousset
Rare 1.5 (14) Lit: Capalbio (Gennari 1995). *Quercus ilex (Cistus)* P

566. *Hygrophorus pudorinus* (Fr.) Fr.
Rare 1.0 Lit: (7) (Candusso 1997). Mountain conifers

567. *Hygrophorus roseodiscoideus* Bon & Chevassut
Uncommon 3.5 (1, 12) Lit: Massa Marittima, Gavorrano, Roccastrada (Antonini & Antonini 2006). Mainly thermophilous deciduous oaks

568. *Hygrophorus russula* (Schaeff. ex Fr.) Kauffman
Locally common 10. Thermophilous deciduous oaks, *Quercus ilex,* rare mesophilous broad-leaved forests

Spodocybe Z.M. He & Zhu L. Yang

569. *Spodocybe font-queri* (R. Heim) Vizzini, P. Alvarado & Dima (= *Clitocybe f.* R. Heim)
Occasional 5.0 (10, 14, 15), Scansano; Lit: (7) (Antonini & Antonini 2006); Grosseto (Angeli and Tulli 2011). *Quercus ilex,* thermophilous deciduous oaks, rare *Fagus*

Clavariaceae Chevall., **Typhulaceae** Julich, **Pterulaceae** Corner, **Radulomycetaceae** Leal-Dutra, Dentinger & G.W. Griff.

Camarophyllopsis Herink (= *Hygrotrama* Singer)

570. *Camarophyllopsis foetens* (W. Phillips) Arnolds
Rare 1 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*

571. *Camarophyllopsis micacea* (Berk. & Broome) Arnolds
Rare <1 Lit: Capalbio (Gennari 1995). *Quercus ilex* P

572. *Camarophyllopsis phaeophylla* (Berk. & Broome) Arnolds
Rare 1 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex* **P**

Clavaria Vaill. ex L.

573. *Clavaria appendiculata* Franchi & Marchetti
Rare 1.0 (14). Mesophilous broad-leaved forests P

574. *Clavaria asterospora* Pat.
Rare 1.0 (16). Mesophilous broad-leaved forests P

575. *Clavaria falcata* Pers. (= *C. acuta* Sowerby)
Uncommon 2.0 Lit: (2, 10) (Franchi & Marchetti 2021). Mesophilous broad-leaved forests

576. *Clavaria fragilis* Holmsk. (= *C. vermicularis* Sw.)
Occasional 5.5 (7, 14, 16) Lit: (5), Scarlino, Gavorrano (Perini & al. 1989); Castiglione della Pescaia (Antonini & Antonini 2006). Widespread

577. *Clavaria fumosa* Pers.
Rare 1.0 (16). Mesophilous broad-leaved forests

Clavulinopsis Overeem

578. *Clavulinopsis corniculata* (Schaeff.) Corner
Occasional 4.0 (16) Lit: (4, 6) (Franchi & Marchetti 2021), Castiglione della Pescaia, Gavorrano (Antonini & Antonini 2006) Thermophilous deciduous oaks, mesophilous broad-leaved forests, *Quercus ilex*

579. *Clavulinopsis helvola* (Pers.) Corner
Rare <1 Lit: Gavorrano (Antonini & Antonini 2006). *Quercus ilex* P

580. *Clavulinopsis laeticolor* (Berk. & M.A. Curt.) R.H. Petersen
Uncommon 2.5 (5) Lit: Castiglione della Pescaia, Gavorrano, Scarlino (Antonini & Antonini 2006). *Quercus ilex*, rare thermophilous deciduous oaks

581. *Clavulinopsis luteoalba* (Rea) Corner
Rare 1.0 Lit: Castiglione della Pescaia, Gavorrano (Antonini & Antonini 2006). *Quercus ilex*

Coronicium J. Erikss. & Ryvarden

582. *Coronicium gemmiferum* (Bourdot & Galzin) J. Erikss. & Ryvarden
Rare 1.0 Lit: (18) (Bernicchia & Gorjón 2010). *Quercus ilex*

Macrotyphula R.H. Petersen

583. *Macrotyphula fistulosa* (Holmsk.) R.H. Petersen
Rare 1.0 (11). Mesophilous broad-leaved forests P

584. *Macrotyphula juncea* (Alb. & Schwein.) Berthier
Uncommon 3.5 (9, 12, 14) Lit: Castiglione della Pescaia (Franchi & Marchetti 2021). Thermophilous deciduous oaks, mesophilous broad-leaved forests, *Quercus ilex*

Mucronella Fr.

585. *Mucronella calva* (Alb. & Schwein.) Fr.
Rare 1.0 Lit: Massa Marittima, Castiglione della Pescaia (Franchi & Marchetti 2021). Coastal pines.

Radulomyces M.P. Christ.

586. *Radulomyces confluens* (Fr.) M.P. Christ.
Uncommon 3.0 (11) Lit: (15) (Mammarella & al. 2014); (18) (Bernicchia & Gorjón 2010). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

587. *Radulomyces molaris* (Chaillet ex Fr.) M.P. Christ. (= *Cerocorticium m.* (Chaillet ex Fr.) Jülich & Stalpers)
Fairly frequent 6.5 (2, 11, 12, 14), Scansano; Lit: (15) (Mammarella & al. 2014); (18) (Bernicchia & Gorjón 2010). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

588. *Radulomyces rickii* (Bres.) M.P. Christ.
Rare 1.0 Lit: (18) (Bernicchia & Gorjón 2010). *Quercus ilex* P

Ramariopsis (Donk) Corner

589. *Ramariopsis hirtipes* Franchi & M. Marchetti
Rare 1.0 (14). Thermophilous deciduous oaks P

590. *Ramariopsis kunzei* (Fr.) Corner
Uncommon 2.5 (10, 16) Lit: Castiglione della Pescaia (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

591. *Ramariopsis pulchella* (Boud.) Corner
Rare <1 Lit: Massa Marittima (Franchi & Marchetti 2021). Thermophilous deciduous oaks

592. *Ramariopsis subtilis* (Pers.) R.H. Petersen
Rare <1 Lit: Gavorrano (Ant 2006, as *R. pseudosubtilis* R.H. Petersen). *Quercus ilex*
Note: According to Franchi & Marchetti (2021), *R. pseudosubtilis* is an American species, different from the European *R. subtilis*.

Typhula (Pers.) Fr.

593. *Typhula quisquliaris* (Fr.) Henn.
Rare 1.0 (1). Mesophilous broad-leaved forests

594. *Typhula setipes* (Grev.) Berthier
Rare 1.0 Lit: (4) (Franchi & Marchetti 2021). Thermophilous deciduous oaks

Stephanosporaceae Oberw. & E. Horak

Cristinia Parmasto

595. *Cristinia helvetica* (Pers.) Parmasto
Rare 1.0 (12). Thermophilous deciduous oaks
GenBank accession number: OM401935

Physalacriaceae Corner

Armillaria (Fr.) Staude

596. *Armillaria cepistipes* Velen.
Rare 1.0 (4). Thermophilous deciduous oaks

597. *Armillaria gallica* Marxm. & Romagn. (= *A. lutea* Gillet; = *A. bulbosa* ss. Auct. pl.)
Rare 1.5 (11), Scarlino. Mesophilous broad-leaved forests

598. *Armillaria mellea* (Vahl) P. Kumm.
Common >10. Widespread

599. *Armillaria ostoyae* (Romagn.) Herink
Uncommon 2.0 (7), Arcidosso; Lit: Santa Fiora (Antonini & Antonini 2006). Mountain conifers, *Fagus*

Cryptomarasmius T.S. Jenkinson & Desjardin

600. *Cryptomarasmius corbariensis* (Roum.) T.S. Jenkinson & Desjardin (= *Marasmius c.* (Roum.) Sacc.)
Uncommon 2.0 (1) Lit: (18) (Barluzzi & al. 1996). *Quercus ilex,* thermophilous deciduous oaks

Cylindrobasidium Jülich

601. *Cylindrobasidium laeve* (Pers.) Chamuris (= *C. evolvens* (Fr.) Jülich)
Oc 5.0 (1, 8, 9, 12, 16). Widespread

Desarmillaria (Herink) R.A. Koch & Aime

602. *Desarmillaria tabescens* (Scop) R.A. Koch & Aime) (= *Armillaria t.* (Scop.) Emel)
Locally common 10. Thermophilous deciduous oaks, sometimes *Quercus ilex* or mesophilous broad-leaved forests

Flammulina P. Karst.

603. *Flammulina velutipes* (Curtis) Singer
Uncommon 2.5 (2), Montieri, Roccastrada; Lit: Santa Fiora (Antonini & Antonini 2006). Mainly associated with *Ulmus*

Hymenopellis R.H. Petersen

604. *Hymenopellis radicata* (Relhan) R.H. Petersen (= *Oudemansiella r.* (Relhan) Singer; = *Xerula r.* (Relhan) Dörfelt)
Locally common 10. *Fagus,* mesophilous broad-leaved forests, sometimes thermophilous deciduous oaks

Laccariopsis Vizzini

605. *Laccariopsis mediterranea* (Pacioni & Lalli) Vizzini (= *Hydropus m.* Pacioni & Lalli; = *Oudemansiella m.* (Pacioni & Lalli) E. Horak)
Uncommon 3.0 (10) Lit: (5) (Antonini & Antonini 2006); (18) (Barluzzi & al. 1996). Sand dunes P
Notes: One of the most significant parts of biodiversity of the Mediterranean dune systems. To be protected.

Mucidula Pat.

606. *Mucidula mucida* (Schrad.) Pat. (= *Oudemansiella m*. (Schrad.) Höhn.)
Uncommon 2.0. (7, 11) *Fagus*

Rhizomarasmius R.H. Petersen

607. *Rhizomarasmius undatus* (Berk.) R.H. Petersen (= *Marasmius chordalis* Fr. p.p.)
Rare 1.0 (16). Mesophilous broad-leaved forests P
Note: A very rare and localized species, also found by us in one site in Latium. It grows on fern litter (*Pteridium aquilinum*). This seems to be the second report for Tuscany, the first being from the Siena province (Barluzzi & al. 1986). In the Italian national check-list (Onofri & al. 2005), it has been reported in one site, in each of the following regions: Abruzzo, Emilia-Romagna, Lombardia, Piedmont, and Sardinia.

Rhodotus Maire

608. *Rhodotus palmatus* (Bull.) Maire
Rare <1 Massa Marittima. Riparian P

Strobilurus Singer

609. *Strobilurus tenacellus* (Pers.) Singer
Rare 1.0 Arcidosso; Lit: Castel del Piano (Antonini & Antonini 2006). Mountain conifers

Xerula Maire

610. *Xerula badia* (Quél.) Haller (= *Oudemansiella b.* (Lucand) M.M. Moser)
Rare <1 Lit: Monterotondo Marittimo (Antonini & Antonini 2006). Mesophilous broad-leaved forests

611. *Xerula pudens* (Pers.) Singer (= *Oudemansiella p.* (Pers.) Pegler & T.W.K. Young; = *X. longipes* (P. Kumm.) Maire)
Fairly frequent 6.5 (1, 3, 12, 16) Lit: Montieri, Castiglione della Pescaia, Arcidosso, Seggiano, Castel del Piano (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, rare elsewhere

Fistulinaceae Lotsy

Fistulina Bull.

612. *Fistulina hepatica* (Schaeff.) With.
Fairly frequent 8.0 (1, 3, 11, 12), Montieri, Sorano; Lit: Santa Fiora, Roccastrada, Seggiano, Arcidosso, Castel del Piano, Monterotondo Marittimo (Antonini & Antonini 2006). Mainly mesophilous broad-leaved forests, sometimes thermophilous deciduous oaks

Cystostereaceae Jülich

Crustomyces Jülich

613. *Crustomyces subabruptus* (Bourdot & Galzin) Jülich
Rare 1.0 (13). Thermophilous deciduous oaks P
GenBank accession number: OM417562
Note: A rare and little reported species, found only once in Italy (Emilia-Romagna) according to Onofri & al. (2005).

Phyllotopsidaceae Locquin ex Olariaga, Huhtinen, Læssøe, J.H. Petersen & K. Hansen

Phyllotopsis E.J. Gilbert & Donk ex Singer

614. *Phyllotopsis nidulans* (Pers.) Singer
Rare 1.0 (16). Mesophilous broad-leaved forests P

Pleurotaceae Kühner

Hohenbuehelia Schulzer

615. *Hohenbuehelia petaloides* (Bull.) Schulzer (incl.: *H. geogenia* (DC.) Singer)
Fairly frequent 7.5 (1, 11, 12, 14, 15, 17) Lit: Massa Marittima, Monterotondo Marittimo, Gavorrano (Antonini & Antonini 2006). Mainly thermophilous deciduous oaks

616. *Hohenbuehelia silvana* (Sacc.) O.K. Miller (= *Resupinatus s.* (Sacc.) Singer)
Rare 1.0 (5). *Quercus ilex*

Pleurotus (Fr.) P. Kumm.

617. *Pleurotus cornucopiae* (Paulet) Rolland (incl.: *P. citrinopileatus* Singer)
Rare 1.5 (2), Follonica. Thermophilous deciduous oaks

618. *Pleurotus dryinus* (Pers.) P. Kumm.
Rare 1.5 Lit: (7), Civitella-Paganico (Antonini & Antonini 2006). *Fagus,* thermophilous deciduous oaks

619. *Pleurotus eryngii* (DC.) Quél.
Rare 1.5 Scansano, Orbetello; Lit: Arcidosso (Antonini & Antonini 2006). Thermophilous deciduous oaks
Note: Common and widespread in all of Southern Italy up to Latium, this species is rare and localized from Tuscany northwards.

620. *Pleurotus ostreatus* (Jacq.) P. Kumm.
Occasional 4.5 (11, 12), Sorano, Scarlino, Massa Marittima, Follonica; Lit: Castel del Piano (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests

621. *Pleurotus pulmonarius* (Fr.) Quél.
Rare 1.5 (4) Lit: Roccastrada (Antonini & Antonini 2006). Thermophilous deciduous oaks, *Quercus ilex* P

Marasmiaceae Roze ex Kühner

Crinipellis Pat.

622. *Crinipellis scabella* (Alb. & Schwein.) Murrill (= *C. stipitaria* (Fr.) Pat.)
Locally common 10. Thermophilous deciduous oaks, *Quercus ilex,* rare mesophilous broad-leaved forests

623. *Crinipellis tomentosa* (Quél.) Singer (= *C. mauretanica* Maire; = *C. subtomentosa* ss. Antonín & Noordel.)
Occasional 4.5 (12, 13, 14, 15), Scansano. Thermophilous deciduous oaks*, Quercus ilex*

Macrocystidia Joss.

624. *Macrocystidia cucumis* (Pers.) Joss.
Rare <1 Lit: Montieri (Pecoraro & al. 2021). Mesophilous broad-leaved forests

Marasmius Fr.

625. *Marasmius anomalus* Lasch (= *M. epodius* Bres.)

Uncommon 3.5 (11, 15), Scansano; Lit: (18) (Barluzzi & al. 1996). *Quercus ilex,* thermophilous deciduous oaks
Note: *M. anomalus* belongs to that restricted group of Agaricomycetes associated with Poacaee, like *Crinipellis sp. pl., Deconica sp. pl*. and others (Clericuzio 2015b). Not really rare in warm grasslands, but probably overlooked.

626. *Marasmius bulliardii* Quél.
Common >10. Widespread

627. *Marasmius cohaerens* (Pers.) Cooke & Quél.
Rare 1.5 Lit: Montieri, Roccastrada, Seggiano (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks

628. *Marasmius curreyi* Berk. & Broome
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*

629. *Marasmius epiphylloides* (Rea) Sacc. & Trotter
Uncommon 3.0 (8, 14, 16). Associated with *Hedera*

630. *Marasmius epiphyllus* (Pers.) Fr.
Occasional 5.0 (8, 12, 14, 16) Lit: Seggiano, Castiglione della Pescaia (Antonini & Antonini 2006); Montieri (Pecoraro & al. 2021). Thermophilous deciduous oaks, mesophilous broad-leaved forests, rare *Quercus ilex*

631. *Marasmius oreades* (Bolton) Fr.
Common >10. Widespread

632. *Marasmius rotula* (Scop.) Fr.
Common >10. Widespread

633. *Marasmius torquescens* Quél. (= *M. lupuletorum* ss. Cooke)
Locally common 10. Mesophilous broad-leaved forests, thermophilous deciduous oaks, rare *Fagus*

634. *Marasmius wynneae* Berk. & Broome (= *M. wynnei* Berk. & Broome)
Occasional 4.0 (8, 14), Montieri; Lit: Arcidosso, Seggiano, Castel del Piano (Antonini & Antonini 2006). *Fagus,* mesophilous broad-leaved forests, sometimes Coastal pines

Omphalotaceae Bresinsky

Connopus R.H. Petersen

635. *Connopus acervatus* (Fr.) K.W. Hughes, Mather & R.H. Petersen (= *Gymnopus a.* (Fr.) Murrill)
Uncommon 2.5 (5) Lit: (7), Santa Fiora (Antonini & Antonini 2006). *Quercus ilex,* Coastal pines, Mountain conifers

Gymnopus (Pers.) Gray (= *Collybia* (Fr.) Staude p.p.)

636. *Gymnopus androsaceus* (L.) Della Magg. & Trassin. (= *Setulipes a.* (L.) Antonín)
Uncommon 2.0 Roccalbegna, Roccastrada; Lit: (11) (Pecoraro & al. 2021). Mountain conifers, Coastal pines

637. *Gymnopus aquosus* (Bull.) Antonín & Noordel.
Uncommon 3.5 (1, 7, 16) Lit: Castiglione della Pescaia (Antonini & Antonini 2006). Mesophilous broad-leaved forests, *Fagus,* rare thermophilous deciduous oaks

638. *Gymnopus brassicolens* (Romagn.) Antonín & Noordel. (= *Micromphale b.* (Romagn.) P.D. Orton)
Common >10. Widespread

639. *Gymnopus confluens* (Pers.) Antonín, Halling & Noordel.
Occasional 4.0 (7, 11, 14) Lit: Santa Fiora, Seggiano (Antonini & Antonini 2006). Widespread

640. *Gymnopus dryophilus* (Bull.) Murrill
Common >10. Widespread

641. *Gymnopus erythropus* (Pers.) Antonín, Halling & Noordel. (= *C. kuehneriana* Singer; = *C. bresadolae* Kühner & Romagn. ex Singer)
Fairly frequent 8.5 (1, 8, 11, 12, 14, 16), Scarlino; Lit: Massa Marittima, Castel del Piano, Castiglione della Pescaia, Roccastrada (Antonini & Antonini 2006). Thermophilous deciduous oaks, *Quercus ilex,* sometimes mesophilous broad-leaved forests

642. *Gymnopus fagiphilus* (Velen.) Antonin, Halling & Noordel.
Rare 1.0 (7). *Fagus* P

643. *Gymnopus foetidus* (Sowerby) P.M. Kirk (= *Micromphale f.* (Sowerby) Singer)
Fairly frequent 6.5 (1, 4, 5, 12, 14, 16), Scarlino. Mesophilous broad-leaved forests, thermophilous deciduous oaks, *Quercus ilex*

644. *Gymnopus fusipes* (Bull.) Gray
Locally common 10. Thermophilous deciduous oaks, mesophilous broad-leaved forests, sometimes *Quercus ilex*

645. *Gymnopus hariolorum* (Bull.) Antonín, Halling & Noordel.
Rare 1.0 (7). *Fagus*

646. *Gymnopus hybridus* (Kühner & Romagn.) Antonín & Noordel.
Rare <1 Lit: Castel del Piano (Antonini & Antonini 2006). Mesophilous broad-leaved forests

647. *Gymnopus impudicus* (Fr.) Antonín, Halling & Noordel.
Rare 1.0 (16). Mesophilous broad-leaved forests

648. *Gymnopus inexpectatus* Vizzini, Contu, Consiglio & Antonin
Rare 1.0 (4). *Quercus ilex* P
Note: A species described recently (Vizzini & al. 2008), reported so far only from the type locality in Tuscany (in the Livorno province). We also have a second collection outside Grosseto province, in Latium, in a site very close to the Tuscany border.

649. *Gymnopus inodorus* (Pat.) Antonín & Noordel. (= *Micromphale i.* (Pat.) Svrček)
Fairly frequent 7.5 (1, 5, 11, 12, 13, 14, 16) Lit: Seggiano (Antonini & Antonini 2006). Thermophilous deciduous oaks, sometimes *Quercus ilex* or mesophilous broad-leaved forests

650. *Gymnopus luxurians* (Peck) Murrill
Rare <1 Orbetello. *Quercus ilex*

651. *Gymnopus ocior* (Pers.) Antonín & Noordel. (= *Collybia funicularis* (Fr.) Métrod)
Uncommon 3.0 (1, 11, 12). Thermophilous deciduous oaks, Mountain conifers
Note: The relation to common *G. dryophilus* is not always clear-cut, and the present determinations are mostly tentative.

652. *Gymnopus peronatus* (Bolt.) Gray
Locally common 10. Mainly thermophilous deciduous oaks, mesophilous broad-leaved forests

653. *Gymnopus quercophilus* (Pouzar) Antonín & Noordel. (= *Marasmius splachnoides* s. Auct. pl.)
Occasional 6.0 (3, 11, 12, 14), Scansano; Lit: Castel del Piano, Roccastrada (Antonini & Antonini 2006); Montieri (Pecoraro & al. 2021). Thermophilous deciduous oaks, *Quercus ilex,* sometimes mesophilous broad-leaved forests

Marasmiellus Murrill

654. *Marasmiellus candidus* (Fr.) Singer (= *M. albus-corticis* Secr. ex Singer)
Occasional 5.5 (4, 5, 12, 16), Massa Marittima, Gavorrano; Lit: Castiglione della Pescaia (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks, *Quercus ilex*

655. *Marasmiellus mesosporus* Singer

Rare 1.5 (10) Lit: Castiglione della Pescaia (Antonini & Antonini 2006). Sand dunes

656. *Marasmiellus omphaliiformis* (Kühner) Noordel.
Occasional 4.0 (5, 12, 14), Castiglione della Pescaia, Castell'Azzara. Thermophilous deciduous oaks, *Quercus ilex*

657. *Marasmiellus ramealis* (Bull.) Singer
Fairly frequent 7.5 (1, 3, 12, 14, 16), Castiglione della Pescaia; Lit: (11) (Pecoraro & al. 2021); Montieri, Massa Marittima (Antonini & Antonini 2006). Widspread, rare *Quercus ilex*

658. *Marasmiellus vaillantii* (Pers.) Singer
Occasional 4.0 (6, 12, 14, 16). Thermophilous deciduous oaks, mesophilous broad-leaved forests

659. *Marasmiellus virgatocutis* Robich, Esteve-Rav. & G. Moreno
Rare 1.0 (5). *Quercus ilex* P

Mycetinis Earle (= *Marasmius* pp.)

660. *Mycetinis alliaceus* (Jacq.) Earle ex A.W. Wilson & Desjardin
Rare 1.0 Lit: (7) (Antonini & Antonini 2006). *Fagus*

661. *Mycetinis scorodonius* (Fr.) A.W. Wilson & Desjardin
Rare 1.0 (5). Coastal pines

Omphalotus Fayod

662. *Omphalotus olearius* (DC.) Singer
Locally common 10. Thermophilous deciduous oaks, *Quercus ilex,* rare mesophilous broad-leaved forests

Rhodocollybia Singer

663. *Rhodocollybia butyracea* (Bull.) P. Kumm.
Common >10. Widespread
Note: In our opinion, it is likely that most (if not all) specimens found in Grosseto province correspond to f. *asema* (Fr.) Antonín, Halling & Noordel.

664. *Rhodocollybia prolixa* (Fr.) Antonín & Noordel. (= *R. distorta* (Fr.) Singer)
Rare 1.0 (1). Mesophilous broad-leaved forests P
Note: In Central-Southern Italy this species is quite rare and localized: in the Tuscany list (Antonini & Antonini 2006), there are only two records, both of them for the northernmost province of Massa. Found by us in the *Betula* wood of site 1, but more likely growing on *Castanea* wood.

665. *Rhodocollybia giselae* Neville & Antonín
Uncommon 2.5 (4, 5) Lit: Orbetello (Gennari & al. 2020). *Quercus ilex* P
Collection from site 4 GenBank accession number: OM417581

666. *Rhodocollybia maculata* (Alb. & Schwein.) Singer
Rare 1.5 Lit: (7), Santa Fiora (Antonini & Antonini 2006). Mountain conifers

Schizophyllaceae Quél.

Schizophyllum Fr.

667. *Schizophyllum commune* Fr.
Common >10. Widespread

Porotheliaceae Murrill

Clitocybula (Singer) Singer ex Métrod

668. *Clitocybula lenta* (Maire) Malen. & Bert.
Uncommon 2.0 (5) Lit: Gavorrano, Castiglione della Pescaia (Antonini & Antonini 2006). *Quercus ilex,* Coastal pines

Collybia (Fr.) Staude ss.

669. *Collybia cookei* (Bres.) J.D. Arnold
Uncommon 3.5 (1, 12, 16), Capalbio. Thermophilous deciduous oaks, mesophilous broad-leaved forests, *Quercus ilex*

Delicatula Fayod

670. *Delicatula integrella* (Pers.) Fayod
Rare 1.0 (13). Thermophilous deciduous oaks
GenBank accession number: OM417580

Hydropus Kühner ex Singer

671. *Hydropus floccipes* (Fr.) Singer
Fairly frequent 7.0 (1, 4, 6, 9, 12, 14, 15). Thermophilous deciduous oaks, *Quercus ilex*

672. *Hydropus subalpinus* (Höhn.) Singer
Uncommon 2.0 (12, 14). Mesophilous broad-leaved forests, thermophilous deciduous oaks

673. *Hydropus trichoderma* (Joss.) Singer
Uncommon 2.0 (6, 14). Thermophilous deciduous oaks

Megacollybia Kotl. & Pouzar

674. *Megacollybia platyphylla* (Pers.) Kotl. & Pouzar
Common >10. Widespread

Biannulariaceae Jülich

Bonomyces Vizzini

675. *Bonomyces sinopicus* (Fr.) Vizzini (= *Clitocybe s.* (Fr.) P. Kumm.)
Rare 1.0 Lit: (7) (Antonini & Antonini 2006). Mountain conifers

Callistosporiaceae Vizzini, Consiglio, M. Marchetti & P. Alvarado

Callistosporium Singer

676. *Callistosporium luteo-olivaceum* (Berk. & M.A. Curtis) Singer (= *C. xanthophyllum* (Malençon & Bertault) Bon)
Rare 1.0 (17). Coastal pines P

677. *Callistosporium donadinii* (Bon) Contu
Uncommon 2.0 (10, 17). Coastal pines

Cyphellaceae Lotsy

Baeospora Singer

678. *Baeospora myosura* (Fr.) Singer
Uncommon 2.5 (11, 17), Scansano. Coastal pines, Mountain conifers

Cheimonophyllum Singer

679. *Cheimonophyllum candidissimum* (Sacc.) Singer

Uncommon 3.0 (1, 12, 16). Mesophilous broad-leaved forests, sometimes thermophilous deciduous oaks
Collection from site 16 GenBank accession number: OM401937
Note: Delivorias and Gonou-Zagou (2008) published a detailed work on the morphology and the distribution of this relatively rare and localized species in Europe. The authors asserted that no record could be found for Italy, but since then various collections from Italy have been reported on the web, see for instance: http://www.ambmuggia.it/forum/topic/6867-cheimonophyllum-candidissimum/ (a record from Abruzzo, Central Italy), to which our collection from site 12 (Bosco Rocconi) should be added (Clericuzio 2012). After 2012, we have collected it in two more sites of Grosseto province (1 and 16).

Mycenella (J.E. Lange) Singer

680. *Mycenella bryophila* (Voglino) Singer
Uncommon 2.0 (12, 14). Mesophilous broad-leaved forests, thermophilous deciduous oaks P

681. *Mycenella margaritifera* (Maire) Maas Geest.
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex* P

Phloeomana Redhead (= *Mycena* sect. *Hiemales*)

682. *Phloeomana alba* (Bres.) Redhead
Common >10. Widespread

683. *Phloeomana hiemalis* (Osbeck) Redhead
Oc 6.0 (1, 6, 12, 14, 16) Lit: (18) (Barluzzi et al 1996). Widespread

684. *Phloeomana minutula* (Sacc.) Redhead (= *Mycena olida* Bres.)
Uncommon 2.0 (12, 16). Thermophilous deciduous oaks, mesophilous broad-leaved forests
Collection from site 12 GenBank accession number: OM417583

685. *Phloeomana speirea* (Fr.) Redhead
Fairly frequent 7.0 (1, 5, 9, 11, 12, 14, 16). Widespread

Scytinotus P. Karsten

686. *Scytinotus violaceofuscus* (Batsch) Courtec. (= *Panellus v.* (Batsch) Singer)
Rare 1.0 Lit: (5) (Perini & al. 1989). *Quercus ilex* P

Clitocybaceae Vizzini, Consiglio & M. Marchetti

Clitocybe (Fr.) Staude

687. *Clitocybe agrestis* Harmaja
Uncommon 2.0 Lit: (5) (Antonini & Antonini 2006); (18) (Barluzzi & al. 1996). *Quercus ilex,* Coastal pines

688. *Clitocybe anisata* Velen.
Rare <1 Lit: Massa Marittima (Antonini & Antonini 2006). *Quercus ilex*

689. *Clitocybe barbularum* (Romagn.) P.D. Orton
Rare 1.5 (14), Orbetello. Thermophilous deciduous oaks, synanthropic

690. *Clitocybe brumalis* (Fr.) Quél. (=? *C. marginella* Harmaja ss. Kuyper)
Unc 2.0 (6, 12). Mainly thermophilous deciduous oaks

691. *Clitocybe cistophila* Bon & Contu
Rare 1.0 Lit: Grosseto (Antonini & Antonini 2006); Castiglione della Pescaia (Angeli and Tulli 2011). *Quercus ilex (Cistus)*

692. *Clitocybe fragrans* (With.) P. Kumm.
Occasional 4.5 (2, 4, 5, 16) Lit: Scarlino (Antonini & Antonini 2006). Widespread

693. *Clitocybe fuscosquamula* J.E. Lange
Rare 1.0 (18). *Quercus ilex*

694. *Clitocybe leucodiatreta* Bon
Rare 1.5 (14) Lit: Castiglione della Pescaia (Antonini & Antonini 2006) thermophilous deciduous oaks, *Quercus ilex*

695. *Clitocybe metachroa* (Fr.) P. Kumm.
Rare 1.5 (10), Roccalbegna. Coastal pines, Mountain conifers

696. *Clitocybe odora* (Bull.) P. Kumm.
Common >10. Widespread

697. *Clitocybe phyllophila* (Pers.) P. Kumm. (= *C. cerussata* (Fr.) P. Kumm.)
Occasional 4.0 (1, 12, 14) Lit: Castel del Piano, Arcidosso (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, *Fagus*

698. *Clitocybe rivulosa* (Pers.) P. Kumm. (= *C. dealbata* (Sowerby) P. Kumm.)
Occasional 4.0 (12, 14), Sorano, Orbetello Lit: (11) (Pecoraro et al 2021). Widespread, often synanthropic

699. *Clitocybe suaveolens* (Schumach.) P. Kumm.
Rare <1 Montieri. Mesophilous broad-leaved forests

700. *Clitocybe* cf. *subbulbipes* Murrill
Uncommon 3.0 (12, 14, 16). Thermophilous deciduous oaks, mesophilous broad-leaved forests
Collection from site 12 GenBank accession number: OM401936
Note: We are currently investigating this lignicolous taxon (see: Clericuzio 2009), whose ITS sequence does not correspond with any known species (but shows similarity with *C. rivulosa*). The identity with the American species *C. subbulbipes*, however, is still to be demonstrated.

701. *Clitocybe subspadicea* (J.E. Lange) Bon & Chevassut
Rare 1.0 (7). *Fagus*

702. *Clitocybe vibecina* (Fr.) Quél.
Rare 1.0 (11). Mountain conifers

Dendrocollybia R.H. Petersen & Redhead

703. *Dendrocollybia racemosa* (Pers.) R.H. Petersen & Redhead (= *Collybia r.* (Pers.) Quél.)
Uncommon 2.0 (1, 5). *Quercus ilex,* thermophilous deciduous oaks

Lepista (Fr.) W.G. Sm.

704. *Lepista caespitosa* (Bres.) Singer (now: *Clitocybe fasciculata* H.E. Bigelow & A.H. Sm.)
Rare <1 Lit: Giglio (Gargano & al. 2010). Mesophilous broad-leaved forests, *Quercus ilex*

705. *Lepista glaucocana* (Bres.) Singer
Rare <1 Lit: Scarlino (Antonini & Antonini 2006). *Quercus ilex*

706. *Lepista nebularis* (Batsch) Harmaja
Common >10 Widespread

707. *Lepista nuda* (Bull.) Cooke
Common >10. Widespread

708. *Lepista panaeolus* (Fr.) P. Karst.
Uncommon 2.0 (7, 12). Thermophilous deciduous oaks, mesophilous broad-leaved forests

709. *Lepista ricekii* Bon (= *L. piperata* Ricek)
Rare 1.0 (4). *Quercus ilex*

710. *Lepista rickenii* Singer
Rare 1.0 (8). Mesophilous broad-leaved forests

711. *Lepista sordida* (Schumach.) Singer
Common >10. Widespread, often synanthropic

712. *Lepista subconnexa* (Murrill) Harmaja
Rare 1.0 (7). *Fagus*

Singerocybe Harmaja

713. *Singerocybe phaeophthalma* (Pers.) Harmaja (= *Clitocybe ph.* (Pers.) Kuyper)
Common >10. Widespread

Omphalinaceae Vizzini, Consiglio & M. Marchetti

Infundibulicybe Harmaja (= *Clitocybe* p.p.)

714. *Infundibulicybe alkaliviolascens* (Bellù) Bellù
Fairly frequent 6.5 (1, 2, 13) Lit: Castiglione della Pescaia, Civitella-Paganico, Grosseto, Massa Marittima, Monterotondo Marittimo, Orbetello, Roccastrada (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks, sometimes Coastal pines

715. *Infundibulicybe costata* (Kühner & Romagnesi) Harmaja
Uncommon 2.5 Lit: (18) (Barluzzi & al. 1996); Civitella-Paganico, Massa Marittima, Arcidosso (Antonini & Antonini 2006). Widespread

716. *Infundibulicybe geotropa* (Bull.) Harmaja
Oc 5.0 (2, 12, 16), Scansano; Lit: Monterotondo Marittimo, Seggiano, Roccastrada (Antonini & Antonini 2006). Mainly thermophilous deciduous oaks

717. *Infundibulicybe gibba* (Pers.) Harmaja ss. (= *I. catinus* (Fr.) Harmaja)
Uncommon 2.5 (7, 11) Lit: Seggiano (Antonini & Antonini 2006). *Fagus,* rare mesophilous broad-leaved forests
Note: In Grosseto province, *I. gibba* probably occurs mainly in montane habitats, while it seems to be replaced by *I. mediterranea* in lowlands and hilly habitats. For the time being, we accept as *I. gibba* only the pale forms growing mainly under *Fagus us*, historically named "*Clitocybe catinus* Fr.", which have proven to be pale forms of *I. gibba* (Vizzini & al. 2011).

718. *Infundibulicybe mediterranea* Vizzini, Contu & Musumeci
Fairly frequent 6.5 (1, 5, 10, 12, 13), Gavorrano, Castiglione della Pescaia, Scansano. *Quercus ilex,* thermophilous deciduous oaks

719. *Infundibulicybe squamulosa* (Pers.) Harmaja
Uncommon 3.5 (1, 12, 13), Scansano. Thermophilous deciduous oaks, mesophilous broad-leaved forests

Omphalina Quél. ss.

720. *Omphalina pyxidata* (Bull.) Quél.
Uncommon 3.5 (4, 12, 15) Lit: Grosseto (Antonini & Antonini 2006). *Quercus ilex*, thermophilous deciduous oaks

Pseudoclitocybaceae Vizzini, Consiglio, P.-A. Moreau & P. Alvarado

Clitopaxillus Moreno, Vizzini, Consiglio & P. Alvarado

721. *Clitopaxillus alexandri* (Gillet) Moreno, Vizzini, Consiglio & Alvarado) (= *Clitocybe a.* (Gillet) Gillet
Rare 1.5 (10) Lit: Monterotondo Marittimo (Antonini & Antonini 2006). Coastal pines

Pogonoloma (Singer) Sánchez-García

722. *Pogonoloma macrocephalum* (Huijsman) Sánchez-García (= *Leucopaxillus m.* (Huijsman) Bohus)
Rare 1.0 Gavorrano, Montieri. *Quercus ilex*, thermophilous deciduous oaks P

Pseudoclitocybe (Singer) Singer

723. *Pseudoclitocybe cyathiformis* (Bull.) Singer
Oc 5.0 (1, 9, 12), Roccalbegna; Lit: (11) (Pecoraro & al. 2021); Montieri (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, also synanthropic

724. *Pseudoclitocybe obbata* (Fr.) Singer (incl.: *P. expallens* (Pers.) M.M. Moser)
Rare 1.0 (14). Synanthropic
Notes: This determination was confirmed by genomic analysis (Alvarado & al. 2018).

Tricholomataceae Lotsy s.l.

Aspropaxillus Kühner & Maire

725. *Aspropaxillus candidus* (Bres.) Raithelh. (= *Leucopaxillus c.* (Bres.) Singer); incl.: *L. giganteus* (Sowerby) Singer)
Rare 1.5 Lit: (7), Santa Fiora (Antonini & Antonini 2006). *Fagus*

Cantharellula Singer

726. *Cantharellula umbonata* (J.F. Gmel.) Singer
Rare <1 Lit: Castiglione della Pescaia (Antonini & Antonini 2006). *Quercus ilex*

Dermoloma J.E. Lange ex Herink

727. *Dermoloma atrocinereum* (Pers.) Herink
Uncommon 3.0 (11, 16) Lit: (18) (Barluzzi & al. 1996). Mesophilous broad-leaved forests, *Quercus ilex*

728. *Dermoloma cuneifolium* (Fr.) Singer ex Bon
Rare 1.0 (18). *Quercus ilex* P

729. *Dermoloma josserandii* Dennis & P.D. Orton
Uncommon 2.0 (14) Lit: (18) (Barluzzi & al. 1996). Thermophilous deciduous oaks, *Quercus ilex* P

Gamundia Raithelh.

730. *Gamundia striatula* (Kühner) Raithelh. (= *Fayodia pseudoclusilis* (Joss. & Konrad) Singer; incl.: *G. leucophylla* (Gillet) Bigelow)
Rare 1.0 (17). *Quercus ilex*

Leucocortinarius (J.E. Lange) Singer

731. *Leucocortinarius bulbiger* (Alb. & Schwein.) Singer
Rare1.0 Lit: (7) (Antonini & Antonini 2006). *Fagus*

Leucocybe Vizzini, P. Alvarado, G. Moreno & Consiglio (= *Clitocybe* sect. *Candicantes* pp.)

732. *Leucocybe candicans* (Pers.) Vizzini, P. Alvarado, G. Moreno & Consiglio
Rare 1.5 (16) Lit: Roccastrada (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks

733. *Leucocybe connata* (Schumach.) Vizzini, P. Alvarado, G. Moreno & Consiglio (= *Lyophyllum c.* (Schumach.) Singer)
Rare 1.0 Lit: (8) (Antonini & Antonini 2006). Mesophilous broad-leaved forests

734. *Leucocybe houghtonii* (W. Phillips) Halama & Pencakowski
Rare 1.0 (12). Thermophilous deciduous oaks

Leucopaxillus Boursier

735. *Leucopaxillus gentianeus* (Quél.) Kotl.
Fairly frequent 8.0 (9, 11, 12, 14), Massa Marittima, Monterotondo Marittimo, Follonica, Scansano. Lit: Castiglione della Pescaia, Massa Marittima, Scarlino, Roccastrada (Antonini & Antonini 2006). *Quercus ilex,* Coastal pines, thermophilous deciduous oaks

736. *Leucopaxillus tricolor* (Peck) Kühner
Rare <1 Orbetello. *Quercus ilex* **P**

Paralepista Raithelh. (= *Lepista* pp.)

737. *Paralepista flaccida* (Sowerby) Vizzini (= *Lepista inversa* (Scop.) Pat.)
Common >10. Widespread

738. *Paralepista gilva* (Pers.) Vizzini
Rare 1.0 (7). *Fagus*

Pseudobaeospora Singer

739. *Pseudobaeospora cyanea* Arnolds, Tabarés & Rocabruna
Rare 1.0 (1). Mesophilous broad-leaved forests P
Note: A very rare and localized species, not reported by either Antonini & Antonini (2006) for Tuscany, or Onofri & al. (2005) for Italy. We are aware of a Ligurian collection (F. Boccardo, personal communication). Another important part of biodiversity of the *Betula/Castanea* wood of site 1. The little-known genus *Pseudobaeospora* has been recently reviewed by Arauzo (2011).

Pseudolaccaria Vizzini, Contu & Z.W. Ge

740. *Pseudolaccaria pachyphylla* (Fr.) Vizzini & Contu (= *Pseudoomphalina p.* (Fr.) Knudsen)
Rare 1.5 (18), Capalbio. *Quercus ilex* P

Pseudoomphalina (Singer) Singer

741. *Pseudoomphalina graveolens* (S. Petersen) Contu & La Rocca (= *P. compressipes* (Peck) Singer s. auct. pp.)
Rare 1.0 (6). Thermophilous deciduous oaks
Notes: Voitk & al. (2020a) in their review of the *P. kalchbrenneri* group in North America, suggest that the species described by Peck in the USA as *Agaricus compressipes*, may be exclusive to North America, but subsequently reported its presence in an Estonian soil sample (Voitk & al. 2020b). For now, we follow Bon (1997) and Contu & La Rocca (1999), applying *P. graveolens* to the similar European species with a strong and somewhat unpleasant odour (*inde nomen*) and spores slightly smaller than those of *P. kalchbrenneri*.

742. *Pseudoomphalina kalchbrenneri* (Bres.) Singer
Rare 1.0 (14). Thermophilous deciduous oaks P

Resupinatus Nees ex Gray

743. *Resupinatus applicatus* (Batsch) Gray
Occasional 5.0 (1, 13, 14), Scansano; Lit: (11), Montieri (Pecoraro & al. 2021). Thermophilous deciduous oaks, mesophilous broad-leaved forests

744. *Resupinatus niger* (Schwein.) Murrill (= *Hohenbuehelia n.* (Schwein.) Singer)
Rare 1.5 (13), Scansano. Thermophilous deciduous oaks P

745. *Resupinatus trichotis* (Pers.) Singer
Uncommon 2.5 (14, 16), Arcidosso. Mesophilous broad-leaved forests, thermophilous deciduous oaks

Ripartites P. Karst.

746. *Ripartites metrodii* Huijsman
Rare 1.0 (8). Mesophilous broad-leaved forests
GenBank accession number: OM401931

747. *Ripartites tricholoma* (Alb. & Schwein.) P. Karst. (incl: *R. helomorpha* (Fr.) P. Karst.)
Uncommon 3.0 (12, 16), Montieri. Lit: Montieri (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests

Tephroderma Contu & Musumeci

748. *Tephroderma fuscopallens* Musumeci & Contu
Rare 1.0 (12). Thermophilous deciduous oaks **P**
GenBank accession number: OM417582
Note: After its description, following a collection from France (Musumeci and Contu 2014), this species has been found, to our knowledge, only in Turkey (Sesli and Topcu Sesli 2016), and by at site 12 (Clericuzio 2019). The peculiarity of our collection was the lignicolous growth, compared to the terricolous growth of the French and Turkish collections.

Tricholoma (Fr.) Staude

749. *Tricholoma acerbum* (Bull.) Quél.
Locally common 10. Mesophilous broad-leaved forests, thermophilous deciduous oaks, rare *Quercus ilex*
Note: *T. roseoacerbum* A. Riva has been reported at times from Grosseto. However, according to Christensen and Heilmann-Clausen (2013), this species should mainly grow under *Pinus sylvestris*. Hence it is likely that, without proper investigation, only colour variants of *T. acerbum* have been determined as *T. roseoacerbum*.

750. *Tricholoma album* (Schaeff.) P. Kumm. (incl.: *T. lascivum* (Fr.) Gill. pp.; = *T. pseudoalbum* Bon ss. Auct.)
Locally common 10. Mesophilous broad-leaved forests, thermophilous deciduous oaks*, Quercus ilex,* rare *Fagus*

751. *Tricholoma apium* Jul. Schäff.
Rare 1.0 Roccastrada; Lit: Civitella-Paganico (Antonini & Antonini 2006). *Quercus ilex,* Coastal pines P

752. *Tricholoma atrosquamosum* Sacc.
Occasional 5.5 (12, 16), Arcidosso; Lit: (11), Montieri (Pecoraro & al. 2021); Santa Fiora, Arcidosso, Castiglione della Pescaia (Antonini & Antonini 2006). Mainly mesophilous broad-leaved forests and *Fagus,* sometimes Mountain conifers, rare thermophilous deciduous oaks

753. *Tricholoma aurantium* (Schaeff.) Ricken
Uncommon 2.5 (1), Massa Marittima; Lit: Massa Marittima, Seggiano (Antonini & Antonini 2006). Coastal pines, Mountain conifers

754. *Tricholoma basirubens* (Bon) A. Riva & Bon
Occasional 6.0 (1, 4, 11, 12), Scansano, Gavorrano; Lit: Massa Marittima, Monterotondo Marittimo (Antonini & Antonini 2006). Mainly thermophilous deciduous oaks

755. *Tricholoma batschii* Gulden (= *T. subannulatum* (Batsch) Bres.; = *T. fracticum* ss. Auct. pl.)
Uncommon 2.5 (10), Massa Marittima, Monterotondo Marittimo; Lit: Civitella-Paganico (Antonini & Antonini 2006, as *T. fracticum*). Coastal pines, Mountain conifers

756. *Tricholoma boudieri* Barla
Rare 1.0 (11). *Fagus*

757. *Tricholoma bresadolanum* Clemençon (= *T. murinaceum* Bres.)
Occasional 5.0 (1, 5, 12), Massa Marittima; Lit: Castiglione della Pescaia, Massa Marittima, Scarlino (Antonini & Antonini 2006). Thermophilous deciduous oaks, *Quercus ilex,* rare mesophilous broad-leaved forests

758. *Tricholoma caligatum* (Viv.) Ricken

Uncommon 3.0 Castiglione della Pescaia, Gavorrano, Monterotondo Marittimo; Lit: Castiglione della Pescaia, Civitella-Paganico, Massa Marittima (Antonini & Antonini 2006). Coastal pines

759. *Tricholoma columbetta* (Fr.) P. Kumm.
Fairly frequent 7.5 (6, 7, 8, 12, 14), Massa Marittima; Lit: Arcidosso, Castel del Piano, Santa Fiora, Scarlino (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks, sometimes *Fagus,* rare *Quercus ilex*

760. *Tricholoma equestre* (L.) P. Kumm. s.l.
Uncommon 3.0 Massa Marittima, Monterotondo Marittimo, Montieri, Roccastrada; Lit: Castiglione della Pescaia, Seggiano (Antonini & Antonini 2006). Coastal pines, Mountain conifers, Riparian, mesophilous broad-leaved forests
Note: This taxon, which proved to be a species complex (Christensen and Heilmann-Clausen, 2013), is treated here in its broadest sense. *T. equestre* ss. seems to be restricted to *Pinus* forests on humus-poor soils; conversely, the presence of *Tricholoma frondosae* Kalamees & Shchukin in Grosseto is probable, but not confirmed to date.

761. *Tricholoma filamentosum* (Alessio) Alessio
Rare <1 Massa Marittima. Mesophilous broad-leaved forests P

762. *Tricholoma focale* (Fr.) Ricken
Rare <1 Lit: Seggiano (Antonini & Antonini 2006). Mountain conifers

763. *Tricholoma imbricatum* (Fr.) P. Kumm.
Rare <1 Lit: Arcidosso (Antonini & Antonini 2006). Mountain conifers

764. *Tricholoma orirubens* Quél.
Occasional 5.0 (1, 11, 12, 14), Montieri; Lit: Massa Marittima (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, sometimes *Fagus* or Mountain conifers

765. *Tricholoma pardinum* (Pers.) Quél.
Rare 1.0 Lit: (7), Castel del Piano (Antonini & Antonini 2006). *Fagus* P

766. *Tricholoma populinum* J.E. Lange
Rare <1 Lit: Castel del Piano (Antonini & Antonini 2006). Riparian P

767. *Tricholoma portentosum* (Fr.) Quél.
Uncommon 3.0 (7), Massa Marittima; Lit: Castel del Piano, Santa Fiora, Seggiano (Antonini & Antonini 2006). *Fagus,* Mountain conifers, rare Coastal pines

768. *Tricholoma psammopus* (Kalchbr.) Quél.
Rare <1 Massa Marittima. Coastal pines

769. *Tricholoma quercetorum* Contu
Occasional 6.0 (1, 6, 11, 12), Massa Marittima; Lit: Arcidosso, Monterotondo Marittimo, Roccastrada (Ant 2006, as *T. ustale*). Thermophilous deciduous oaks, sometimes mesophilous broad-leaved forests
Note: Several reports of *T. ustale* (mainly those from thermophilous deciduous oaks), reported in Antonini & Antonini (2006), have been assigned here.

770. *Tricholoma saponaceum* (Fr.) P. Kumm. sl.
Common >10. Widespread

771. *Tricholoma scalpturatum* (Fr.) Quél. (incl.: *T. argyraceum* (Bull.) Gillet; *T. inocybeoides* Corner)
Common >10. Widespread
Note: *T. argyraceum*, as defined by Christensen and Heilmann-Clausen (2013), has never been collected by us.

772. *Tricholoma sciodes* (Pers.) C. Martín
Rare 1.5 (7) Lit: Castel del Piano (Antonini & Antonini 2006). *Fagus* P

773. *Tricholoma sejunctum* (Sowerby) Quél.

Locally common 10. Thermophilous deciduous oaks, mesophilous broad-leaved forests, sometimes *Quercus ilex*

774. *Tricholoma squarrulosum* Bres.
Fairly frequent 8.5 (1, 2, 4, 5, 12), Massa Marittima; Lit: Castiglione della Pescaia, Gavorranor, Scarlino (Perini et al 1989); Monterotondo Marittimo, Roccastrada (Antonini & Antonini 2006); Montieri (Leonardi & al. 2010). Thermophilous deciduous oaks, *Quercus ilex*

775. *Tricholoma sulphurescens* Bres.
Rare 1.0 Roccalbegna; Lit: Massa Marittima (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks P

776. *Tricholoma sulphureum* (Bull.) P. Kumm. sl.
Common >10. Widespread

777. *Tricholoma terreum* (Schaeff.) P. Kumm. s.l. (incl.: *T. gausapatum* (Fr.) Quél.; *T. myomyces* (Pers.) J.E. Lange)
Fairly frequent 8.5 (1, 2, 11, 17), Gavorrano, Massa Marittima, Monterotondo Marittimo, Roccalbegna; Lit: Arcidosso, Castel del Piano, Civitella-Paganico, Roccastrada, Santa Fiora (Antonini & Antonini 2006). Coastal pines, Mountain conifers, rare elsewhere
Note: We follow Christensen and Heilmann-Clausen (2013) who state that both *T. gausapatum* and *T. myomyces* should be considered intra-specific taxa of *T. terreum*.

778. *Tricholoma umbonatum* Clemençon & Bon
Rare 1.0 (4). *Quercus ilex*
GenBank accession number: OM417578

779. *Tricholoma ustale* (Fr.) P. Kumm.
Uncommon 2.0 (7) Lit: Arcidosso, Castel del Piano (Antonini & Antonini 2006). *Fagus*
Note: Probably a strictly *Fagus*-allied species. The reports from oaks are all likely to be assigned to *T. quercetorum*, a fairly common species in the Apennines.

780. *Tricholoma ustaloides* Romagn.
Fairly frequent 8.0 (1, 5, 12, 14), Massa Marittima; Lit: Castiglione della Pescaia, Gavorrano (Perini & al. 1989); Castel del Piano, Roccastrada, Santa Fiora, Seggiano (Antonini & Antonini 2006); Montieri (Leonardi & al. 2010). Thermophilous deciduous oaks, *Quercus ilex,* sometimes mesophilous broad-leaved forests

781. *Tricholoma viridifucatum* Bon
Uncommon 2.5 (6, 12), Scarlino. *Quercus ilex,* thermophilous deciduous oaks P
Note: We refer the literature report of *Tricholoma coryphaeum* (Fr.) Gillet by Clericuzio (2010) here. The synonymy between the two taxa has been suggested by Christensen and Heilmann-Clausen (2013).

782. *Tricholoma viridilutescens* M. Moser
Rare 1.0 (1). Mountain conifers
GenBank accession number: OM417577

Tricholomopsis Singer

783. *Tricholomopsis rutilans* (Schaeff.) Singer
Occasional 5.5 (10, 11), Castel del Piano, Massa Marittima; Lit: Arcidosso, Castel del Piano, Civitella-Paganico, Santa Fiora, Seggiano (Antonini & Antonini 2006). Coastal pines, Mountain conifers

Mycenaceae Roze

Hemimycena Singer

784. *Hemimycena cephalotricha* (Joss. ex Redhead) Singer
Fairly frequent 8.5 (4, 5, 9, 10, 12, 14, 15), Castiglione della Pescaia; Lit: (18) (Antonin and Noordeloos 2004). Thermophilous deciduous oaks, *Quercus ilex*

785. *Hemimycena crispata* (Kühner) Singer

Uncommon 2.5 (1, 12), Roccalbegna. Thermophilous deciduous oaks, mesophilous broad-leaved forests, Mountain conifers

786. *Hemimycena crispula* (Quél.) Singer
Uncommon 3.0 (4, 14, 16). Thermophilous deciduous oaks

787. *Hemimycena cucullata* (Pers.) Singer
Fairly frequent 7.5 (1, 8, 11, 12, 14, 16), Scarlino, Montieri, Scansano. Widespread

788. *Hemimycena delectabilis* (Peck) Singer
Rare 1.0 (4). *Quercus ilex* P

789. *Hemimycena gracilis* (Quél.) Singer
Uncommon 2.0 (17) Lit: (18) (Barluzzi & al. 1996). Coastal pines

790. *Hemimycena ignobilis* Joss. ex Bon
Rare1.0 (1). Mesophilous broad-leaved forests

791. *Hemimycena lactea* (Pers.) Singer
Locally common 10. Coastal pines, Mountain conifers

792. *Hemimycena rickenii* (A.H. Sm.) Singer
Rare 1.0 (12). Thermophilous deciduous oaks P

Mycena (Pers.) Roussel

793. *Mycena abramsii* (Murrill) Murrill
Fairly frequent 8.5 (1, 4, 6, 9, 12, 14, 16) Lit: (11), Montieri (Pecoraro & al. 2021). Mainly thermophilous deciduous oaks and mesophilous broad-leaved forests

794. *Mycena acicula* (Schaeff.) P. Kumm.
Common >10. Widespread

795. *Mycena adscendens* Maas Geest. (= *M. tenerrima* (Berk.) Quél.)
Occasional 4.5 (1, 9, 10, 16) Lit: Montieri (Pecoraro & al. 2021). Mesophilous broad-leaved forests, thermophilous deciduous oaks

796. *Mycena aetites* (Fr.) Quél.
Occasional 5.5 (1, 12, 14, 16) Lit: (11), Montieri (Pecoraro & al. 2021). Mesophilous broad-leaved forests, thermophilous deciduous oaks, sometimes *Fagus*

797. *Mycena albidolilacea* Kühner & Maire
Uncommon 3.5 (12, 13, 14), Capalbio. Thermophilous deciduous oaks, *Quercus ilex*

798. *Mycena algeriensis* Maire
Uncommon 2.0 (5) Lit: Gavorrano, Castiglione della Pescaia (Antonini & Antonini 2006). *Quercus ilex,* Coastal pines

799. *Mycena amicta* (Fr.) Quél.
Occasional 5.0 (7, 10, 11), Capalbio; Lit: (5) (Antonini & Antonini 2006); Montieri (Pecoraro & al. 2021). Coastal pines, mesophilous broad-leaved forests, *Fagus*

800. *Mycena arcangeliana* Bres. (= *M. oortiana* Hora)
Fairly frequent 7.5 (1, 9, 11, 12, 13, 14, 16) Lit: Montieri (Pecoraro & al. 2021). Widespread

801. *Mycena aurantiistipitata* Robich & Gennari
Uncommon 2.0 (9) Lit: Grosseto (Robich 2003); Massa Marittima (Antonini & Antonini 2006). *Quercus ilex* P

Note: Our specimens were found in a place close to that of the type collection (Robich 2003). To date this fungus has been recorded only from two sites in Grosseto.

802. *Mycena capillaripes* Peck
Uncommon 3.0 (17) Lit: (11) (Pecoraro & al. 2021); (18) (Barluzzi & al. 1996). Coastal pines, Mountain conifers
Collection from site 17 GenBank accession number: OM403090

803. *Mycena capillaris* (Schumach.) P. Kumm.
Rare 1.0 (11). *Fagus*

804. *Mycena cicognanii* Robich
Rare 1.0 (16). Mesophilous broad-leaved forests
GenBank accession number: OM417579
Note: This is one of several species to which the epithet *filopes* has been applied. This is probably a group of closely related species, very difficult to separate by morphologic criteria. We identified it by ITS sequence data.

805. *Mycena citrinomarginata* Gillet
Uncommon 2.5 (5, 14), Montieri. Thermophilous deciduous oaks

806. *Mycena clavicularis* (Fr.) Gillet
Uncommon 3.0 (1, 10) Lit: (11) (Pecoraro & al. 2021). Coastal pines, Mountain conifers

807. *Mycena corynephora* Maas Geest.
Occasional 4.0 (14, 16) Lit: (5) (Leonardi et al 2010); (11) (Pecoraro & al. 2021). Thermophilous deciduous oaks, mesophilous broad-leaved forests

808. *Mycena crocata* (Schrad.) P. Kumm.
Rare <1.0 Roccalbegna. *Fagus*

809. *Mycena epipterygia* (Scop.) Gray
Uncommon 3.5 (5) Lit: (7) (Antonini & Antonini 2006); (11), Montieri (Pecoraro & al. 2021). Mountain conifers, rare Coastal pines

810. *Mycena erubescens* Höhn.
Occasional 5.0 (1, 11, 12, 14), Scansano; Lit: Castiglione della Pescaia (Antonini & Antonini 2006). Thermophilous deciduous oaks*, Quercus ilex,* mesophilous broad-leaved forests

811. *Mycena filopes* (Bull.) P. Kumm. s.l.
Common >10. Widespread
Note: very likely a species complex, as suggested by Aaronsen and Lässøe (2016). A number of taxa have been described by Robich in this group (Robich 2003, 2016). For the time being, we report all of them as variants of *M. filopes*, except *M. cicognanii*, for which we have molecular data.

812. *Mycena flavescens* Velen.
Occasional 4.0 (3, 9, 14, 16). Thermophilous deciduous oaks, mesophilous broad-leaved forests

813. *Mycena flavoalba* (Fr.) Quél.
Fairly frequent 6.5 (1, 4, 12, 14, 16) Lit: (11), Montieri (Pecoraro & al. 2021). Mainly thermophilous deciduous oaks, mesophilous broad-leaved forests

814. *Mycena flos-nivium* Kühner
Rare 1.5 Lit: (11), Montieri (Pecoraro & al. 2021). *Fagus* P

815. *Mycena galericulata* (Scop.) Gray
Occasional 6.0 (1, 7, 12), Castiglione della Pescaia, Monterotondo Marittimo; Lit: (11), Montieri (Pecoraro & al. 2021); Seggiano (Antonini & Antonini 2006). Mainly *Fagus,* mesophilous broad-leaved forests

816. *Mycena galopus* (Pers.) P. Kumm.
Common >10. Widespread

817. *Mycena graminicola* Robich

Rare 1.0 Lit: (11) (Pecoraro & al. 2021). Mesophilous broad-leaved forests

818. *Mycena haematopus* (Pers.) P. Kumm.
Common >10. Widespread

819. *Mycena inclinata* (Fr.) Quél.
Fairly frequent 8.0 (1, 3, 8, 12, 16), Montieri, Seggiano, Scansano; Lit: Roccastrada, Arcidosso, Castel del Piano (Antonini & Antonini 2006). Mainly mesophilous broad-leaved forests, sometimes thermophilous deciduous oaks

820. *Mycena juniperina* Aronsen (incl.: *M. cupressina* Antonín & Maas Geest.)
Uncommon 2.5 (17), Scarlino; Lit: Monterotondo Marittimo (Antonini & Antonini 2006); Montieri (Pecoraro & al. 2021). Coastal pines, Mountain conifers P
Note: We follow Aaronsen and Lässøe (2016), regarding the conspecificity of the two taxa.

821. *Mycena leptocephala* (Pers.) Gillet
Occasional 4.0 (10) Lit: (11), Montieri (Pecoraro & al. 2021); (18) (Barluzzi & al. 1996); Roccastrada (Barluzzi et al 1992). Coastal pines, mesophilous broad-leaved forests

822. *Mycena leptophylla* (Peck) Sacc.
Rare 1.0 (11). Mesophilous broad-leaved forests P

823. *Mycena maculata* P. Karst.
Occasional 6.0 (1, 8, 12, 16), Castiglione della Pescaia, Montieri Lit: (11) (Pecoraro & al. 2021). Thermophilous deciduous oaks, mesophilous broad-leaved forests

824. *Mycena meliigena* (Berk. & Cooke) Sacc. (= *M. corticola* ss. Kühner)
Fairly frequent 8.0 (1, 2, 12, 14, 16), Manciano, Sorano, Santa Fiora; Lit: (18) (Barluzzi & al. 1996); Montieri (Pecoraro & al. 2021). Widespread

825. *Mycena metata* (Secr. ex Fr.) P. Kumm.
Occasional 4.0 (12, 16), Scansano; Lit: (11) (Pecoraro & al. 2021); Scarlino (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks

826. *Mycena mirata* (Peck) Sacc.
Uncommon 3.0 (12, 14), Manciano; Lit: Montieri (Pecoraro & al. 2021). Mainly thermophilous deciduous oaks

827. *Mycena mucor* (Batsch) Quél.
Rare <1 Lit: Roccastrada (Barluzzi & al. 1992). Mesophilous broad-leaved forests

828. *Mycena niveipes* (Murrill) Murrill
Uncommon 3.0 (16), Castiglione della Pescaia, Follonica; Lit: (18) (Barluzzi & al. 1996). Mesophilous broad-leaved forests, thermophilous deciduous oaks, *Quercus ilex*

829. *Mycena olivaceomarginata* (Massee) Massee (= *M. avenacea* (Massee) Rea)
Occasional 4.5 (5, 16), Scansano; Lit: (11), Montieri (Pecoraro & al. 2021); Castiglione della Pescaia (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks, *Quercus ilex,* also synanthropic

830. *Mycena pelianthina* (Fr.) Quél.
Common >10. Widespread, rare *Quercus ilex*

831. *Mycena phyllogena* (Pers.) Singer
Uncommon 2.0 Lit: (5), Gavorrano, Scarlino (Perini & al. 1989). *Quercus ilex*

832. *Mycena polyadelpha* (Lasch) Kühner
Fairly frequent 6.5 (5, 9, 12, 13, 14, 16). Thermophilous deciduous oaks, sometimes mesophilous broad-leaved forests

833. *Mycena polygramma* (Bull.) Gray

Common >10. Widespread

834. *Mycena pseudocorticola* Kühner
Uncommon 3.5 (9, 11, 14), Scarlino. Thermophilous deciduous oaks, mesophilous broad-leaved forests

835. *Mycena pseudopicta* (J.E. Lange) Kühner
Rare 1.0 Lit: (11) (Pecoraro & al. 2021). Mountain conifers, *Fagus*

836. *Mycena pura* (Pers.) P. Kumm. sl.
Common >10. Widespread

837. *Mycena quercus-ilicis* Kühner
Uncommon 2.0 (1, 9). *Quercus ilex*

838. *Mycena renatii* Quél.
Fairly frequent 8.5 (1, 3, 9, 12, 14, 15, 16), Scansano; Lit: (11) (Pecoraro & al. 2021). Mainly thermophilous deciduous oaks and mesophilous broad-leaved forests

839. *Mycena rosea* (Bull.) Gramberg
Common >10. Widespread

840. *Mycena sanguinolenta* (Alb. & Schwein.) P. Kumm.
Fairly frequent 9.5 (1, 3, 5, 8, 11, 12, 14), Roccastrada, Montieri, Castiglione della Pescaia; Lit: Gavorrano, Roccastrada (Antonini & Antonini 2006). Widespread

841. *Mycena sepia* J.E. Lange
Rare <1 Lit: Seggiano (Antonini & Antonini 2006). Mesophilous broad-leaved forests

842. *Mycena seynii* Quél.
Uncommon 3.0 (2, 10, 17). Coastal pines

843. *Mycena stipata* Maas Geest. & Schwöbel
Rare 1.5 (11), Sorano. Mountain conifers

844. *Mycena stylobates* (Pers.) P. Kumm.
Common >10. Widespread

845. *Mycena vitilis* (Fr.) Quél.
Common >10. Widespread

846. *Mycena xantholeuca* Kühner
Uncommon 2.5 (16), Scansano; Lit: Montieri, Castiglione della Pescaia (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks

Mycopan Redhead, Moncalvo & Vilgalys

847. *Mycopan scabripes* (Murrill) Redhead, Moncalvo & Vilgalys
Rare <1 Lit: Montieri (Leonardi & al. 2010). Thermophilous deciduous oaks P

Panellus P. Karst.

848. *Panellus mitis* (Pers.) Singer
Rare <1 Lit: Santa Fiora (Antonini & Antonini 2006). Mountain conifers

849. *Panellus stipticus* (Bull.) P. Karst.
Occasional 5.5 (1, 11), Montieri, Scansano; Lit: (3), Seggiano (Antonini & Antonini 2006); (18) (Barluzzi & al. 1996). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

Roridomyces Rexer

850. *Roridomyces roridus* (Fr.) Rexer (= *Mycena r.* (Fr.) Quél.)
Occasional 5.0 (1, 6, 12), Castell'Azzara, Montieri; Lit: Castiglione della Pescaia, Massa Marittima (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, rare Coastal pines

Sarcomyxa P. Karst.

851. *Sarcomyxa serotina* (Pers.) V. Papp (= *Panellus s.* (Pers.) Kühner)
Rare 1.0 (1). Riparian P

Lyophyllaceae Jülich

Asterophora Ditmar (= *Nyctalis* Fr.)

852. *Asterophora lycoperdoides* (Bull.) Ditmar (= *Nyctalis asterospora* Fr.)
Uncommon 2.0 (6), Roccastrada; Lit: Santa Fiora (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests

Calocybe Kühner ex Donk (= *Rugosomyces* Raithelh.; = *Lyophyllum* P. Karst. p.p.)

853. *Calocybe carnea* (Bull.) Donk
Uncommon 2.0 (14, 16). Mainly synanthropic

854. *Calocybe gambosa* (Fr.) Donk
Occasional 4.5 (2, 14), Massa Marittima, Scansano, Arcidosso, Montieri; Lit: Santa Fiora (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests

855. *Calocybe ionides* (Bull.) Kühner
Occasional 5.0 (1, 14, 16), Montieri; Lit: Arcidosso, Civitella-Paganico, Massa Marittima (Antonini & Antonini 2006). Mesophilous broad-leaved forests, sometimes thermophilous deciduous oaks

856. *Calocybe persicolor* (Fr.) Singer
Rare 1.5 (12), Scansano. Thermophilous deciduous oaks, mesophilous broad-leaved forests

Hypsizygus Singer

857. *Hypsizygus ulmarius* (Bull.) Redhead (= *Lyophyllum u.* (Bull.) Kühner)
Rare 1.0 (4). Thermophilous deciduous oaks P

Lyophyllum P. Karst.

858. *Lyophyllum aemiliae* Consiglio
Rare <1 Lit: Monterotondo Marittimo (Antonini & Antonini 2006). *Quercus ilex*

859. *Lyophyllum crassifolium* (Sacc.) Singer
Rare <1 Lit: Monterotondo Marittimo (Antonini & Antonini 2006). *Quercus ilex*

860. *Lyophyllum decastes* (Fr.) Singer s.l. (incl.: *L. conglobatum* (Vittad.) M.M. Moser; *L. fumosum* (Pers.) P.D. Orton)
Occasional 5.0 (1, 8, 13), Castiglione della Pescaia; Lit: Castel del Piano, Monterotondo Marittimo, Santa Fiora (Antonini & Antonini 2006). Widespread

861. *Lyophyllum infumatum* (Bres.) Kühner (= *L. deliberatum* (Britzelm.) Kreisel)
Fairly frequent 6.5 (1, 8, 12), Gavorrano, Seggiano; Lit: Arcidosso, Roccastrada, Castiglione della Pescaia, Castel del Piano, Massa Marittima (Antonini & Antonini 2006). Mainly mesophilous broad-leaved forests and thermophilous deciduous oaks

862. *Lyophyllum loricatum* (Fr.) Kühner (incl.: *L. littorale* (Ballero & Contu) Contu)
Occasional 4.0 (1, 11, 17) Lit: Grosseto, Santa Fiora (Antonini & Antonini 2006). Widespread
Note: One collection from site 17 (Duna Feniglia) may represent *L. littorale*;the *L. decastes* group of is in need of molecular studies.

863. *Lyophyllum microsporum* A. Gennari
Rare 1.0 (5). Thermophilous deciduous oaks P

864. *Lyophyllum paelochroum* Clémençon (= *L. immundum* (Berk.) Kühner p.p.; incl.: *L. amariusculum* Clémençon)
Uncommon 2.5 (8, 12), Castel del Piano. Mesophilous broad-leaved forests, thermophilous deciduous oaks

865. *Lyophyllum rhopalopodium* Clémençon
Uncommon 3.5 (2, 12) Lit: (8), Monterotondo Marittimo (Antonini & Antonini 2006). Thermophilous deciduous oaks

866. *Lyophyllum semitale* (Fr.) Kühner
Rare <1.0 Roccalbegna. Mountain conifers

867. *Lyophyllum transforme* (Sacc.) Singer
Rare 1.5 (8) Lit: Gavorrano (Antonini & Antonini 2006). Mesophilous broad-leaved forests, *Fagus*

Myochromella V. Hofst., Clémençon, Moncalvo & Redhead

868. *Myochromella boudieri* (Kühner & Romagn.) V. Hofst., Clémençon, Moncalvo & Redhead (= *Tephrocybe b.* (Kühner & Romagn.) Derbsch)
Uncommon 3.0 (11, 12, 16). Mesophilous broad-leaved forests, thermophilous deciduous oaks

Ossicaulis Redhead & Ginns (= *Pleurocybella* Singer p.p.)

869. *Ossicaulis lachnopus* (Fr.) Contu
Rare 1.5 (14), Scarlino. *Quercus ilex,* thermophilous deciduous oaks

870. *Ossicaulis lignatilis* (Pers.) Redhead & Ginns
Uncommon 2.5 (4, 16) Lit: Scarlino (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks

Tephrocybe Donk sl.

871. *Tephrocybe atrata* (Fr.) Donk
Rare 1.0 (13). Thermophilous deciduous oaks (on coal)

872. *Tephrocybe impexa* (P. Karst.) M.M. Moser
Rare 1.0 (8). Mesophilous broad-leaved forests

873. *Tephrocybe mephitica* (Fr.) M.M. Moser
Rare 1.0 (11). Mesophilous broad-leaved forests
GenBank accession number: OM417584
Note: From a morphological point of view, our collection seemed closer to *T. platypus* (Kühner) M.M. Moser, but the ITS sequence we obtained coincides with a sample deposited in GenBank under the name *T. mephitica*.

874. *Tephrocybe rancida* (Fr.) Donk
Rare 1.0 (12). Thermophilous deciduous oaks, mesophilous broad-leaved forests

Tephrocybella Picillo, Vizzini & Contu

875. *Tephrocybella constrictospora* Cleric., Dovana & Vizzini
Rare 1.0 (14). Thermophilous deciduous oaks
Note: Description and discussion, including genome sequences, in Hyde & al. (2017).

Entolomataceae Kotl. & Pouzar

Clitocella (= *Rhodocybe pp.*)

876. *Clitocella fallax* (Quél.) Kluting, T.J. Baroni & Bergemann

Uncommon 2.0 (11) Lit: (18) (Barluzzi & al. 1996). *Quercus ilex,* Mountain conifers

877. *Clitocella mundula* (Lasch) Kluting, T.J. Baroni & Bergemann)
Rare 1.0 Lit: Massa Marittima, Castiglione della Pescaia (Antonini & Antonini 2006). *Quercus ilex*

878. *Clitocella aff. popinalis* (Fr.) Singer
Rare 1.0 (16). Mesophilous broad-leaved forests

Clitopilus (Fr. ex Rabenh.) P. Kumm.

879. *Clitopilus baronii* Consiglio & Setti
Rare 1.0 (14). Thermophilous deciduous oaks P
Note: Another very recent species (Consiglio and Setti 2019). The identity of our samples was confirmed by G. Consiglio.

880. *Clitopilus hobsonii* (Berk.) P.D. Orton
Rare 1.0 (18). *Quercus ilex*

881. *Clitopilus prunulus* (Scop.) P. Kumm. (incl: *C. cystidiatus* Hauskn. & Noordel., see excludenda)
Common >10. Widespread

Entoloma Fr. ex P. Kumm.

Entoloma

882. *Entoloma bloxamii* (Berk. & Broome) Sacc.
Occasional 4.5 (1, 2, 4, 14) Lit: Castiglione della Pescaia (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks

883. *Entoloma cistophilum* Trimbach
Rare <1 Lit: Orbetello (Antonini & Antonini 2006). *Quercus ilex (Cistus)*

884. *Entoloma clypeatum* (L.) P. Kumm. (incl.: var. *defibulatum* Noordel.)
Rare 1.0 Arcidosso; Lit: Castel del Piano (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks, also synanthropic

885. *Entoloma griseoluridum* (Kühner) M.M. Moser
Rare 1.0 (7). *Fagus*
Note: Our collection should also be compared with *E. griseopruinatum* Noordel. & Cheype, a closely related species.

886. *Entoloma lividoalbum* (Kühner & Romagn.) Kubička
Fairly frequent 9.5 (1, 2, 3, 5, 12, 14), Montieri; Lit: (11) (Pecoraro & al. 2021); Castel del Piano, Arcidosso, Seggiano, Massa Marittima (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks, rare *Fagus*

887. *Entoloma nidorosum* (Fr.) Quél. (= *E. rhodopolium* f. *n.* (Fr.) Noordel.)
Common >10. Widespread, rare *Fagus*

888. *Entoloma nitidum* Quél.
Rare <1 Lit: Montieri (Pecoraro & al. 2021). Mesophilous broad-leaved forests P

889. *Entoloma ochreoprunuloides* Morgado & Noordel.
Rare 1.0 (14). Mesophilous broad-leaved forests P
Note: We published a detailed discussion of this finding (Dovana & al. 2016), including molecular data.

890. *Entoloma prunuloides* (Fr.) Quél.
Rare 1.0 Lit: (1) (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests P

891. *Entoloma rhodopolium* (Fr.) P. Kumm.

Occasional 5.0 (3, 5, 11, 14), Montieri; Lit: Civitella-Paganico (Antonini & Antonini 2006). *Fagus*, mesophilous broad-leaved forests, rare thermophilous deciduous oaks

892. *Entoloma sepium* (Noulet & Dass.) Richon & Roze
Occasional 4.0 (1, 2, 16), Massa Marittima; Lit: Arcidosso (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks, also synanthropic

893. *Entoloma sericatum* (Britzelm.) Sacc.
Rare <1 Lit: Montieri (Leonardi & al. 2010). Mesophilous broad-leaved forests

894. *Entoloma sinuatum* (Bull.) P. Kumm. (= *E. lividum* Quél.)
Fairly frequent 8.5 (1, 2, 5, 12, 14), Seggiano, Roccastrada; Lit: Massa Marittima, Civitella-Paganico, Monterotondo Marittimo, Castiglione della Pescaia, Arcidosso (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests

895. *Entoloma sordidulum* (Kühner & Romagn.) P.D. Orton
Occasional 5.5 (1, 6, 9, 12, 16), Sorano. Thermophilous deciduous oaks, mesophilous broad-leaved forests, rare elsewhere

896. *Entoloma subradiatum* (Kühner & Romagn.) M.M. Moser
Uncommon 2.0 (14, 16). Mesophilous broad-leaved forests

Nolanea

897. *Entoloma clandestinum* (Fr.) Noordel.
Uncommon 2.0 (10) Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*

898. *Entoloma conferendum* (Britzelm.) Noordel.
Rare 1.0 (7). *Fagus*
Note: *E. conferendum* has been recently moved to subg. *Inocephalus* (Noordeloos 2004).

899. *Entoloma hebes* (Romagn.) Trimbach
Fairly frequent 7.0 (1, 9, 10, 11, 12, 13, 16). Widespread

900. *Entoloma hirtipes* (Schumach.) M.M. Moser
Occasional 6.0 (3, 5, 11, 16), Roccalbegna; Lit: Seggiano, Gavorrano, Castiglione della Pescaia (Antonini & Antonini 2006). Mesophilous broad-leaved forests, Mountain conifers, Coastal pines

901. *Entoloma juncinum* (Kühner & Romagn.) Noordel.
Fairly frequent 7.0 (1, 8, 11, 12, 14, 16), Roccastrada; Lit: Montieri (Pecoraro & al. 2021). Widespread

902. *Entoloma kuehnerianum* Noordel.
Rare <1 Lit: Castiglione della Pescaia (Antonini & Antonini 2006). *Quercus ilex*

903. *Entoloma lucidum* (P.D. Orton) M.M. Moser
Rare 1.0 (12). Thermophilous deciduous oaks

904. *Entoloma malençonii* Vila & Llimona (incl.: *E. sericeonitens* (P.D. Orton) Noordel.)
Uncommon 2.0 (1, 10). *Quercus ilex*, mesophilous broad-leaved forests

905. *Entoloma nitens* (Velen.) Noordel.
Occasional 5.0 (2, 7, 12, 14, 15). Thermophilous deciduous oaks, mesophilous broad-leaved forests, *Quercus ilex*

906. *Entoloma occultopigmentatum* Arnolds & Noordel.
Uncommon 3.0 (1, 7) Lit: (11) (Pecoraro & al. 2021). Mesophilous broad-leaved forests, *Fagus*

907. *Entoloma ortonii* Arnolds & Noordel.
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*

908. *Entoloma pleopodium* (Bull.) Noordel. (= *E. icterinum* (Fr.) M.M. Moser)

Uncommon 2.0 (8, 16). Mesophilous broad-leaved forests

909. *Entoloma pseudofavrei* Noordel. & Vila
Rare 1.0 (16). Mesophilous broad-leaved forests P

910. *Entoloma rhombisporum* (Kühner & Boursier) E. Horak
Rare 1.0 (16). Mesophilous broad-leaved forests P

911. *Entoloma sericeoides* (J.E. Lange) Noordel.
Uncommon 2.0 (11, 12). Thermophilous deciduous oaks

912. *Entoloma triste* (Velen.) Noordel.
Rare 1.0 Lit: (11) (Pecoraro & al. 2021). *Fagus*

913. *Entoloma vernum* S. Lundell (= *E. proterum* Noordel. & Wölfel)
Rare 1.0 (16). Mesophilous broad-leaved forests
Note: Our collection had previously been determined as *E. proterum* Noordel. & Wölfel (Noordeloos 2004). However, Vila & al. (2013) have demonstrated the conspecificity of *E. proterum* with *E. vernum* with molecular studies.

Alboleptonia

914. *Entoloma sericellum* (Fr.) P. Kumm.
Uncommon 3.5 (6, 12), Roccalbegna; Lit: Roccastrada (Antonini & Antonini 2006); Montieri (Pecoraro & al. 2021). Mesophilous broad-leaved forests, rare thermophilous deciduous oaks

Pouzarella

915. *Entoloma araneosum* (Quél.) M.M. Moser
Rare 1.5 (16), Sorano. Mesophilous broad-leaved forests

916. *Entoloma hirtum* (Velen.) Noordel.
Rare 1.0 (12). Thermophilous deciduous oaks

Leptonia, Cyanula

917. *Entoloma chalybaeum* (Pers.) Noordel. incl var. *lazulinum*
Unc 3.5 (10, 11, 12) Lit: Castiglione della Pescaia (Antonini & Antonini 2006). Widespread

918. *Entoloma corvinum* (Kühner) Noordel.
Uncommon 3.0 (1, 5, 10). *Quercus ilex,* Coastal pines

919. *Entoloma dichroum* (Pers.) P. Kumm.
Uncommon 2.0 (12, 14). Thermophilous deciduous oaks P

920. *Entoloma incanum* (Fr.) Hesler
Occasional 5.0 (1, 10, 12, 14), Scansano; Lit: Roccastrada (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

921. *Entoloma longistriatum* (Peck) Noordel.
Occasional 4.0 (1, 12, 14, 16). Widespread

922. *Entoloma mougeotii* (Fr.) Hesler
Occasional 4.0 (1, 5, 14), Scarlino, Monterotondo Marittimo. Widespread

923. *Entoloma ochromicaceum* Noordel. & Liiv
Occasional 4.0 (1, 12, 14, 16). Thermophilous deciduous oaks, mesophilous broad-leaved forests

924. *Entoloma pseudocoelestinum* Arnolds
Occasional 4.0 (1, 12, 14, 16). Mesophilous broad-leaved forests, thermophilous deciduous oaks

925. *Entoloma reinwaldii* Noordel. & Hauskn.
Unc 2.0 (14, 16). Mesophilous broad-leaved forests P

926. *Entoloma xanthocaulon* Arnolds & Noordel.
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex* P

Claudopus

927. *Entoloma byssisedum* (Pers.) Donk var. *microsporum* Esteve-Rav. & Noordel.
Rare 1.0 (12). Thermophilous deciduous oaks

928. *Entoloma lanicum* (Romagn.) Noordel.
Rare 1.5 (14) Lit: Gavorrano (Antonini & Antonini 2006). *Quercus ilex,* Coastal pines, mesophilous broad-leaved forests

929. *Entoloma neglectum* (Lasch) Arnolds
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex* P

930. *Entoloma phaeocyathus* Noordel.
Rare 1.0 (14). Mesophilous broad-leaved forests

931. *Entoloma rugosum* (Malençon) Bon
Rare 1.0 (14). Thermophilous deciduous oaks *(Cistus)* P
Note: This species, described from Morocco by Malençon (Malençon and Bertault 1970), has been found only in France and Estonia, according to Noordeloos (1992). It is absent in the Italian check-list by Onofri & al. (2005), so this is probably the first find in Italy.

932. *Entoloma undatum* (Gillet) M.M. Moser
Uncommon 3.5 (9, 10), Orbetello; Lit: (18) (Barluzzi & al. 1996). Mainly *Quercus ilex*

Rhodocybe Maire

933. *Rhodocybe gemina* (Paulet) Kuyper & Noordel.
a. var. *gemina*
Occasional 5.5 (1, 9, 12, 16), Montieri, Scansano; Lit: Scarlino (Antonini & Antonini 2006). Widespread
b. var. *mauretanica* (Maire) Bon
Uncommon 3.0 (12, 13) Lit: (18) (Barluzzi & al. 1996). *Quercus ilex,* sometimes thermophilous deciduous oaks

934. *Rhodocybe malençonii* Pacioni & Lalli
Rare <1 Follonica. Sand dunes, Coastal pines P

Rhodophana Kühner (= *Rhodocybe* pp.)

935. *Rhodophana melleopallens* (P.D. Orton) Kluting, T.J. Baroni & Bergemann)
Uncommon 3.0 (1, 12, 14).Tthermophilous deciduous oaks, mesophilous broad-leaved forests

936. *Rhodophana nitellina* (Fr.) Papetti
Occasional 4.0 (12, 14, 16) Lit: Seggiano, Castiglione della Pescaia (Antonini & Antonini 2006).
Thermophilous deciduous oaks, mesophilous broad-leaved forests, *Fagus*

Cystodermataceae Locq.

Cystoderma Fayod

937. *Cystoderma amianthinum* (Scop.) Fayod
Rare <1 Lit: Santa Fiora (Antonini & Antonini 2006). Mountain conifers

938. *Cystoderma carcharias* (Pers.) Fayod

Uncommon 2.0 Lit: (7), Seggiano, Santa Fiora (Antonini & Antonini 2006). Mountain conifers

Cystodermella Harmaja

939. *Cystodermella granulosa* (Batsch) Harmaja
Uncommon 2.0 (1, 12). *Quercus ilex,* Mountain conifers

940. *Cystodermella terryi* (Berk. & Broome) Bellù (= *Cystoderma t.* (Berk. & Broome) Harmaja)
Rare <1 Lit: Castel del Piano (Antonini & Antonini 2006). Mountain conifers

Amanitaceae E.-J. Gilbert

Amanita Pers.

941. *Amanita caesarea* (Scop.) Pers.
Fairly frequent 9.5 (5, 8, 12, 14), Capalbio, Massa Marittima, Roccastrada, Scansano, Scarlino; Lit: Arcidosso, Castel del Piano, Castiglione della Pescaia, Civitella-Paganico, Monterotondo Marittimo, Santa Fiora (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, *Quercus ilex*

942. *Amanita citrina* Pers.
Common >10. Widespread

943. *Amanita echinocephala* (Vittad.) Quél.
Rare <1 Lit: Massa Marittima (Antonini & Antonini 2006, as *A. singeri*). *Quercus ilex*

944. *Amanita eliae* Quél.
Rare 1.0 Montieri; Lit: Roccastrada (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks

945. *Amanita excelsa* (Fr.) Bertill. (incl.: *A. spissa* (Fr.) P. Kumm.)
Occasional 5.0 (1, 7), Arcidosso, Montieri; Lit: Castel del Piano, Castiglione della Pescaia, Roccastrada, Seggiano (Antonini & Antonini 2006). Mountain conifers, *Fagus,* sometimes mesophilous broad-leaved forests, rare thermophilous deciduous oaks

946. *Amanita franchetii* (Boud.) Fayod (= *A. aspera* ss. Auct. pl.)
Fairly frequent 8.5 (1, 3, 4, 5, 12), Massa Marittima, Montieri, Roccastrada; Lit: (18) (Barluzzi & al. 1996); Arcidosso, Monterotondo Marittimo (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, *Quercus ilex*

947. *Amanita gemmata* (Fr.) Bertill. (= *A. junquillea* Quél.)
Fairly frequent 9.5 (1, 7, 10, 16, 17), Massa Marittima, Montieri, Roccastrada, Santa Fiora; Lit: (18) (Barluzzi & al. 1996); Arcidosso, Castel del Piano, Scarlino (Antonini & Antonini 2006). Mountain conifers, *Fagus,* Coastal pines

948. *Amanita gioiosa* S. Curreli
Rare <1 Lit: Castel del Piano (Antonini & Antonini 2006). *Quercus ilex*

949. *Amanita gracilior* Bas & Honrubia
Occasional 4.0 (2, 10, 17), Massa Marittima; Lit: Grosseto (Angeli and Tulli 2011). *Quercus ilex*

950. *Amanita lactea* Malençon, Romagn. & D.A. Reid
Rare <1 Lit: Civitella-Paganico (Antonini & Antonini 2006). *Quercus ilex*

951. *Amanita muscaria* (L.) Lam. (incl.: *A. aureola* (Kalchbr.) Sacc.; *A. formosa* Gonn. & Rabenh.)
Occasional 4.0 Arcidosso, Capalbio, Montieri; Lit: Castel del Piano, Arcidosso, Massa Marittima, Santa Fiora, Seggiano (Antonini & Antonini 2006). Mountain conifers*, Fagus,* rare elsewhere
Note: The finding at Capalbio (in *Quercus ilex*) probably belongs to var. *inzengae* Neville & Poumarat, a taxon growing under *Cistus*.

952. *Amanita ovoidea* (Bull.) Link

Fairly frequent 8.5 (1, 2, 5, 10, 12, 17, 18), Massa Marittima, Scansano; Lit: Monterotondo Marittimo (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks

953. *Amanita pantherina* (DC.) Krombh.
Common >10. Widespread

954. *Amanita phalloides* (Vaill. ex Fr.) Link
Common >10. Widespread, rare *Fagus*

955. *Amanita proxima* Dumée
Uncommon 3.0 (10) Lit: (5), Castiglione della Pescaia, Massa Marittima (Antonini & Antonini 2006). *Quercus ilex,* Coastal pines

956. *Amanita rubescens* Pers.
Common >10. Widespread

957. *Amanita strobiliformis* (Paulet ex Vittad.) Bertill.
Occasional 4.0 (12, 18), Monterotondo Marittimo; Lit: Castel del Piano, Grosseto, Monterotondo Marittimo (Antonini & Antonini 2006). Thermophilous deciduous oaks, *Quercus ilex*, mesophilous broad-leaved forests

958. *Amanita verna* (Bull.) Lam. (incl.: var. *decipiens* Trimbach)
Occasional 4.0 (5, 16), Scarlino; Lit: (18) (Barluzzi & al. 1996); Civitella-Paganico (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks, rare mesophilous broad-leaved forests

959. *Amanita virosa* Bertill.
Rare 1.0 (7). *Fagus* P

Amanitopsis

960. *Amanita battarrae* (Boud.) Bon
Fairly frequent 6.5 (1, 3, 12, 14, 16), Massa Marittima; Lit: Arcidosso, Roccastrada (Antonini & Antonini 2006). Thermophilous deciduous oaks, sometimes mesophilous broad-leaved forests or *Quercus ilex*

961. *Amanita ceciliae* (Berk. & Broome) Bas
Uncommon 2.0 (11, 18). *Quercus ilex,* mesophilous broad-leaved forests P

962. *Amanita cistetorum* Contu & Pacioni
Rare 1.0 (14). Thermophilous deciduous oaks *(Cistus)*

963. *Amanita coryli* Neville & Poumarat
Rare 1.0 (16). Mesophilous broad-leaved forests

964. *Amanita crocea* (Quél.) Singer
Uncommon 3.0 (3) Lit: Arcidosso, Castel del Piano, Roccastrada, Seggiano (Antonini & Antonini 2006). Mountain conifers, mesophilous broad-leaved forests, rare elsewhere
Note: The specimens reported in Antonini & Antonini (2006) for sites 5 and 18 in *Quercus ilex* are here regarded as doubtful and excluded: they might instead represent specimens of *A. flavescens*.

965. *Amanita dryophila* Consiglio & Contu
Fairly frequent 6.5 (1, 4, 6, 8, 9, 12), Scansano. Thermophilous deciduous oaks, *Quercus ilex,* rare mesophilous broad-leaved forests

966. *Amanita flavescens* (E.-J. Gilbert & S. Lundell) Contu (= *A. crocea* var. *subnudipes* Romagn.)
Fairly frequent 7.0 (8, 14, 18), Capalbio, Massa Marittima, Roccastrada, Scansano; Lit: Castiglione della Pescaia, Gavorrano (Perini & al. 1989); Monterotondo Marittimo, Santa Fiora (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, *Quercus ilex*

967. *Amanita fulva* Fr.
Uncommon 2.0 Lit: (7), Massa Marittima (Antonini & Antonini 2006); Montieri (Leonardi & al. 2010). Mesophilous broad-leaved forests, *Fagus,* rare elsewhere

Note: Some of the above reports should also be compared with the recently described *A. fulvoides* (Neville and Poumarat 2009), typical of oak woods.

968. *Amanita fulvoides* Neville & Poumarat
Uncommon 2.0 (11, 14). Mesophilous broad-leaved forests, thermophilous deciduous oaks

969. *Amanita lividopallescens* (Secr. ex Boud.) Kühner & Romagn. s.l.
Uncommon 3.0 (16), Capalbio; Lit: (7), Civitella-Paganico (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests

970. *Amanita mairei* Foley (incl.: *A. argentea* Huijsman)
Occasional 6.0 (1, 4, 5, 8), Massa Marittima, Gavorranor; Lit: Castel del Piano, Monterotondo Marittimo (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks, Coastal pines, mesophilous broad-leaved forests
971. *Amanita pachyvolvata* (Bon) Krieglst.
Rare 1.5 (1), Massa Marittima. Thermophilous deciduous oaks, mesophilous broad-leaved forests
972. *Amanita submembranacea* (Bon) Gröger
Rare <1 Lit: Castel del Piano (Antonini & Antonini 2006). *Fagus*

973. *Amanita umbrinolutea* (Secr. ex Gillet) Bataille
Rare 1.0 (7). Mountain conifers

974. *Amanita vaginata* (Bull.) Lam.
a. var. *alba* (De Seynes) Gillet
Uncommon 2.0 (7, 14). Thermophilous deciduous oaks, *Fagus*
b. var. *vaginata* (= *A. v.* var. *grisea* (DC.) Quél. & Bataille)
Common >10. Widespread
c. var. *plumbea* (Schaeff.) Quél. & Bataille
Uncommon 3.5 (3, 7, 11) Lit: Massa Marittima (Antonini & Antonini 2006). *Fagus,* mesophilous broad-leaved forests

Limacella Earle

975. *Limacella delicata* (Fr.) Earle ex Konr. & Maubl.
Rare 1.5 (15), Scansano. Thermophilous deciduous oaks

976. *Limacella furnacea* (Letell.) E.-J. Gilb.
Occasional 4.0 (11, 16), Castiglione della Pescaia, Massa Marittima; Lit: (18) (Barluzzi & al. 1996). *Quercus ilex,* mesophilous broad-leaved forests

977. *Limacella glioderma* (Fr.) Maire
Rare 1.0 (12). Mountain conifers

Limacellopsis Yang ZL, Cai Q, Cui YY (= *Limacella* Earle pp.)

978. *Limacellopsis guttata* (Pers.) Yang ZL, Cai Q, Cui YY
Rare 1.5 Massa Marittima; Lit: Montieri, Castel del Piano (Antonini & Antonini 2006). Mesophilous broad-leaved forests, Mountain conifers

Zhuliangomyces Redhead (= *Limacella* Earle pp.)

979. *Zhuliangomyces illinitus* (Fr.) Redhead
Uncommon 2.0 (14) Lit: Arcidosso, Castel del Piano (Antonini & Antonini 2006). Mainly thermophilous deciduous oaks, mesophilous broad-leaved forests

Saproamanita Redhead, Vizzini, Drehmel & Contu (= *Amanita* Pers. pp.)

980. *Saproamanita vittadinii* (Moretti) Redhead, Vizzini, Drehmel & Contu
Rare 1.5 Gavorrano, Grosseto, Scansano. Synanthropic

Pluteaceae Kotl. & Pouzar

Melanoleuca Pat.

981. *Melanoleuca cognata* (Fr.) Konrad & Maubl.
Rare <1 Montieri. Mountain conifers P

982. *Melanoleuca exscissa* (Fr.) Singer
Occasional 4.5 (1, 12, 14), Massa Marittima; Lit: (11) (Pecoraro et al 2021, as *M. kuehneri* Bon). Widespread, also synanthropic

983. *Melanoleuca graminicola* (Velen.) Kühner & Maire (incl. *M. stridula* (Fr.) Singer)
Uncommon 3.0 (9, 11) Lit: (18) (Barluzzi & al. 1996). Thermophilous deciduous oaks, mesophilous broad-leaved forests

984. *Melanoleuca grammopodia* (Bull.) Murrill (incl.: *M. subbrevipes* Métrod)
Uncommon 2.0 (12, 16). Thermophilous deciduous oaks, mesophilous broad-leaved forests

985. *Melanoleuca humilis* (Pers.) Pat. (incl.: *M. decembris* Métrod ex Bon)
Rare 1.0 (18). *Quercus ilex*

986. *Melanoleuca leucophylloides* (Bon) Bon (= *M. rasilis* (Fr.) Singer var. *leucophylloides* Bon)
Uncommon 3.0 (10, 12, 17). Mainly *Quercus ilex*

987. *Melanoleuca melaleuca* (Pers.) Murrill (= *M. vulgaris* s. auct.)
Uncommon 2.5 (12) Lit: (11) (Pecoraro & al. 2021); Massa Marittima (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks

988. *Melanoleuca polioleuca* (Fr.) Kühner & Maire
Uncommon 2.5 (8) Lit: (18) (Barluzzi & al. 1996); Massa Marittima (Antonini & Antonini 2006). Mesophilous broad-leaved forests, *Quercus ilex*

989. *Melanoleuca rasilis* (Fr.) Singer
Rare 1.0 (2). *Quercus ilex*

990. *Melanoleuca subpulverulenta* (Pers.) Singer
Uncommon 2.5 (1) Lit: (11) (Pecoraro & al. 2021); Castel del Piano (Antonini & Antonini 2006). Mesophilous broad-leaved forests

Pluteus Fr.

991. *Pluteus brunneoradiatus* Bonnard
Rare <1 Lit: Civitella-Paganico (Antonini & Antonini 2006). Thermophilous deciduous oaks P

992. *Pluteus cervinus* (Schaeff.) P. Kumm.
Common >10. Widespread

993. *Pluteus cinereofuscus* J.E. Lange
Uncommon 3.0 (11, 12, 14). Thermophilous deciduous oaks, mesophilous broad-leaved forests

994. *Pluteus chrysophaeus* (Schaeff.) Quél.
Uncommon 3.5 (12, 14, 16), Scansano. Thermophilous deciduous oaks, mesophilous broad-leaved forests

995. *Pluteus cyanopus* Quél.
Rare <1 Sorano. Thermophilous deciduous oaks

996. *Pluteus ephebeus* (Fr.) Gillet (= *P. villosus* Quél.)
Uncommon 3.0 (1, 8, 14). Thermophilous deciduous oaks, mesophilous broad-leaved forests

997. *Pluteus leoninus* (Schaeff.) P. Kumm.

Rare <1 Lit: Castel del Piano (Antonini & Antonini 2006). Mesophilous broad-leaved forests P

998. *Pluteus murinus* Bres.
Uncommon 2.0 (3, 16). Thermophilous deciduous oaks, mesophilous broad-leaved forests

999. *Pluteus nanus* (Pers.) P. Kumm.
Fairly frequent 6.5 (10, 12, 13, 16, 17), Roccastrada; Lit: (18) (Barluzzi & al. 1996). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

1000. *Pluteus petasatus* (Fr.) Gillet (incl.: *P. patricius* (Schulzer) Boud.)
Occasional 4.5 (7, 12, 16) Lit: (5), Castel del Piano (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1001. *Pluteus phlebophorus* (Ditmar) P. Kumm.
Uncommon 3.5 (4, 12), Sorano; Lit: (18) (Barluzzi & al. 1996). *Quercus ilex,* thermophilous deciduous oaks

1002. *Pluteus plautus* (Weinm.) Gillet (= *P. depauperatus* Romagn.)
Uncommon 2.5 (12, 16) Lit: Montieri (Leonardi & al. 2010). Thermophilous deciduous oaks, rare mesophilous broad-leaved forests

1003. *Pluteus podospileus* Sacc. & Cub.
Rare 1.0 (16). Mesophilous broad-leaved forests

1004. *Pluteus romellii* (Britzelm.) Sacc.
Fairly frequent 9.5 (1, 4, 9, 12, 13), Arcidosso, Montieri, Castiglione della Pescaia, Massa Marittima; Lit: (5), Gavorrano (Antonini & Antonini 2006); (18) (Barluzzi & al. 1996). Widespread

1005. *Pluteus salicinus* (Pers.) P. Kumm.
Occasional 5.0 (1, 4, 8, 14, 16). Mainly mesophilous broad-leaved forests, sometimes thermophilous deciduous oaks or *Quercus ilex*

1006. *Pluteus semibulbosus* (Lasch) Quél.
Common >10. Widespread
Note: we prefer to keep this taxon separate from *P. plautus*, which most authors synonymize.

1007. *Pluteus thomsonii* (Berk. & Broome) Dennis
Rare 1.0 Massa Marittima; Lit: Castiglione della Pescaia (Antonini & Antonini 2006). *Quercus ilex* P
a. f. *evenosus* (Kühner) Wuilb.
Rare 1.0 (16). Mesophilous broad-leaved forests P

Volvariella Speg.

1008. *Volvariella bombycina* (Schaeff.) Singer
Uncommon 2.5 (4, 11) Lit: Castel del Piano (Antonini & Antonini 2006). *Quercus ilex*, mesophilous broad-leaved forests P

1009. *Volvariella caesiotincta* P.D. Orton
Rare 1.0 Lit: Castiglione della Pescaia, Follonica (Antonini & Antonini 2006). *Quercus ilex,* Coastal pines

1010. *Volvariella hypopithys* (Fr.) Shaffer
Uncommon 2.0 (11) Lit: Castiglione della Pescaia, Scarlino (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks

1011. *Volvariella murinella* (Quél.) M.M. Moser ex Dennis, P.D. Orton & Hora
Uncommon 3.0 (12), Castiglione della Pescaia; Lit: (5), Scarlino (Perini & al. 1989). Thermophilous deciduous oaks

Volvopluteus Vizzini, Contu & Justo

1012. *Volvopluteus gloiocephalus* (DC.) Vizzini, Contu & Justo (= *Volvariella g.* (DC.) Boekhout & Enderle; = *V. speciosa* (Fr.) Singer)
Common >10. Widespread, mainly synanthropic

Agaricaceae Chevall.

Agaricus L.

1013. *Agaricus annae* Pilát (=? *A. depauperatus* (F.H. Møller) Pilát)
Rare 1.0 Lit: (5) (Antonini & Antonini 2006). *Quercus ilex* P

1014. *Agaricus aridicola* Geml, Geiser & Royse ex Mateos, J. Morales, J. Muñoz, Rey & Tovar (= *Gyrophragmium dunalii* (Fr.) Berk.; = *G. delilei* Mont.)
Uncommon 2.5 (10) Lit: (18) (Barluzzi & al. 1996); Grosseto (Antonini & Antonini 2006). Sand dunes P

1015. *Agaricus arvensis* Schaeff. sl. (= *A. nivescens* F.H. Møller; incl.: *A. fissuratus* (F.H. Møller) F.H. Møller)
Occasional 6.0 (1, 11), Roccastrada, Sorano; Lit: (5), (7), Arcidosso, Castel del Piano (Antonini & Antonini 2006). *Fagus,* mesophilous broad-leaved forests, thermophilous deciduous oaks
Note: According to Parra Sanchez (2013), *A. arvensis* as classically intended (see for instance Cappelli, 1984), represents a species swarm, rather than a single, well-defined entity. It includes a variety of morphologically cryptic species, clearly distinguishable phylogenetically.

1016. *Agaricus augustus* Fr.
Occasional 4.0 (10, 14), Roccastrada, Scarlino; Lit: (5) (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks

1017. *Agaricus bisporus* (J.E. Lange) Imbach
Rare <1 Follonica. Synanthropic

1018. *Agaricus boisseletii* Heinem.
Rare 1.5 (2), Massa Marittima. Synanthropic P

1019. *Agaricus bresadolanus* Bohus (= *A. romagnesii* Wasser)
Uncommon 3.0 (1, 16), Follonica, Scansano. *Quercus ilex,* thermophilous deciduous oaks, synanthropic

1020. *Agaricus brunneolus* (J.E. Lange) Pilát (= *A. porphyrizon* P.D. Orton)
Fairly frequent 8.5 (1, 10, 12, 14, 16), Massa Marittima, Orbetello, Scarlino; Lit: (18) (Barluzzi & al. 1996); Civitella-Paganico, Monterotondo Marittimo (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks, Coastal pines, rare mesophilous broad-leaved forests

1021. *Agaricus campestris* L.
Common >10. Widespread, mainly synanthropic

1022. *Agaricus chionodermus* Pilát
Rare <1 Orbetello. *Quercus ilex*

1023. *Agaricus comtulus* Fr.
Uncommon 2.0 (12, 16). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1024. *Agaricus crocodilinus* Murrill (= *A. urinascens* (Jul. Schäff. & F.H. Møller) Singer; = *A. macrosporus* (Jul. Schäff. & F.H. Møller) Pilát; incl.: *A. stramineus* (Jul. Schäff. & F.H. Møller) Singer)
Uncommon 2.5 (12), Arcidosso; Lit: (18) (Barluzzi & al. 1996). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1025. *Agaricus devoniensis* P.D. Orton
Rare <1 Lit: Castiglione della Pescaia (Antonini & Antonini 2006). Sand dunes P

1026. *Agaricus dulcidulus* Schulzer
Rare 1.5 (7), Roccastrada. *Fagus,* mesophilous broad-leaved forests

1027. *Agaricus essettei* Bon
Uncommon 3.5 (7, 12) Lit: Castel del Piano, Roccastrada, Santa Fiora (Antonini & Antonini 2006). Widespread
Note: Parra (2013) has demonstrated that *A. essettei* is part of a species complex, including, among others, *A. abruptibulbus* Peck, *A. greuteri* L.A. Parra, Cappelli & Kerrigan, *A. indistinctus* L.A. Parra & Kerrigan, and *A. sylvicola* (Vittad.) Lév. Our identification is based only on morphological features.

1028. *Agaricus gennadii* (Chatin & Boud.) P.D. Orton
Rare 1.0 (2). *Quercus ilex*

1029. *Agaricus impudicus* (Rea) Pilát
Uncommon 2.5 (1, 13), Massa Marittima mesophilous broad-leaved forests, thermophilous deciduous oaks
Note: It is possible that the present concept of this taxon encompasses more than one species.

1030. *Agaricus iodosmus* Heinem. (= *A. pilatianus* (Bohus) Bohus)
Rare 1.5 (10), Follonica. Coastal pines, synanthropic

1031. *Agaricus langei* (F.H. Møller) F.H. Møller (incl.: *A. fuscofibrillosus* (F.H. Møller) Pilát)
Occasional 4.5 (11, 14), Massa Marittima; Lit: (18) (Barluzzi & al. 1996); Arcidosso, Seggiano (Antonini & Antonini 2006). Widespread

1032. *Agaricus litoralis* (Wakef. & A. Pearson) Pilát (= *A. maskae* Pilát)
Rare <1 Lit: Orbetello (Antonini & Antonini 2006). Coastal pines

1033. *Agaricus menieri* Bon
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). Sand dunes P

1034. *Agaricus moelleri* Wasser (= *A. praeclaresquamosus* A.E. Freeman; incl.: *A. moelleroides* Guinb. & L.A. Parra)
Common >10. Widespread, often synanthropic

1035. *Agaricus phaeolepidotus* (F.H. Møller) F.H. Møller
Rare <1 Roccastrada. *Quercus ilex*

1036. *Agaricus pseudopratensis* (Bohus) Wasser
Rare 1.0 (2). Synanthropic

1037. *Agaricus silvaticus* Schaeff. (incl.: *A. haemorroidarius* Schulzer)
Occasional 5.0 (5), Gavorrano, Scarlino; Lit: (18) (Barluzzi & al. 1996); Civitella-Paganico, Massa Marittima, Monterotondo Marittimo, Seggiano (Antonini & Antonini 2006). *Quercus ilex,* Coastal pines, thermophilous deciduous oaks, Mountain conifers

1038. *Agaricus sylvicola* (Vittad.) Lév.
Fairly frequent 6.5 (7, 8, 14) Lit: Montieri (Barluzzi & al. 1992); Arcidosso, Castel del Piano, Massa Marittima, Santa Fiora, Scarlino, Seggiano (Antonini & Antonini 2006). Widespread
Note: Another member of sect. *Arvenses* to which the comments under *A. essettei* apply.

1039. *Agaricus xanthodermus* Genev.
Fairly frequent 8.5 (1, 2, 5, 12, 16), Castiglione della Pescaia, Follonica, Roccastrada, Scarlino**;** Lit: Arcidosso, Monterotondo Marittimo, Seggiano (Antonini & Antonini 2006). Widespread, often synanthropic

Battarrea Pers.

1040. *Battarrea phalloides* (Dicks.) Pers.
Rare 1.5 (18), Follonica. *Quercus ilex,* Sand dunes

Bovista Pers.

1041. *Bovista aestivalis* (Bonord.) Demoulin (incl.: *Lycoperdon furfuraceum*)

Fairly frequent 7.5 (1, 5, 12, 14), Capalbio, Grosseto, Roccastrada; Lit: (18) (Barluzzi & al. 1996); Gavorrano (Antonini & Antonini 2006); Montieri (Pecoraro & al. 2021). Widespread

1042. *Bovista nigrescens* Pers.
Rare 1.0 (12). Mesophilous broad-leaved forests

1043. *Bovista plumbea* Pers.
Fairly frequent 7.0 (1, 2, 7, 12, 13, 14), Arcidosso, Massa Marittima. Widespread

1044. *Bovista polymorpha* Kreisel
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*

1045. *Bovista pusilla* (Batsch) Pers. (=? *Lycoperdon dermoxanthum* Vittad.)
Rare <1 Lit: Montieri (Pecoraro & al. 2021). Thermophilous deciduous oaks

Bovistella Morgan

1046. *Bovistella utriformis* (Bull.) Demoulin & Rebriev (= *Calvatia u.* (Bull.) Jaap)
Uncommon 2.5 (1), Montieri; Lit: Arcidosso, Montieri (Antonini & Antonini 2006). Mesophilous broad-leaved forests*, Fagus*

Calvatia Fr.

1047. *Calvatia gigantea* (Batsch) Lloyd (= *Langermannia g.* (Batsch) Rostk.)
Rare <1 Lit: Seggiano (Antonini & Antonini 2006). *Fagus* P

1048. *Calvatia excipuliformis* (Scop.) Perdeck (= *Lycoperdon e.* (Scop.) Pers.)
Fairly frequent 8.0 (1, 10, 11, 13, 14, 16), Castiglione della Pescaia; Lit: (18) (Barluzzi & al. 1996); Roccastrada (Antonini & Antonini 2006). Widespread

Chamaemyces Battarra ex Earle

1049. *Chamaemyces fracidus* (Fr.) Donk
Rare 1.0 (1). Mesophilous broad-leaved forests P

Chlorophyllum Massee

1050. *Chlorophyllum olivieri* (Barla) Vellinga (= *Macrolepiota o.* (Barla) Wasser; = *Chl. rhacodes* ss. Auct.)
Rare <1 Montieri. Mountain conifers

1051. *Chlorophyllum rhacodes* (Vittad.) Vellinga (= *C. brunneum* (Farl. & Burt) Vellinga; incl: var. *bohemica* (Wichanský) Bellù & Lanzoni; *Macrolepiota venenata* Bon)
Uncommon 2.5 Follonica, Montieri; Lit: (8), Roccastrada (Antonini & Antonini 2006). Mainly synanthropic, also Mountain conifers

Coprinus Pers.

1052. *Coprinus comatus* (O.F. Müll.) Pers.
Occasional 4.5 (1, 7, 10), Manciano, Sorano; Lit: Seggiano (Antonini & Antonini 2006). Widespread, mainly synanthropic

1053. *Coprinus spadiceisporus* Bogart
Rare 1.0 Lit: (17) (Cacialli & al. 1994). *Quercus ilex*

Crucibulum Tul. & C. Tul.

1054. *Crucibulum laeve* (Huds.) Kambly (= *C. crucibuliforme* (Scop.) V.S. White)
Fairly frequent 9.0 (1, 2, 4, 12, 15, 16), Scarlino; Lit: (18) (Barluzzi & al. 1996); Arcidosso, Montieri, Seggiano (Antonini & Antonini 2006). Widespread

Cyathus Haller

1055. *Cyathus olla* (Batsch) Pers.
Uncommon 3.5 (2, 5), Castiglione della Pescaia, Massa Marittima; Lit: (18) (Barluzzi & al. 1996). *Quercus ilex,* also synanthropic

1056. *Cyathus stercoreus* (Schwein.) De Toni
Rare 1.0 Lit: (15) (Doveri 2007). *Quercus ilex,* also synanthropic

1057. *Cyathus striatus* (Huds.) Willd.
Common >10. Widespread

Echinoderma (Locq. ex Bon) Bon

1058. *Echinoderma asperum* (Pers.) Bon (= *E. acutesquamosum* (Weinm.) Bon)
Fairly frequent 8.0 (1, 4, 6, 7, 11), Massa Marittima; Lit: Santa Fiora, Castel del Piano, Seggiano, Monterotondo Marittimo, Roccastrada (Antonini & Antonini 2006). Widespread

1059. *Echinoderma carinii* (Bres.) Bon
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex* P

1060. *Echinoderma echinaceum* (J.E. Lange) Bon
Uncommon 2.0 (1, 11). Mountain conifers

Lepiota (Pers.) Gray (incl: *Cystolepiota* Singer)

1061. *Lepiota brunneoincarnata* Chodat & C. Martín
Uncommon 3.5 (14), Scansano; Lit: (18) (Barluzzi & al. 1996); Monterotondo Marittimo, Grosseto (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks

1062. *Lepiota brunneolilacea* Bon & Boiffard
Rare <1 Lit: Grosseto (Candusso and Lanzoni 1990). Sand dunes

1063. *Lepiota boudieri* Bres. (= *L. fulvella* Rea)
Rare 1.0 (16). Mesophilous broad-leaved forests P

1064. *Lepiota castanea* Quél.
Locally common 10. *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

1065. *Lepiota clypeolaria* (Bull.) P. Kumm.
Common >10. Widespread

1066. *Lepiota clypeolarioides* Rea var. *armillata* Bon, Migl. & Cherubini
Uncommon 2.0 (9, 14). *Quercus ilex,* thermophilous deciduous oaks

1067. *Lepiota cristata* (Bolton) P. Kumm.
Common >10. Widespread, often synanthropic

1068. *Lepiota cystophora* Malençon (= *Cystolepiota c.* (Malençon) Bon)
Uncommon 3.5 (1, 11), Castell'Azzara; Lit: Gavorrano, Capalbio (Candusso and Lanzoni 1990). *Quercus ilex,* thermophilous deciduous oaks, Coastal pines

1069. *Lepiota cystophoroides* Joss. & Riousset
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). Coastal pines

1070. *Lepiota echinella* Quél. & G.E. Bernard (= *L. rhodorhyza* Romagn. & Locq. ex Locq.; = *L. setulosa* J.E. Lange)
Locally common 10. *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

1071. *Lepiota farinolens* Bon & G. Riousset

Rare 1.0 (14). Thermophilous deciduous oaks
GenBank accession number: OM403081
Note: A taxon of the *L. pseudolilacea* Hujisman group, which we determined as such initially. Afterwards, genetic analysis showed a complete match of our collection with *L. farinolens*, a species which should be characterized by a mealy smell. We were kindly provided a Latium collection by V. Migliozzi which had been named *L. pseudolilacea* as well, also identical to *L. farinolens* after genetic analysis. A farinaceous odour of the basidiomes was not perceived by us or Migliozzi.

1072. *Lepiota felina* (Pers.) P. Karst.
Rare 1.0 (2). *Quercus ilex*

1073. *Lepiota forquignonii* Quél.
Occasional 4.0 (6, 12, 14) Lit: (18) (Barluzzi & al. 1996). Mainly thermophilous deciduous oaks

1074. *Lepiota grangei* (Eyre) Kühner
Rare 1.0 (16). Mesophilous broad-leaved forests P

1075. *Lepiota griseovirens* Maire
Uncommon 3.5 (1, 14), Capalbio; Lit: (10) (Candusso and Lanzoni 1990). *Quercus ilex,* thermophilous deciduous oaks, Coastal Pines

1076. *Lepiota helveola* Bres.
Uncommon 3.5 (5, 10), Castiglione della Pescaia; Lit: (18) (Barluzzi & al. 1996). Mainly *Quercus ilex*

1077. *Lepiota hymenoderma* D.A. Reid
Rare 1.0 (17) *Quercus ilex*

1078. *Lepiota ignivolvata* Bousset & Joss. ex Joss.
Uncommon 2.5 (7, 11) Lit: Castel del Piano (Antonini & Antonini 2006). Mesophilous broad-leaved forests*, Fagus*

1079. *Lepiota kühneriana* Locq.
Rare <1 Roccalbegna. Mesophilous broad-leaved forests

1080. *Lepiota lilacea* Bres.
Uncommon 3.5 (2, 10), Follonica; Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*

1081. *Lepiota locquinii* Bon
Rare 1.0 (18). *Quercus ilex*

1082. *Lepiota ochraceosulfurescens* Locq. ex Bon
Rare 1.5 (14), Scansano. Thermophilous deciduous oaks

1083. *Lepiota oreadiformis* Velen.
Rare 1.0 Sorano; Lit: Castel del Piano (Candusso and Lanzoni 1990). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1084. *Lepiota pseudohelveola* Kühner ex Hora (incl.: var. *sabulosa* Bon)
Occasional 5.5 (6, 10, 12, 16) Lit: (18) (Antonini & Antonini 2006); Civitella-Paganico (Candusso-Lanzoni 1990). *Quercus ilex,* thermophilous deciduous oaks

1085. *Lepiota pyrochroa* Malençon
Rare 1.0 (10). *Quercus ilex* P

1086. *Lepiota sistrata* (Fr.) Quél. (= *Cystolepiota s.* (Fr.) Singer ex Bon & Bellù; incl.: *C. seminuda* (Lasch) Bon)
Locally common 10. Thermophilous deciduous oaks, mesophilous broad-leaved forests, sometimes *Quercus ilex*

1087. *Lepiota speciosa* (Trimb.) Trimb. & Augias
Rare 1.0 (11). Mountain conifers

1088. *Lepiota subgracilis* Kühner
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*

1089. *Lepiota subincarnata* J.E. Lange (= *L. josserandii* Bon & Boiffard)
Fairly frequent 8.0 (2, 5, 9, 10, 13), Scansano, Orbetello; Lit: (18) (Barluzzi & al. 1996); Gavorrano (Antonini & Antonini 2006); Montieri (Pecoraro & al. 2021). *Quercus ilex,* thermophilous deciduous oaks, often synanthropic

1090. *Lepiota ventriosospora* D.A. Reid (= *L. magnispora* Murrill)
Uncommon 3.5 (7, 8) **Lit:** Arcidosso, Montieri, Roccastrada (Antonini & Antonini 2006). *Fagus*, mesophilous broad-leaved forests

1091. *Lepiota xanthophylla* P.D. Orton
Rare 1.5 (14) Lit: Capalbio (Candusso and Lanzoni 1990). Mesophilous broad-leaved forests, thermophilous deciduous oaks P

Leucoagaricus Locq. ex Singer (incl.: *Sericeomyces* Heinem.)

1092. *Leucoagaricus aurantiovergens* A. Gennari & Migl.
Rare 1.0 Follonica; Lit: Orbetello (Gennari and Migliozzi 1999). *Quercus ilex* P

1093. *Leucoagaricus badhamii* (Berk. & Broome) Singer (= *Leucocoprinus b.* (Berk. & Broome) Locq.)
Rare 1.0 (16). Synanthropic

1094. *Leucoagaricus bresadolae* (Schulzer) Bon & Boiffard (= *L. americanus* (Peck) Vellinga)
Rare 1.0 Castel del Piano; Lit: Castel del Piano (Antonini & Antonini 2006). Mesophilous broad-leaved forests

1095. *Leucoagaricus croceovelutinus* (Bon & Boiffard) Bon
Rare 1.0 (18). *Quercus ilex*

1096. *Leucoagaricus gauguei* Bon & Boiffard
Rare 1.5 (9), Capalbio. *Quercus ilex,* thermophilous deciduous oaks

1097. *Leucoagaricus leucothites* (Vittad.) Wasser
Fairly frequent 7.0 (1, 5, 11, 12, 16), Follonica, Sorano; Lit: Roccastrada, Castel del Piano (Antonini & Antonini 2006). Widespread, mainly synanthropic

1098. *Leucoagaricus littoralis* (Menier) Bon & Boiffard
Uncommon 2.0 (10) Lit: (18) (Barluzzi & al. 1996). *Quercus ilex* P

1099. *Leucoagaricus medioflavoides* Bon f. *subviscidulus* (Bon) Consiglio & Contu
Uncommon 2.0 (9, 16). *Quercus ilex,* thermophilous deciduous oaks

1100. *Leucoagaricus menieri* (Sacc.) Singer (= *L. arenicola* Menier)
Uncommon 2.0 (17) Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*, Sand dunes P

1101. *Leucoagaricus pilatianus* (Demoulin) Bon & Boiffard
Uncommon 3.0 (9, 14) Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*, synanthropic
Note: *Leucoagaricus pseudopilatianus* Migl., Rocabruna & Tabarés is a closely related species, whose difference from *L. pilatianus* should mainly lie in the shape of the pileus hyphae. We did not attempt to differentiate the two species.

1102. *Leucoagaricus pulverulentus* (Huijsman) Bon (= *Pulverolepiota p.* (Huijsman) Bon
Uncommon 2.0 (4, 16). Mesophilous broad-leaved forests, thermophilous deciduous oaks

1103. *Leucoagaricus purpureorimosus* Bon & Boiffard (=? *L. purpureolilacinus* Huijsman)
Uncommon 3.0 (9, 10, 16). *Quercus ilex,* sometimes thermophilous deciduous oaks

1104. *Leucoagaricus roseilividus* (Murrill) E. Ludw. (= *L. marriageae* (D.A. Reid) Bon)
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*

1105. *Leucoagaricus serenus* (Fr.) Bon & Boiffard
Fairly frequent 8.5 (1, 5, 11, 12, 13, 16) Lit: (18) (Barluzzi & al. 1996); Castiglione della Pescaia, Gavorrano, Massa Marittima (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1106. *Leucoagaricus sublittoralis* (Kühner ex Hora) Singer
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex* P

1107. *Leucoagaricus subvolvatus* (Malençon & Bertault) Bon
a. var. *subvolvatus*
Uncommon 2.0 (10) Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*
b. var. *pictus* (Malençon & Bertault) Bon
Rare <1 Sorano synanthropic

1108. *Leucoagaricus wichanskyi* (Pilát) Bon & Boiffard
Rare 1.0 (9). *Quercus ilex* P

Leucocoprinus Pat.

1109. *Leucocoprinus birnbaumii* (Corda) Singer (= *L. flos-sulphuris* (Schnizl.) Cejp)
Rare 1.5 (2), Follonica. Synanthropic

1110. *Leucocoprinus straminellus* (Bagl.) Narducci & Caroti
Rare 1.0 (17). *Quercus ilex*

Lycoperdon Pers.

1111. *Lycoperdon atropurpureum* Vittad.
Occasional 4.5 Castel del Piano, Castiglione della Pescaia; Lit: (5), Gavorrano, Scarlino (Antonini & Antonini 2006); (18) (Barluzzi & al. 1996); Seggiano (Barluzzi & al. 1992). Mainly *Quercus ilex*

1112. *Lycoperdon decipiens* Durieu & Mont.
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*

1113. *Lycoperdon echinatum* Pers.
Uncommon 3.0 (1, 7, 12). *Fagus,* mesophilous broad-leaved forests, rare elsewhere

1114. *Lycoperdon excipuliforme* (Scop.) Pers. (= *Calvatia e.* (Scop.) Perdeck)
Fairly frequent 7.0 (1, 10, 11, 13, 14, 16), Castiglione della Pescaia; Lit: Roccastrada (Antonini & Antonini 2006). Widespread

1115. *Lycoperdon lividum* Pers.
Uncommon 2.0 Castiglione della Pescaia; Lit: (18) (Barluzzi & al. 1996); Montieri (Pecoraro & al. 2021). *Quercus ilex,* thermophilous deciduous oaks

1116. *Lycoperdon mammiforme* Pers.
Occasional 4.5 (1, 7, 11) Lit: Seggiano (Barluzzi & al. 1992); Massa Marittima, Santa Fiora (Antonini & Antonini 2006). Mainly mesophilous broad-leaved forests and *Fagus*

1117. *Lycoperdon molle* Pers. s.l.
Fairly frequent 8.0 (1, 5, 9, 11, 12, 16), Scarlino; Lit: Castel del Piano, Massa Marittima (Antonini & Antonini 2006); Montieri (Pecoraro & al. 2021). Widespread

1118. *Lycoperdon nigrescens* Pers. (= *L. foetidum* Bonord.)
Uncommon 2.0 (1), Castiglione della Pescaia; Lit: Montieri (Pecoraro & al. 2021). *Quercus ilex,* thermophilous deciduous oaks

1119. *Lycoperdon perlatum* Pers.
Common >10. Widespread

1120. *Lycoperdon pratense* Pers. (= *Vascellum p.* (Pers.) Kreis.)
Rare 1.5 (12) Lit: Arcidosso (Antonini & Antonini 2006). Thermophilous deciduous oaks

1121. *Lycoperdon pyriforme* Schaeff.
Occasional 6.0 (7, 11), Massa Marittima; Lit: (5), Montieri, Scarlino, Seggiano (Antonini & Antonini 2006); Castiglione della Pescaia, Gavorrano (Perini & al. 1989). *Fagus,* mesophilous broad-leaved forests, sometimes thermophilous deciduous oaks, rare *Quercus ilex*

1122. *Lycoperdon radicatum* Durieu & Mont. (= *Bovistella r.* (Durieu & Mont.) Pat.)
Rare <1 Lit: Scarlino (Antonini & Antonini 2006). *Quercus ilex*

1123. *Lycoperdon umbrinum* Pers.
Occasional 4.5 (1, 11) Lit: (7), Gavorrano, Montieri, Seggiano (Antonini & Antonini 2006). Mesophilous broad-leaved forests, *Fagus,* rare *Quercus ilex* or thermophilous deciduous oaks

Macrolepiota Singer

1124. *Macrolepiota excoriata* (Schaeff.) Wasser
Uncommon 2.5 (14), Sorano, Roccalbegna; Lit: Arcidosso (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, synanthropic

1128. *Macrolepiota fuligineosquarrosa* Malençon
Uncommon 2.0 (5, 18). *Quercus ilex*

1129. *Macrolepiota konradii* (Huijsman ex P.D. Orton) M.M. Moser
Uncommon 3.0 (1, 12) Lit: Castiglione della Pescaia, Roccastrada (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks, rare mesophilous broad-leaved forests

1130. *Macrolepiota mastoidea* (Fr.) Singer
Common >10. Widespread

1131. *Macrolepiota phaeodisca* Bellù
Uncommon 3.5 (10) Lit: (5) (Antonini & Antonini 2006); (18) (Barluzzi & al. 1996); Orbetello (Candusso and Lanzoni 1990). *Quercus ilex*

1132. *Macrolepiota procera* (Scop.) Singer
a. var. *procera*
Locally common 10. Mesophilous broad-leaved forests*, Fagus*
b. var. *permixta* (Barla) Quadr. & Lunghini
Locally common 10. *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests
c. var. *fuliginosa* (Barla) Bellù & Lanzoni
Uncommon 2.0 (5), Roccastrada; Lit: Roccastrada (Antonini & Antonini 2006). *Quercus ilex*

1133. *Macrolepiota rickenii* (Velen.) Bellù & Lanzoni (= *M. gracilenta* (Krombh.) Wasser)
Uncommon 3.0 (4, 5) Lit: (6) (Candusso and Lanzoni 1990). *Quercus ilex*

1134. *Macrolepiota subsquarrosa* (Locq.) Bon
Rare 1.0 (12). Thermophilous deciduous oaks P

Melanophyllum Velen.

1135. *Melanophyllum haematospermum* (Bull.) Kreisel
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*

Mycenastrum Desv.

1136. *Mycenastrum corium* (Guers.) Desv.

Rare <1 Orbetello. *Quercus ilex* P

Tulostoma Pers.
Note: A recent study by Jeppson & al. (2017) has shed light on the previously unsuspected species diversity of *Tulostoma* in Europe, containing several cryptic species. The present records are all based on morphological species concepts (e.g.: Sarasini, 2005).

1137. *Tulostoma beccarianum* Bres.
Rare 1.0 (18). *Quercus ilex*

1138. *Tulostoma brumale* Pers.
Occasional 5.0 (2, 12, 14, 16) Lit: Castel del Piano (Antonini & Antonini 2006); Montieri (Pecoraro & al. 2021). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

1139. *Tulostoma fimbriatum* Fr.
Rare 1.0 (12). Thermophilous deciduous oaks

1140. *Tulostoma giovanellae* Bres.
Rare <1 Follonica. Coastal pines

1141. *Tulostoma kotlabae* Pouzar
Rare 1.5 Castiglione della Pescaia; Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*

1142. *Tulostoma melanocyclum* Bres.
Rare 1.0 (12). Thermophilous deciduous oaks

1143. *Tulostoma squamosum* (J.F. Gmel.) Pers.
Rare <1 Lit: Montieri (Pecoraro & al. 2021). Mesophilous broad-leaved forests

Hydnangiaceae Gäum. & C.W. Dodge

Laccaria Berk. & Broome

1144. *Laccaria affinis* (Singer) Bon (= *L. laccata* (Scop.) Cooke var. *pallidifolia* (Peck) Peck)
Common >10. Widespread
Note: Here most reports of *L. laccata* from literature are assigned.

1145. *Laccaria amethystina* Cooke
Fairly frequent 6.5 (1, 7, 8, 11), Montieri; Lit: Montieri, Santa Fiora (Antonini & Antonini 2006); Gavorrano (Perini & al. 1989); Roccastrada (Barluzzi & al. 1992). *Fagus,* Mountain Conifers, mesophilous broad-leaved forests, rare thermophilous deciduous oaks

1146. *Laccaria bicolor* (Maire) P.D. Orton
Rare <1 Orbetello. Coastal pines

1147. *Laccaria laccata* (Scop.) Cooke ss.
Uncommon 2.5 (11, 14) Lit: Monterotondo Marittimo (AGMT 2012). Mesophilous broad-leaved forests, *Quercus ilex*
Note: This species seems to be quite rare in southern Tuscany. Many bibliographical citations are likely misidentifications with *L. affinis*.

1148. *Laccaria lateritia* Malençon
Rare <1 Lit: Giglio (Gargano & al. 2010). *Quercus ilex* P

1149. *Laccaria macrocystidiata* (Migl. & Lavorato) Pázmány
Uncommon 2.5 (4), Massa Marittima, Gavorrano; Lit: Castel del Piano (Cacialli & al. 1994). Thermophilous deciduous oaks, Mountain conifers

1150. *Laccaria tetraspora* Singer
Rare <1 Lit: Isola del Giglio (Gargano & al. 2010). *Quercus ilex*

1151. *Laccaria tortilis* (Bolton) Cooke
Rare 1.0 (16). Mesophilous broad-leaved forests

Psathyrellaceae Locq.
Note: We follow the novel taxonomy of Wächter and Melzer (2020).

Candolleomyces Wächter & A. Melzer (= *Psathyrella* (Fr). Quél. pp.)

1152. *Candolleomyces candolleanus* (Fr). Wächter & A. Melzer
C>10. Widespread, often synanthropic

1153. *Candolleomyces leucotephrus* (Berk. & Broome) Wächter & A. Melzer
Rare 1.0 (4). *Quercus ilex* P

Coprinellus P. Karst. (= *Coprinus* Pers. sect. *Micacei*)

1154. *Coprinellus curtus* (Kalchbr.) Vilgalys, Hopple & Johnson
Rare <1 Lit: Grosseto (Cacialli & al. 1994). *Quercus ilex,* Coastal pines

1155. *Coprinellus disseminatus* (Pers.) J.E. Lange
C>10. Widespread

1156. *Coprinellus domesticus* (Bolton) Vilgalys, Hopple & Johnson
Uncommon 3.5 (14, 18), Arcidosso, Follonica; Lit: Castiglione della Pescaia (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks, synanthropic

1157. *Coprinellus micaceus* (Bull.) Vilgalys, Hopple & Johnson
Common >10. Widespread, often synanthropic

1158. *Coprinellus silvaticus* (Peck) Gminder
Rare 1.5 Lit: (5), Scarlino (Perini & al. 1989). *Quercus ilex,* thermophilous deciduous oaks

1159. *Coprinellus truncorum* (Scop.) Redhead, Vilgalys & Moncalvo
Occasional 4.0 (9, 12, 14, 17). Widespread, often synanthropic

1160. *Coprinellus xanthothrix* (Romagn.) Vilgalys, Hopple & Johnson
Occasional 4.0 (5, 7, 13, 18). *Quercus ilex,* thermophilous deciduous oaks*, Fagus*

Coprinopsis P. Karst. (= *Coprinus* Pers. pp.)

1161. *Coprinopsis atramentaria* (Bull.) Redhead, Vilgalys & Moncalvo
Occasional 4.0 (1, 5) Lit: (7), Roccastrada, Seggiano (Antonini & Antonini 2006). Widespread

1162. *Coprinopsis cinerea* (Schaeff.) Redhead, Vilgalys & Moncalvo
Rare 1.0 Lit: (11) (Pecoraro & al. 2021). *Fagus*

1163. *Coprinopsis cortinata* (J.E. Lange) Gminder
Rare 1.0 (12). Thermophilous deciduous oaks

1164. *Coprinopsis cothurnata* (Godey) Redhead, Vilgalys & Moncalvo
Uncommon 2.0 (12, 14). Widespread

1165. *Coprinopsis insignis* (Peck) Redhead, Vilgalys & Moncalvo (= *Coprinus alopecia* Lasch)
Uncommon 2.5 (12, 14) Lit: Massa Marittima (Antonini & Antonini 2006). Mainly thermophilous deciduous oaks

1166. *Coprinopsis lagopus* (Fr.) Redhead, Vilgalys & Moncalvo
Uncommon 3.0 (1, 12, 14). Mesophilous broad-leaved forests, thermophilous deciduous oaks

1167. *Coprinopsis melanthina* (Fr.) Örstadius & E. Larss. (= *Psathyrella m.* (Fr.) Kits van Wav.)
Rare 1.5 (16), Scansano. Mesophilous broad-leaved forests, *Quercus ilex*

1168. *Coprinopsis nivea* (Pers.) Redhead, Vilgalys & Moncalvo
Rare 1.0 (11) (Pecoraro & al. 2021). Mesophilous broad-leaved forests

1169. *Coprinopsis picacea* (Bull.) Redhead, Vilgalys & Moncalvo
Common >10. Widespread, absent *Fagus*

Homophron (Britzelm.) Örstadius & E. Larss.

1170. *Homophron spadiceum* (P. Kumm.) Örstadius & E. Larss. (= *Psathyrella s.* (P. Kumm.) Singer)
Rare 1.0 (14). Thermophilous deciduous oaks P

Lacrymaria Pat.

1171. *Lacrimaria lacrymabunda* (Bull.) Pat.
Uncommon 3.5 (13), Massa Marittima, Montieri, Civitella-Paganico; Lit: (18) (Barluzzi & al. 1996).
Widespread

Narcissea Wächter & A. Melzer

1172. *Narcissea patouillardii* (Quél.) Wächter & A. Melzer (= *Coprinus p.* Quél.)
Rare 1.0 Roccastrada; Lit: Grosseto (Cacialli & al. 1994). *Quercus ilex*, Coastal pines

Parasola Redhead, Vilgalys & Hopple

1173. *Parasola conopilus* (Fr.) Örstadius & E. Larss. (= *Psathyrella c.* (Fr.) A. Pearson & Dennis)
Common >10. Widespread

1174. *Parasola leiocephala* (P.D. Orton) Redhead, Vilgalys & Hopple
Common >10. Widespread

Psathyrella (Fr.) Quél.

1175. *Psathyrella ammophila* (Durieu & Lév.) P.D. Orton
Uncommon 2.5 (10) Lit: (18) (Barluzzi & al. 1996); Castiglione della Pescaia (Antonini & Antonini 2006).
Sand dunes

1176. *Psathyrella bipelllis* (Quél.) A.H. Sm.
Uncommon 2.0 (2, 14). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1177. *Psathyrella cotonea* (Quél.) Konrad & Maubl.
Rare 1.0 (7). *Fagus*

1178. *Psathyrella dicrani* (A.E. Jansen) Kits van Wav.
Uncommon 2.5 (8, 12) Lit: Montieri (Leonardi & al. 2010). Mesophilous broad-leaved forests, thermophilous deciduous oaks

1179. *Psathyrella fulvescens* (Romagn.) M.M. Moser ex A.H. Sm.
Rare 1.0 (14). Thermophilous deciduous oaks

1180. *Psathyrella fusca* (J.E. Lange) A. Pearson
Rare 1.0 Lit: (11) (Pecoraro & al. 2021). *Fagus*

1181. *Psathyrella gracilis* (Fr.) Quél. (= *P. corrugis* (Pers.) Konrad & Maubl.)
Occasional 4.0 (4, 9, 11, 16). Widespread

1182. *Psathyrella lutensis* (Romagn.) Bon
Rare <1 Lit: Isola del Giglio (Gargano & al. 2010). *Quercus ilex*

1183. *Psathyrella murcida* (Fr.) Kits van Wav.
Rare 1.0 Lit: (11) (Pecoraro & al. 2021). *Fagus*

1184. *Psathyrella obtusata* (Pers.) A.H. Sm.
Occasional 4.5 (1, 4, 12), Scansano; Lit: (11) (Pecoraro & al. 2021). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

1185. *Psathyrella ochracea* (Romagn.) M.M. Moser ex Kits van Wav.
Rare 1.0 (12). Mesophilous broad-leaved forests

1186. *Psathyrella panaeoloides* (Maire) Arnolds
Rare <1 Scansano. Synanthropic

1187. *Psathyrella piluliformis* (Bull.) P.D. Orton
Fairly frequent 6.5 (1, 5, 8, 11, 16), Seggiano; Lit: Montieri, Castel del Piano (Antonini & Antonini 2006). Mainly mesophilous broad-leaved forests

1188. *Psathyrella prona* (Fr.) Gillet (incl.: various intraspecific taxa)
Occasional 4.5 (9, 12, 16) Lit: (11), Montieri (Pecoraro & al. 2021). Widespread, often synanthropic

1189. *Psathyrella pseudogracilis* (Romagn.) M.M. Moser
Rare 1.0 (7). *Fagus*

1190. *Psathyrella romagnesiana* Bon
Rare 1.0 (16). Thermophilous deciduous oaks

1191. *Psathyrella senex* (Peck) A.H. Sm.
Uncommon 2.0 (11, 14). Thermophilous deciduous oaks

1192. *Psathyrella spadiceogrisea* (Schaeff.) Maire
Common >10. Widespread, often synanthropic

1193. *Psathyrella tephrophylla* (Romagn.) Bon
Rare 1.0 (12). Thermophilous deciduous oaks P

Tulosesus Wächter & A. Melzer

1194. *Tulosesus impatiens* (Fr.) Wächter & A. Melzer (= *Coprinus i.* Fr.)
Rare 1.0 (9). Thermophilous deciduous oaks

Bolbitiaceae Singer

Bolbitius Fr.

1195. *Bolbitius vitellinus* (Pers.) Fr. (= *B. titubans* (Bull.) Fr.)
Common >10. Widespread, mainly synanthropic

Conocybe Fayod

1196. *Conocybe ambigua* Kühner ex Watling
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*

1197. *Conocybe antipus* (Lasch.) Fayod
Rare <1 Lit: Massa Marittima (Trassinelli 2014). Thermophilous deciduous oaks

1198. *Conocybe brunneola* Kühner ex Kühner & Watling
Uncommon 2.0 (12) Lit: (11) (Pecoraro & al. 2021). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1199. *Conocybe cyanopus* (Atk.) Kühner
Rare <1 Lit: Montieri (Pecoraro & al. 2021). Thermophilous deciduous oaks

1200. *Conocybe dumetorum* (Velen.) Svrček
Uncommon 2.0 (12, 14). Thermophilous deciduous oaks

1201. *Conocybe fuscimarginata* (Murrill) Singer
Rare 1.0 (14). Synanthropic (dung)

1202. *Conocybe macrocephala* Kühner & Watling
Rare 1.0 (16). Mesophilous broad-leaved forests

1203. *Conocybe macrospora* (Atk.) Hauskn. (= *C. rubiginosa* Watl.)
Rare 1.0 Lit: (11) (Pecoraro & al. 2021). Mesophilous broad-leaved forests

1204. *Conocybe merdaria* Arnolds & Hauskn.
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). Synanthropic

1205. *Conocybe moseri* Watling
Rare 1.0 Lit: Montieri (Pecoraro & al. 2021). Thermophilous deciduous oaks

1206. *Conocybe ochrostriata* Hauskn. (= *C. ochracea* (Kühner) Singer pp.)
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*

1207. *Conocybe pulchella* (Velen.) Hauskn. & Svr
Rare 1.0 Lit: (11) (Pecoraro & al. 2021, as *C. pseudopilosella* Kühner & Watling). Mesophilous broad-leaved forests

1208. *Conocybe rickeni* (Jul. Schäff.) Kühner
Rare <1 Lit: Montieri (Pecoraro & al. 2021). Thermophilous deciduous oaks

1209. *Conocybe semiglobata* Kühner & Watling
Uncommon 2.0 Lit: (11), Montieri (Pecoraro & al. 2021); Capalbio (Hausknekt 2009). *Quercus ilex,* mesophilous broad-leaved forests

1210. *Conocybe siennophylla* (Berk. & Broome) Singer
Uncommon 2.0 Lit: (11) (Pecoraro et al 2021); (18) (Barluzzi & al. 1996). *Quercus ilex,* mesophilous broad-leaved forests

1211. *Conocybe tenera* (Schaeff.) Kühner
Rare 1.5 Lit: (11), Montieri (Pecoraro & al. 2021). Mesophilous broad-leaved forests

Descolea Singer

1212. *Descolea alba* (Klotzsch) Kuhar, Nouhra & M.E. Sm. (= *Hymenogaster a.* (Klotzsch) Berk.)
Rare <1 Lit: Follonica (Gori 2009). Synanthropic (Eucaliptus)

Pholiotina Fayod

1213. *Pholiotina aporos* Kits van Wav.
Rare 1.0 (4). *Quercus ilex*

1214. *Pholiotina arrhenii* (Fr.) Kits van Wav.
Rare <1 Sorano. Mesophilous broad-leaved forests

1215. *Pholiotina brunnea* J.E. Lange & Kühner ex Watling
Occasional 5.5 (5, 7, 12, 14, 16) Lit: Castiglione della Pescaia (Antonini & Antonini 2006). Mainly thermophilous deciduous oaks, mesophilous broad-leaved forests

1216. *Pholiotina mairei* Kühner ex Watling
Uncommon 2.0 (4, 14). *Quercus ilex,* thermophilous deciduous oaks

1217. *Pholiotina teneroides* (J.E. Lange) Kits van Wav.
Rare 1.0 (14). Synanthropic

1218. *Pholiotina velata* (Velen.) Watling (= *Conocybe appendiculata* J.E. Lange & Kühner)
Rare 1.0 (8). Synanthropic

1219. *Pholiotina vexans* P.D. Orton (= *Conocybe blattaria* (Fr.) Kühner ss. Auct. pl.)
Rare <1 Lit: Castiglione della Pescaia (Antonini & Antonini 2006). *Quercus ilex*

Strophariaceae Singer & A.H. Sm.

Agrocybe Fayod

1220. *Agrocybe dura* (Bolton) Singer (= *A. molesta* (Lasch) Singer)
Uncommon 3.0 (2, 16), Follonica; Lit: Roccastrada (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, also synanthropic

1221. *Agrocybe pediades* (Fr.) Fayod
Rare 1.0 Lit: (11) (Pecoraro & al. 2021). Mesophilous broad-leaved forests

1222. *Agrocybe praecox* (Pers.) Fayod
Occasional 6.0 (4, 7, 12, 16) Lit: (11) (Pecoraro & al. 2021); Roccastrada, Castel del Piano (Antonini & Antonini 2006). Widespread

1223. *Agrocybe pusiola* (Fr.) R. Heim
Uncommon 3.0 (14) Lit: (11) (Pecoraro & al. 2021); (18) (Barluzzi & al. 1996). Thermophilous deciduous oaks P

1224. *Agrocybe semiorbicularis* (Bull.) Fayod (incl.: *A. pediades* (Fr.) Fayod)
Uncommon 3.5 (5, 11, 16) Lit: Montieri (Pecoraro & al. 2021). *Quercus ilex,* mesophilous broad-leaved forests

1225. *Agrocybe vervacti* (Fr.) Singer
Uncommon 3.5 (11, 15, 16), Massa Marittima. Thermophilous deciduous oaks, mesophilous broad-leaved forests

Cyclocybe Velen.

1226. *Cyclocybe cylindracea* (DC.) Vizzini & Angelini (= *Agrocybe c.* (DC.) Maire; incl.: *C. aegerita* (V. Brig.) Vizzini)
Locally common 10. Mainly *Populus,* often synanthropic

1227. *Cyclocybe erebia* (Fr.) Vizzini & Matheny (= *Agrocybe e.* (Fr.) Kühner ex Singer; incl.: *Agrocybe ombrophila* (Weinm.) Konrad & Maubl. ss. Auct.)
Rare 1.5 (7), Sorano. *Fagus,* mesophilous broad-leaved forests

Deconica (W.G. Sm.) P. Karst. (= *Psilocybe* (Fr.) P. Kumm. p.p.)

1228. *Deconica coprophila* (Bull.) P. Karst.
Uncommon 2.0 Lit: (11) (Pecoraro & al. 2021); (18) (Barluzzi & al. 1996). Synanthropic (dung)

1229. *Deconica crobula* (Fr.) Romagn.
Uncommon 2.0 (12, 15). Thermophilous deciduous oaks
Note: the separation from *D. inquilina* is not very clear: we based it only on spore dimension (see Noordeloos 2011), while macroscopic characters, such as carpophore dimension and veil abundance seem more variable.

1230. *Deconica inquilina* (Fr.) Romagn.

Rare 1.5 (16) Lit: Roccastrada (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1231. *Deconica muscorum* P.D. Orton
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*

1232. *Deconica phyllogena* (Sacc.) Noordel. (= *Psilocybe rhombispora* (Britz.) Sacc.)
Rare 1.0 (14). Thermophilous deciduous oaks

1233. *Deconica subviscida* Peck var. *velata* (Noordel. & Verduin) Noordel.
Uncommon 2.0 (14, 15). Thermophilous deciduous oaks

Hemipholiota (Singer) Romagn.

1234. *Hemipholiota populnea* (Pers.) Bon (= *Pholiota p.* (Pers.) Kuyper & Tjall.-Beuk.)
Rare <1 Lit: Roccastrada (Antonini & Antonini 2006). Riparian, synanthropic

Hypholoma (Fr.) P. Kumm.

1235. *Hypholoma capnoides* (Fr.) P. Kumm.
Uncommon 2.0 Lit: (7), Santa Fiora, Montieri (Antonini & Antonini 2006). Mesophilous broad-leaved forests, *Fagus,* Mountain conifers

1236. *Hypholoma elongatum* (Pers.) Ricken
Rare <1 Lit: Roccastrada (Antonini & Antonini 2006). Mesophilous broad-leaved forests P

1237. *Hypholoma ericaeoides* P.D. Orton
Rare 1.0 (16). Mesophilous broad-leaved forests P

1238. *Hypholoma fasciculare* (Huds.) P. Kumm.
Common >10. Widespread

1239. *Hypholoma lateritium* (Schaeff.) P. Kumm. (= *H. sublateritium* (Fr.) Quél.)
Locally common 10. Mainly mesophilous broad-leaved forests, *Fagus*

Kuehneromyces Singer & A.H. Sm.

1240. *Kuehneromyces mutabilis* (Schaeff.) Singer & A.H. Sm. (= *Pholiota m.* (Schaeff.) P. Kumm.)
Uncommon 2.5 (7) Lit: Castel del Piano, Santa Fiora, Seggiano (Antonini & Antonini 2006). *Fagus*

Leratiomyces Bresinsky & Manfr. Binder ex Bridge, Spooner, Beever & D.C. Park

1241. *Leratiomyces ceres* (Cooke & Massee) Spooner & Bridge (= *Stropharia aurantiaca* (Cooke) ss. Auct.)
Rare 1.5 (2), Massa Marittima. Riparian, synanthropic

1242. *Leratiomyces squamosus* (Pers.) Bridge & Spooner (= *Stropharia s.* (Pers.) Quél.)
Rare 1.5 (7), Montieri. *Fagus*

Panaeolus (Fr.) Quél.

1243. *Panaeolus acuminatus* (P. Kumm.) Quél.
Rare 1.5 Lit: (11), Montieri (Pecoraro & al. 2021). *Fagus*

1244. *Panaeolus fimicola* (Pers.) Gillet
Uncommon 2.0 Massa Marittima; Lit: (11), Montieri (Pecoraro & al. 2021). Synanthropic (dung)

1245. *Panaeolus papilionaceus* (Bull.) Quél. (= *P. campanulatus* (L.) Quél.; incl.: *P. retirugus* (Fr.) Gillet ss. Auct.; *P. sphinctrinus* (Fr). Quél.)
Uncommon 2.5 (1) Lit: (11) (Pecoraro & al. 2021); Santa Fiora (Antonini & Antonini 2006). Mainly synanthropic

1246. *Panaeolus rickenii* Hora
Uncommon 3.0 (2, 11, 14). Thermophilous deciduous oaks*, Quercus ilex*

1247. *Panaeolus semiovatus* (Sowerby) S. Lundell & Nannf.
Rare <1 Arcidosso. Synanthropic (dung)

Panaeolina Maire

1248. *Panaeolina foenisecii* (Pers.) Maire (= *Panaeolus f.* (Pers.) J. Schröt.)
Locally common 10. Synanthropic

Pholiota (Fr.) P. Kumm.

1249. *Pholiota flammans* (Batsch) P. Kumm.
Rare <1 Lit: Santa Fiora (Antonini & Antonini 2006). Mountain conifers

1250. *Pholiota lucifera* (Lasch.) Quél.
Rare 1.0 (12). Riparian

1251. *Pholiota squarrosa* (Vahl) P. Kumm.
Rare <1 Lit: Santa Fiora (Antonini & Antonini 2006). *Fagus* P

1252. *Pholiota tuberculosa* (Schaeff.) P. Kumm.
Uncommon 2.0 (4, 12). Thermophilous deciduous oaks

Protostropharia Redhead, Moncalvo & Vilgalys (= *Stropharia* pp.)

1253. *Protostropharia luteonitens* (Fr.) Redhead
Rare <1 Lit: Montieri (Leonardi & al. 2010). Mesophilous broad-leaved forests

1254. *Protostropharia semiglobata* (Batsch) Redhead, Moncalvo & Vilgalys
Uncommon 2.5 Lit: (7) (Antonini & Antonini 2006); (11) (Pecoraro & al. 2021); Montieri (Barluzzi & al. 1992). Synanthropic

Pyrrhulomyces E.J. Tian & Matheny

1255. *Pyrrhulomyces astragalinus* (Fr.) E.J. Tian & Matheny (= *Pholiota a.* (Fr.) Singer)
Rare 1.0 (11). Mountain conifers

Stropharia (Fr.) Quél.

1256. *Stropharia aeruginosa* (Curtis) Quél.
Uncommon 3.0 (3) Lit: (7), Seggiano (Antonini & Antonini 2006); Montieri (Barluzzi & al. 1992). Mesophilous broad-leaved forests, *Fagus,* Mountain conifers

1257. *Stropharia caerulea* Kreisel (= *S. cyanea* P.D. Orton)
Uncommon 3.5 (1, 8, 11) Lit: Seggiano (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, also synanthropic

1258. *Stropharia coronilla* (Bull.) W Saunders & W.G. Sm.
Fairly frequent 8.5 (1, 2, 10, 12, 15, 16), Sorano, Scansano; Lit: Seggiano, Roccastrada (Antonini & Antonini 2006); Montieri (Barluzzi & al. 1992). Mainly synanthropic

1259. *Stropharia rugosoannulata* Farl. ex Murrill
Rare <1 Orbetello. *Quercus ilex*

Hymenogastraceae Vittad.

Alnicola Kühner (= *Naucoria* (Fr.) P. Kumm. p.p.)

1260. *Alnicola escharoides* (Fr.) Romagn. (= *A. melinoides* (Bull.) Kühner ss. Auct. pl.)
Rare 1.0 (1). Riparian

1261. *Alnicola fellea* (J. Favre) Courtec.
Rare 1.0 (1). Riparian

1262. *Alnicola luteolofibrillosa* Kühner
Rare 1.0 (1). Riparian P

1263. *Alnicola salabertii* Bon & Boutev. ex P.-A. Moreau & Guy García
Rare 1.0 (16). Associated with *Alnus cordata*

Flammula (Fr.) P. Kumm.

1264. *Flammula alnicola* (Fr.) P. Kumm.
Rare 1.0 (16). Mesophilous broad-leaved forests P

1265. *Flammula carbonaria* (Fr.) P. Kumm. (= *Pholiota highlandensis* (Peck) Quadr. & Lunghini)
Rare <1 Lit: Massa Marittima (Antonini & Antonini 2006). Coastal pines

1266. *Flammula gummosa* (Lasch) P. Kumm.
Occasional 4.5 (1, 11, 12, 13), Roccalbegna. Thermophilous deciduous oaks, mesophilous broad-leaved forests

1267. *Flammula lenta* (Pers.) P. Kumm.
Rare 1.5 Lit: (7), Santa Fiora (Antonini & Antonini 2006). *Fagus*

1268. *Flammula lubrica* (Pers.) P. Kumm.
Rare <1 Lit: Montieri (Leonardi & al. 2010). Mesophilous broad-leaved forests P

Galerina Earle

1269. *Galerina atkinsoniana* AH. Sm.
Rare 1.0 Lit: (11) (Pecoraro & al. 2021). *Fagus*

1270. *Galerina discreta* E. Horak, Senn-Irlet, M. Curti & Musumeci
Rare 1.0 (16). Thermophilous deciduous oaks P

1271. *Galerina graminea* (Velen.) Kühner (= *G. laevis* Singer)
Fairly frequent 7.0 (1, 9, 10, 11, 12, 13, 16). Widespread, sometimes sand dunes

1272. *Galerina hypnorum*
Rare <1 Lit: Scarlino (Perini & al. 1989). *Quercus ilex*

1273. *Galerina marginata* (Batsch) Kühner (incl.: *G. unicolor* (Vahl) Singer)
Common >10. Widespread

1274. *Galerina mniophila* (Lasch) Kühner
Rare <1 Lit: Roccastrada (Antonini & Antonini 2006). Mesophilous broad-leaved forests P

1275. *Galerina perplexa* A.H. Sm.
Occasional 5.0 (1, 9, 12, 14, 16). Thermophilous deciduous oaks, mesophilous broad-leaved forests
Note: According to M. Curti (pers. commun.), *G. perplexa* is the most common taxon of the *G. vittiformis* group under oaks, while the latter is mainly associated with conifers (*Pinus*). Morphologically, the former has pileocystidia, which are missing in the latter species.

1276. *Galerina sideroides* (Bull.) Kühner
Rare 1.0 (17). Coastal pines

1277. *Galerina vittiformis* (Fr.) Singer
Uncommon 2.0 (1) Lit: (11) (Pecoraro & al. 2021). *Fagus,* mountain conifers

Gymnopilus P. Karst.

1278. *Gymnopilus decipiens* (Sacc.) P.D. Orton
Uncommon 3.0 (12, 13, 14). Thermophilous deciduous oaks

1279. *Gymnopilus flavus* (Bres.) Singer
Rare <1 Scansano. Synanthropic
Note: This very rare and little reported species was found by in its typical graminicolous habitat, viz. a meadow near the roadside, see Bon and Roux (2002).

1280. *Gymnopilus junonius* (Fr.) P.D. Orton (= *G. spectabilis* ss. Auct. pl.)
Fairly frequent 8.5 (1, 3, 11, 17) Lit: (5, 7), Arcidosso, Santa Fiora (Antonini & Antonini 2006); (18) (Barluzzi & al. 1996); Montieri (Pecoraro & al. 2021). Widespread

1281. *Gymnopilus penetrans* (Fr.) Murrill (incl.: *G. hybridus* (Gillet) Maire)
Locally common 10. Coastal pines, Mountain conifers

1282. *Gymnopilus sapineus* (Fr.) Murrill
Rare <1 Lit: Seggiano (Antonini & Antonini 2006). Mountain conifers

1283. *Gymnopilus suberis* (Maire) Singer
Rare 1.0 Roccastrada; Lit: Orbetello (Antonini & Antonini 2006). *Quercus ilex* P

Hebeloma (Fr.) P. Kumm.

1284. *Hebeloma aanenii* Beker, Vesterh. & U. Eberh.
Rare 1.0 (1). Mesophilous broad-leaved forests

1285. *Hebeloma anthracophilum* Maire
Rare 1.5 (1) Lit: Arcidosso (Antonini & Antonini 2006). Mesophilous broad-leaved forests*, Fagus*

1286. *Hebeloma birrus* (Fr.) Sacc.
Uncommon 2.0 (6, 11). Mesophilous broad-leaved forests P

1287. *Hebeloma bulbiferum* Maire
Occasional 4.5 (1, 4, 11, 12) Lit: Civitella-Paganico (Beker & al. 2016). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1288. *Hebeloma cavipes* Huijsman (= *H. album* Peck)
Fairly frequent 9.0 (4, 9, 11, 12, 13, 14, 15, 16, 17). Thermophilous deciduous oaks, sometimes *Quercus ilex* or mesophilous broad-leaved forests

1289. *Hebeloma celatum* Grilli, U. Eberh. & Beker
Rare 1.5 (1) Lit: Massa Marittima (Beker & al. 2016). Mainly mesophilous broad-leaved forests

1290. *Hebeloma circinans* (Quél.) Sacc.
Rare <1 Roccalbegna. Mountain conifers

1291. *Hebeloma cistophilum* Maire
Uncommon 2.5 (2, 14) Lit: Orbetello (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks

1292. *Hebeloma cylindrosporum* Romagn.
Occasional 4.0 (2, 4, 12, 18). Coastal pines

1293. *Hebeloma dunense* L. Corb. & R. Heim (= *H. collariatum* Bruchet; = *H. subcaespitosum* Bon)

Rare 1.0 (12). Riparian P

1294. *Hebeloma eburneum* Malençon
Uncommon 2.5 (12, 18), Scansano. Mainly *Quercus ilex,* also synanthropic with *Cedrus*

1295. *Hebeloma hetieri* Boud. (= *H. tomentosum* (M.M. Moser) Gröger & Zschiesch.; = *H. odoratissimus* (Britzelm.) Sacc.)
Rare 1.0 Lit: Capalbio (Gennari 1995); Arcidosso (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests P

1296. *Hebeloma laterinum* (Batsch) Vesterh. (= *H. edurum* Métrod ex Bon; = *H. senescens* Berk. & Broome)
Occasional 5.0 (1, 5, 10, 12), Roccalbegna, Monterotondo Marittimo. Mainly Pinus *sp. pl.*, also thermophilous deciduous oaks

1297. *Hebeloma limbatum* Beker, Vesterh. & U. Eberh.
Rare 1.5 (1) Lit: Massa Marittima (Beker & al. 2016). Thermophilous deciduous oaks

1298. *Hebeloma mesophaeum* (Pers.) Quél.
Occasional 4.0 (1, 7, 11), Scansano; Lit: Civitella-Paganico (Antonini & Antonini 2006). Mountain conifers, *Fagus,* rare coastal pines

1299. *Hebeloma parvicystidiatum* Beker, Vesterh. & U. Eberh.
Rare 1.0 (5). Thermophilous deciduous oaks P

1300. *Hebeloma porphyrosporum* Maire (= *H. sarcophyllum* (Peck) Sacc. ss. Auct. Europ.)
Occasional 5.0 (1, 2, 5, 6, 11). Thermophilous deciduous oaks, *Quercus ilex*

1301. *Hebeloma quercetorum* Quadr.
Locally common 10. Thermophilous deciduous oaks, sometimes *Quercus ilex,* mesophilous broad-leaved forests

1302. *Hebeloma radicosum* (Bull.) Ricken
Rare 1.0 (7). *Fagus* P

1303. *Hebeloma sacchariolens* Quél. (incl.: *H. pallidoluctuosum* Gröger & Zschiesch.)
Common >10. Widespread

1304. *Hebeloma sinapizans* (Paulet) Gillet
Common >10. Widespread

1305. *Hebeloma sordescens* Vesterh.
Rare <1 Montieri (Pecoraro & al. 2021). Mesophilous broad-leaved forests

1306. *Hebeloma subtortum* Karst. (= *H. malençonii* Bellù & Lanzoni)
Rare 1.5 (4), Sorano. *Quercus ilex,* mesophilous broad-leaved forests

1307. *Hebeloma theobrominum* Quadr.
Fairly frequent 8.0 (1, 3, 8, 11, 12, 13, 14) Lit: (18) (Barluzzi & al. 1996). Thermophilous deciduous oaks, mesophilous broad-leaved forests, sometimes *Fagus*

1308. *Hebeloma velutipes* Bruchet (incl.: *H. exiguifolium* Murrill)
Occasional 5.0 (1, 7, 8, 11, 12). Mesophilous broad-leaved forests, sometimes *Fagus* or thermophilous deciduous oaks

1309. *Hebeloma vesterholtii* Beker & U. Eberh.
Rare 1.0 (8). Mesophilous broad-leaved forests

Crepidotaceae Singer

Crepidotus (Fr.) Staude

1310. *Crepidotus autochthonus* J.E. Lange
Uncommon 3.0 (4, 12, 16). Mainly thermophilous deciduous oaks

1311. *Crepidotus cesatii* (Rabenh.) Sacc.
Common >10. Widespread

1312. *Crepidotus epibryus* (Fr.) Quél. (= *Pleurotellus hypnophilus* (Pers.) Fayod; incl.: *P. chioneus* (Pers.) Kühner)
Occasional 5.0 (9, 10, 12, 13) Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*, thermophilous deciduous oaks

1313. *Crepidotus lundellii* Pilát (= *C. caspari* Velen.)
Rare 1.5 (9), Sorano. Thermophilous deciduous oaks, mesophilous broad-leaved forests

1314. *Crepidotus luteolus* Sacc.
Rare 1.0 (16). Mesophilous broad-leaved forests

1315. *Crepidotus macedonicus* Pilát
Rare 1.0 (4). *Quercus ilex* P
Note: This collection was published as the first Italian report of the species (Clericuzio & al. 2017).

1316. *Crepidotus mollis* (Schaeff.) Staude (incl.: *C. calolepis* (Fr.) P. Karst.)
Common >10. Widespread, rare *Fagus*
Note: For the time being, we prefer to consider *C. calolepis* as an infrageneric taxon of *C. mollis*.

1317. *Crepidotus subverrucisporus* Pilát
Uncommon 3.0 (12, 14, 16). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1318. *Crepidotus variabilis* (Pers.) P. Kumm.
Uncommon 3.0 Lit: (18) (Barluzzi & al. 1996); Montieri, Gavorrano, Roccastrada (Antonini & Antonini 2006); Scarlino (Perini & al. 1989). Thermophilous deciduous oaks, mesophilous broad-leaved forests, *Quercus ilex*

1319. *Crepidotus versutus* Peck
Rare 1.0 Lit: Gavorrano, Roccastrada (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests P

Simocybe P. Karst.

1320. *Simocybe centunculus* (Fr.) P. Karst. (incl.: *S. sumptuosa* (P.D. Orton) Singer)
Occasional 6.0 (1, 9, 11, 12, 14, 16). Thermophilous deciduous oaks, mesophilous broad-leaved forests, rare *Quercus ilex*

1321. *Simocybe haustellaris* (Fr.) Watling (= *S. rubi* (Berk.) Singer)
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex* P

1322. *Simocybe reducta* (Fr.) P. Karst.
Uncommon 2.0 (13, 16). Mesophilous broad-leaved forests

Tubariaceae Vizzini

Flammulaster Earle

1323. *Flammulaster carpophilus* (Fr.) Earle ex Vellinga (incl.: *F. rhombosporus* (G.F. Atk.) Watling)
Fairly frequent 6.5 (1, 7, 16) Lit: (5), Scarlino (Perini & al. 1989); (18) (Barluzzi & al. 1996); Castel del Piano, Gavorrano (Antonini & Antonini 2006). Widespread

1324. *Flammulaster ferrugineus* Maire ex Watling
Rare 1.0 (12). Thermophilous deciduous oaks P

1325. *Flammulaster muricatus* (Fr.) Watling
Rare 1.0 (12). Thermophilous deciduous oaks

1326. *Flammulaster subincarnatus* (Joss. & Kühner) Watling
Occasional 5.0 (1, 9, 12, 14, 16). Mainly thermophilous deciduous oaks, mesophilous broad-leaved forests
Note: Considered a variety of *F. carpophilus* by Vellinga (1986). We agree with Bon (1992) that it is a well-defined species identified by basidiome dimension, colour, and cheilocystidial shape.

Meottomyces Vizzini

1327. *Meottomyces dissimulans* (Berk. & Broome) Vizzini (= *Pholiota oedipus* (Cooke) P.D. Orton)
Uncommon 2.0 (8, 16). Mesophilous broad-leaved forests

Phaeomarasmius Scherff.

1328. *Phaeomarasmius erinaceus* (Fr.) Scherff. ex Romagn.
Uncommon 2.5 (14, 16), Monterotondo Marittimo. Thermophilous deciduous oaks, sometimes *Quercus ilex* or mesophilous broad-leaved forests

Tubaria (W.G. Sm.) Gillet

1329. *Tubaria cistophila* Cheype
Uncommon 3.0 (4, 14, 15). Thermophilous deciduous oaks *(Cistus)*

1330. *Tubaria furfuracea* (Pers.) Gillet (incl.: *T. conspersa* (Pers.) Fayod)
Uncommon 2.5 (8, 16) Lit: Castiglione della Pescaia (Antonini & Antonini 2006). Mesophilous broad-leaved forests, *Quercus ilex*
Note: Here we report this species as different from *T. hiemalis* because of abundant veil remnants and mainly non-capitate cheilocystidia. However, recent molecular work (Vizzini & al. 2014) seems to prove the contrary. A complete picture of this *Tubaria* group is far from realized.

1331. *Tubaria hiemalis* Romagn. ex Bon (incl.: *T. romagnesiana* Arnolds)
Common >10. Widespread

1332. *Tubaria minutalis* Romagn.
Uncommon 3.0 (11), Scansano; Lit: (5), Castiglione della Pescaia (Antonini & Antonini 2006). *Quercus ilex,* mesophilous broad-leaved forests

Inocybaceae

Inocybe (Fr.) Fr. ss.

1333. *Inocybe amblyspora* Kühner
Rare 1.0 (16). Mesophilous broad-leaved forests P

1334. *Inocybe asterospora* Quél.
Fairly frequent 7.0 (1, 2, 3, 12, 14), Capalbio; Lit: Castiglione della Pescaia, Scarlino (Antonini & Antonini 2006); Montieri (Leonardi & al. 2010). Widespread

1335. *Inocybe aurantioumbonata* Franchi & M. Marchetti
Uncommon 2.5 Lit: (10, 17), Orbetello (Marchetti and Franchi 2008). Coastal pines

1336. *Inocybe bresadolae* Massee
Uncommon 3.0 (4, 16) Lit: (18) (Barluzzi & al. 1996). *Quercus ilex,* mesophilous broad-leaved forests

1337. *Inocybe calida* Velen. (= *I. brunneorufa* Stangl & J. Veselský)
Uncommon 2.5 (11, 12), Scansano. Mainly thermophilous deciduous oaks

1338. *Inocybe catalaunica* Singer (= *I. leiocephala* Stuntz)
Rare 1.0 (11). Mountain conifers

1339. *Inocybe cincinnata* (Fr.) Quél. (= *I. phaeocomis* (Pers.) Kuyper)
Occasional 5.0 (1, 8, 10, 12) Lit: Castiglione della Pescaia (Antonini & Antonini 2006); Montieri (Leonardi & al. 2010). Widespread

1340. *Inocybe corydalina* Quél.
Uncommon 3.0 (7, 8, 11). Mesophilous broad-leaved forests*, Fagus*

1341. *Inocybe curvipes* P. Karst.
Uncommon 2.0 (14) Lit: (18) (Barluzzi & al. 1996). Thermophilous deciduous oaks*, Quercus ilex*

1342. *Inocybe decemgibbosa* (Kühner) Vauras
Uncommon 2.0 (9, 16). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1343. *Inocybe dunensis* P.D. Orton (incl.: var. *paucicystidiosa* Bon)
Rare 1.5 Lit: (18) (Barluzzi & al. 1996); Capalbio (Marchetti and Franchi 2008). Sand dunes P

1344. *Inocybe fibrosoides* Kühner
Rare 1.5 (18), Orbetello. *Quercus ilex* P

1345. *Inocybe flocculosa* Sacc. (= *I. gausapata* Kühner)
Fairly frequent 6.5 (1, 8, 10, 11, 12, 16) Lit: Montieri (Leonardi & al. 2010). Widespread

1346. *Inocybe fraudans* (Britzelm.) Sacc. (= *I. pyriodora* (Pers.) P. Kumm.)
Fairly frequent 7.0 (1, 5, 12, 14, 16), Follonica; Lit: Arcidosso, Santa Fiora, Castiglione della Pescaia (Antonini & Antonini 2006). Widespread

1347. *Inocybe furfurea* Kühner
Rare <1 Lit: Montieri (Pecoraro & al. 2021). Thermophilous deciduous oaks

1348. *Inocybe fuscidula* Velen.
Locally common 10. Mountain conifers *(Abies),* sometimes coastal pines

1349. *Inocybe geophylla* (Bull.) P. Kumm. (incl: several varieties)
Common >10. Widespread

1350. *Inocybe glabripes* Ricken (= *I. parvispora* Alessio)
Uncommon 2.5 (12, 14), Scansano. Thermophilous deciduous oaks

1351. *Inocybe godeyi* Gillet
Uncommon 3.0 (1, 3, 8). Mainly mesophilous broad-leaved forests

1352. *Inocybe griseolilacina* J.E. Lange
Occasional 4.0 (1, 8, 11, 12). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1353. *Inocybe griseovelata* Kühner
Rare <1 Follonica. *Quercus ilex,* Coastal pines

1354. *Inocybe hirtella* Bres.
Occasional 6.0 (1, 3, 8, 9, 14, 16). Mesophilous broad-leaved forests, thermophilous deciduous oaks

1355. *Inocybe hypophaea* Furrer-Ziogas
Uncommon 2.0 (8, 11). Mesophilous broad-leaved forests
Note: A taxon synonimized with *I. fuscidula* by Kuyper (1986). The Castell'Azzara collection (site 11) was determined by specialist E. Bizio.

1356. *Inocybe juniperina* M. Marchetti, Franchi & Bizio
Rare 1.0 (17). Coastal pines P

1357. *Inocybe lacera* (Fr.) P. Kumm.

Uncommon 2.0 (2) Lit: Castiglione della Pescaia, Gavorrano (Perini & al. 1989). *Quercus ilex*

1358. *Inocybe langei* R. Heim
Occasional 4.5 (8, 14, 15, 16), Scansano thermophilous deciduous oaks, mesophilous broad-leaved forests

1359. *Inocybe mixtilis* (Britzelm.) Sacc.
Uncommon 3.5 (7, 10, 14), Capalbio. Mountain conifers, coastal pines, sometimes thermophilous deciduous oaks

1360. *Inocybe muricellata* Bres.
Uncommon 3.0 (12, 14, 16). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1361. *Inocybe nitidiuscula* (Britzelm.) Lapl.
Rare 1.0 (10). Coastal pines

1362. *Inocybe oblectabilis* (Britzelm.) Sacc.
Uncommon 2.5 (15), Orbetello; Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*

1363. *Inocybe obscurobadia* (J. Favre) Grund & D.E. Stuntz
Rare 1.5 (14) Lit: Montieri (Leonardi & al. 2010). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1364. *Inocybe olida* Maire
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex* P

1365. *Inocybe pelargonium*
Rare <1 Lit: Montieri (Pecoraro & al. 2021). Thermophilous deciduous oaks

1366. *Inocybe petiginosa* (Fr.) Gillet
Occasional 6.0 (1, 8, 11, 14, 16) Lit: Civitella-Paganico (Antonini & Antonini 2006); Montieri (Leonardi & al. 2010). Mesophilous broad-leaved forests, *Fagus*

1367. *Inocybe phaeodisca* Kühner
a. var. *phaeodisca*
Occasional 5.0 (4, 12, 14, 16) Lit: (11) (Pecoraro & al. 2021). Thermophilous deciduous oaks, mesophilous broad-leaved forests, *rare Fagus*
b. var. *geophylloides* Kühner
Rare 1.0 (16). Mesophilous broad-leaved forests

1368. *Inocybe phaeoleuca* Kühner
Uncommon 3.0 (1, 3, 16). Mesophilous broad-leaved forests, thermophilous deciduous oaks

1369. *Inocybe posterula* (Britzelm.) Sacc.
Rare <1 Lit: Montieri (Pecoraro & al. 2021). Thermophilous deciduous oaks

1370. *Inocybe praetervisa* Quél.
Uncommon 2.0 (11, 12). Thermophilous deciduous oaks

1371. *Inocybe psammobrunnea* Bon
Uncommon 2.0 (10, 17). Coastal pines

1372. *Inocybe pseudodestricta* Stangl & J. Veselský
Rare 1.5 (13), Santa Fiora. Thermophilous deciduous oaks, mesophilous broad-leaved forests P

1373. *Inocybe pusio* P. Karst.
Uncommon 4.5 (1, 12, 16) Lit: (11) (Pecoraro & al. 2021); Montieri (Leonardi & al. 2010). Mesophilous broad-leaved forests, thermophilous deciduous oaks

1374. *Inocybe queletii* Konrad
Rare 1.0 (11) Mountain conifers *(Abies)* P

1375. *Inocybe roseipes* Malençon
Uncommon 2.0 (10, 17). *Quercus ilex,* Coastal pines

1376. *Inocybe rufuloides* Bon
Locally common 10. *Quercus ilex,* Coastal pines

1377. *Inocybe sambucina* (Fr.) Quél.
Rare <1 Lit: Arcidosso (Antonini & Antonini 2006). Mountain conifers

1378. *Inocybe scabelliformis* Malençon
Rare 1.5 (2), Scansano. *Quercus ilex,* thermophilous deciduous oaks P
Note: A species belonging to the *I. muricellata* complex, considered by Kuyper (1986) a synonym of *I. muricellata*. This group of unclear morphologic differentiation awaits detailed molecular study.

1379. *Inocybe sindonia* (Fr.) P. Karst. (= *I. eutheles* ss. Kühner)
Uncommon 3.5 (6, 8) Lit: (5) (Perini & al. 1989); Castiglione della Pescaia (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1380. *Inocybe splendens* R. Heim
Uncommon 3.0 Orbetello; Lit: (5), Grosseto (Marchetti and Franchi 2008); (11) (Pecoraro & al. 2021). *Quercus ilex,* Mountain conifers

1381. *Inocybe suecica* Vauras & E. Larss.
Rare 1.0 (14). Thermophilous deciduous oaks P
GenBank accession number: OM403083
Note: A species described recently from Sweden (Vauras & Larsson, 2016). E. Bizio informed us of another Italian collection: these are the first records for Italy.

1382. *Inocybe tenebrosa* Quél. (= *I. atripes* G.F. Atk.)
Fairly frequent 6.5 (1, 5, 9, 11, 12) Lit: Monterotondo Marittimo, Gavorrano (Antonini & Antonini 2006); Montieri (Leonardi & al. 2010). *Quercus ilex,* thermophilous deciduous oaks

1383. *Inocybe tiliae* Franchi, M. Marchetti & Papetti
Rare <1 Scansano. Synanthropic
Note: Another species recently described (Franchi & al. 2016), after collections in Lombardia (Northern Italy). It seems to occur in parks and yards, mainly associated with *Tilia europea* (in our case, *Quercus ilex*). The determination was confirmed by molecular analysis (data not shown).

1384. *Inocybe tjallingiorum* Kuyper
Uncommon 2.5 (1, 12), Scansano. Thermophilous deciduous oaks, mesophilous broad-leaved forests

1385. *Inocybe velata* Franchi & M. Marchetti
Rare <1 Lit: Orbetello (Marchetti & Franchi 2008). *Quercus ilex,* Sand dunes P

1386. *Inocybe whitei* (Berk. & Broome) Sacc.
Rare 1.5 Lit: (11) (Pecoraro & al. 2021); Santa Fiora (Antonini & Antonini 2006). Mountain conifers

Inosperma Matheny & Esteve-Rav. (= *Inocybe* Fr. pp.)

1387. *Inosperma adaequata* (Britzelm.) Sacc. (= *Inocybe jurana* (Pat.) Sacc.)
Occasional 6.0 (1, 12, 14, 15, 18), Scansano Lit: Massa Marittima (Antonini & Antonini 2006). Widespread, also synanthropic

1388. *Inosperma bongardii* (Weinm.) Quél. (incl.: *Inocybe pisciodora* Donadini & Riousset)
Occasional 5.5 (1, 12, 16) Lit: (5) (Perini & al. 1989); Santa Fiora, Gavorrano, Monterotondo Marittimo (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, rare *Quercus ilex*

1389. *Inosperma calamistrata* (Fr.) Matheny & Esteve-Rav.

Rare 1.0 Lit: (8) (Antonini & Antonini 2006). Mesophilous broad-leaved forests

1390. *Inosperma cervicolor* (Pers.) Quél.
Fairly frequent 7.0 (1, 4, 12, 13, 14), Roccalbegna; Lit: Montieri (Barluzzi & al. 1992); Castiglione della Pescaia (Antonini & Antonini 2006) Gavorrano (Perini & al. 1989). Thermophilous deciduous oaks, mesophilous broad-leaved forests, sometimes *Fagus*

1391. *Inosperma cookei* (Bres.) Matheny & Esteve-Rav.
Occasional 6.0 (1, 6, 7, 11, 12, 14). Mainly mesophilous broad-leaved forests and *Fagus*

1392. *Inosperma maculata* (Boud.) Matheny & Esteve-Rav.
Occasional 6.0 (1, 3, 8, 12, 14, 16). Thermophilous deciduous oaks, mesophilous broad-leaved forests

Mallocybe Matheny & Esteve-Rav. (= *Inocybe* Fr. pp.)

1393. *Mallocybe agardhii* (N. Lund) Matheny & Esteve-Rav.
Rare 1.0 (12). Riparian P

1394. *Mallocybe dulcamara* (Pers.) Vizzini, Maggiora, Tolaini & Ercole sl.
Occasional 4.0 (8, 11, 12), Castell'Azzara; Lit: Montieri (Leonardi & al. 2010). Widespread

1395. *Mallocybe heimii* (Bon) Matheny & Esteve-Rav.
Locally common 10. Coastal pines, *Quercus ilex*

1396. *Mallocybe malençonii* (R. Heim) Matheny & Esteve-Rav.
Rare 1.0 (2). Thermophilous deciduous oaks P

1397. *Mallocybe terrigena* (Fr.) Matheny, Vizzini & Esteve-Rav.
Rare 1.0 (2). *Quercus ilex*

Pseudosperma Matheny & Esteve-Rav. (= *Inocybe* Fr. pp.)

1398. *Pseudosperma arenicola* (R. Heim) Matheny & Esteve-Rav.
Uncommon 2.5 Lit: (10, 18), Orbetello (Marchetti and Franchi 2008). Sand dunes, coastal pines

1399. *Pseudosperma rimosum* (Bull.) Matheny & Esteve-Rav. s.l. (= *Inocybe fastigiata* (Schaeff.) Quél.)
Common >10. Widespread

Cortinariaceae R. Heim ex Pouzar ss.

Cortinarius (Pers.) Gray

Dermocybe

1400. *Cortinarius cinnamomeus* (L.) Fr.
Rare <1 Lit: Santa Fiora (Antonini & Antonini 2006). Mountain conifers

1401. *Cortinarius olivaceofuscus* Kühner
Occasional 6.0 (1, 3, 11, 12, 14, 16). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1402. *Cortinarius phoeniceus* (Vent.) Maire (= *C. purpureus* (Bull.) Bidaud, Moënne-Locc. & Reumaux)
Uncommon 3.5 (1) Lit: (7), Montieri, Massa Marittima, Civitella-Paganico (Antonini & Antonini 2006). Mesophilous broad-leaved forests*, Fagus,* rare thermophilous deciduous oaks

1403. *Cortinarius semisanguineus* (Fr.) Gillet
Rare <1 Lit: Roccastrada (Barluzzi & al. 1992). Mountain conifers

Leprocybe

1404. *Cortinarius cotoneus* Fr.

Occasional 5.0 (2, 4, 8, 12) Lit: Gavorrano (Antonini & Antonini 2006); Scarlino (Perini & al. 1989). Thermophilous deciduous oaks, *Quercus ilex,* mesophilous broad-leaved forests

1405. *Cortinarius leproleptopus* Chevassut & Rob. Henry
Uncommon 3.0 (1, 11, 12). Mainly thermophilous deciduous oaks

1406. *Cortinarius melanotus* Kalchbr.
Rare 1.5 (1) Lit: Arcidosso (Antonini & Antonini 2006). Mesophilous broad-leaved forests, *Fagus*

Orellani

1407. *Cortinarius orellanus* Fr.
Occasional 4.0 (1, 8), Montieri; Lit: Castel del Piano, Roccastrada, Castiglione della Pescaia (Antonini & Antonini 2006). Mesophilous broad-leaved forests, sometimes thermophilous deciduous oaks

Myxacium

1408. *Cortinarius coeruleopallescens* Contu
Rare 1.0 (14). Thermophilous deciduous oaks (*Cistus*) P
Note: This interesting and localized species is associated strictly with *Cistus* on sandy soils, where it is semi-hypogeous. It was found at Monte Auto (site 14), where a noteworthy array of rare species has been found, such as *Podoscypha multizonata*, *Hygrophorus pseudodiscoideus var. cistophilus*, *Clavaria appendiculata*, *Pseudoclitocybe obbata*, *Tephrocybella constrictospora, Entoloma ochreoprunuloides, E. rugosum, Lepiota farinolens, Homophron spadiceum,* and others. The determination was verified by molecular data (unpublished).

1409. *Cortinarius croceocoeruleus* (Pers.) Fr.
Rare 1.5 (11) Lit: Roccastrada (Barluzzi & al. 1992). *Fagus* P

1410. *Cortinarius crystallinus* Fr. (= *C. barbatus* (Batsch) Melot)
Uncommon 2.0 (10) Lit: (18) (Barluzzi & al. 1996). Thermophilous deciduous oaks, *Quercus ilex*

1411. *Cortinarius livido-ochraceus* (Berk.) Berk. (= *C. elatior* Fr. pp.)
Fairly frequent 8.0 (1, 6, 12, 14) Lit: (5), Castiglione della Pescaia, Roccastrada, Arcidosso, Massa Marittima, Scarlino (Antonini & Antonini 2006); Gavorrano (Perini & al. 1989). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

1412. *Cortinarius salor* Fr.
Occasional 4.5 (2, 4, 5) Lit: Massa Marittima, Scarlino (Antonini & Antonini 2006); Lit: Montieri (Barluzzi & al. 1992). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

1413. *Cortinarius trivialis* J.E. Lange
Common >10. Widespread, rare *Fagus*

Multiformes – Triumphantes (ex Phlegmacium pp.)

1414. *Cortinarius caligatus* Malençon
Rare <1 Lit: Monterotondo Marittimo (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks P

1415. *Cortinarius claricolor* (Fr.) Fr. (incl.: *C. turmalis* Fr.)
Rare 1.0 (7). *Fagus* /Mountain conifers

1416. *Cortinarius talus* Fr. (= *C. multiformis* Fr. p.p.)
Occasional 4.0 (1, 11, 12) Lit: Castiglione della Pescaia (Antonini & Antonini 2006); Montieri (Leonardi & al. 2010). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1417. *Cortinarius variegatus* Bres.
Rare 1.0 (7). Mountain conifers*, Fagus* P

1418. *Cortinarius variiformis* Malençon

Rare <1 Lit: Roccastrada (Antonini & Antonini 2006). *Quercus ilex* P

1419. *Cortinarius vulpinus* (Velen.) Rob. Henry (= *C. rufoalbus* Kühner)
Rare 1.0 (7). *Fagus*

1420. *Cortinarius olidus* J.E. Lange (incl.: *C. cliduchus* Secr. ex Fr.)
Occasional 5.0 (1, 5, 12, 14) Lit: Roccastrada (Antonini & Antonini 2006); Montieri (Leonardi & al. 2010). Mainly thermophilous deciduous oaks, mesophilous broad-leaved forests

Caerulescentes-Glaucopodes (ex Phlegmacium pp.)

1421. *Cortinarius aleuriosmus* Maire
Rare 1.5 (12) Lit: Massa Marittima (Consiglio & al. 2004). Thermophilous deciduous oaks, *Quercus ilex* P

1422. *Cortinarius amoenolens* Rob. Henry ex P.D. Orton (= *C. anserinus* (Velen.) Rob. Henry)
Rare 1.0 (7). *Fagus*

1423. *Cortinarius boudieri* Rob. Henry
Rare 1.0 (12). Thermophilous deciduous oaks
Note: The separation from *C. coerulescentium* is often critical.

1424. *Cortinarius camptoros* Brandrud & Melot
Uncommon 2.0 (1, 12). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1425. *Cortinarius coerulescentium* Rob. Henry
Rare <1 Lit: Seggiano (Antonini & Antonini 2006). Thermophilous deciduous oaks

1426. *Cortinarius cumatilis* Fr.
Rare <1 Santa Fiora. Mountain conifers P

1427. *Cortinarius dyonisae* Rob. Henry
Uncommon 2.5 (1, 12) Lit: Montieri (Leonardi & al. 2010). Mainly thermophilous deciduous oaks and mesophilous broad-leaved forests

1428. *Cortinarius lepistoides* T.S. Jeppesen & Frøslev
Rare <1 Scansano. Mesophilous broad-leaved forests P

1429. *Cortinarius magicus* Eichhorn
Occasional 4.0 (1, 11, 12), Scansano; Lit: Massa Marittima (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, *Fagus*

1430. *Cortinarius moënne-loccozii* Bidaud
Rare 1.5 (2) Lit: Isola del Giglio (Gargano & al. 2010). *Quercus ilex,* thermophilous deciduous oaks P

1431. *Cortinarius olidoamarus* A. Favre
Uncommon 2.5 (11, 14) Lit: Civitella-Paganico (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1432. *Cortinarius olidovolvatus* Bon & Trescol
Uncommon 2.0 (1, 2). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1433. *Cortinarius perpallens* Chevassut & Rob. Henry
Rare 1.0 (4). Thermophilous deciduous oaks
GenBank accession number: OM403082

1434. *Cortinarius praestans* (Cordier) Gillet
Rare <1 Lit: Castel del Piano (Antonini & Antonini 2006). *Fagus* P

1435. *Cortinarius terpsichores* Melot
Uncommon 2.0 (1, 12). Thermophilous deciduous oaks, mesophilous broad-leaved forests

Patibiles (Variecolores) (ex Phlegmacium pp.)

1436. *Cortinarius largus* Fr.
Rare 1.0 (7). *Fagus*

1437. *Cortinarius chromataphilus* Rob. Henry (= *C. muricinoides* Reumaux & Moënne-Locc.)
Uncommon 3.0 (1, 11, 14). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1438. *Cortinarius nemorensis* (Fr.) J.E. Lange
Rare 1.0 (2). *Quercus ilex,* thermophilous deciduous oaks

Fulvi-Calochroi (ex Phlegmacium pp.)

1439. *Cortinarius albertii* Dima, Frøslev & T.S. Jeppesen
Rare 1.0 (12). Thermophilous deciduous oaks

1440. *Cortinarius arcuatorum* Rob. Henry (incl: *C. fulvoincarnatus* Joachim ex Bidaud, Moenne-Locc. & Reumaux)
Rare 1.5 (1) Lit: Roccastrada (Barluzzi & al. 1992). Mesophilous broad-leaved forests P

1441. *Cortinarius atrovirens* Kalchbr. ssp. *ionochlorus* (Maire) Vizzini & Gasparini
Occasional 5.0 (1, 12), Castiglione della Pescaia; Lit: (5) (Perini & al. 1989); Civitella-Paganico, Gavorrano, Monterotondo Marittimo (Antonini & Antonini 2006). *Quercus ilex*

1442. *Cortinarius aurilicis* Chevassut & Trescol
Rare <1 Lit: Roccastrada (Antonini & Antonini 2006). *Quercus ilex*

1443. *Cortinarius aurantiorufus* Bidaud
Rare 1.5 (5), Massa Marittima. *Quercus ilex* P

1444. *Cortinarius bergeronii* (Melot) Melot (= *C. cedretorum* Maire p.p.)
Occasional 4.5 (1, 6, 12, 14) Lit: Massa Marittima (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks

1445. *Cortinarius bisporiger* Contu
Rare <1 Lit: Massa Marittima (Consiglio & al. 2007). Synanthropic *(Eucalyptus)*

1446. *Cortinarius bulbopodius* (Chevassut & Rob. Henry) Bidaud & Reumaux (= *C. nanceiensis* Maire var. *b.* Chevassut & Rob. Henry)
Rare 1.0 Lit: Massa Marittima (Consiglio & al. 2004); Castiglione della Pescaia (Antonini & Antonini 2006). *Quercus ilex*

1447. *Cortinarius calochrous* (Pers.) Gray
Rare 1.0 (7). *Fagus*

1448. *Cortinarius caroviolaceus* P.D. Orton
Occasional 4.0 (12, 14, 16), Scansano, Sorano. *Quercus ilex,* thermophilous deciduous oaks, sometimes mesophilous broad-leaved forests

1449. *Cortinarius catharinae* Consiglio
Uncommon 3.0 (1, 6, 12). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1450. *Cortinarius chailluzii* Frøslev & T.S. Jeppesen
Rare 1.0 (12). Thermophilous deciduous oaks P

1451. *Cortinarius cisticola* Frøslev & T.S. Jeppesen
Rare 1.0 (5). Thermophilous deciduous oaks P
GenBank accession number: OM403088

Note: Identified with molecular analysis. *C. cisticola* is a very rare species (Frøslev & al. 2007): we are aware of a second Italian collection in Liguria (F. Boccardo, pers. commun.). Its morphological identification is exceedingly difficult.

1452. *Cortinarius citrinus* J.E. Lange ex P.D. Orton (= *C. pseudosulphureus* Rob. Henry ex P.D. Orton)
Rare 1.0 (7). *Fagus* P

1453. *Cortinarius dibaphus* Fr.
Rare <1 Lit: Seggiano (Antonini & Antonini 2006). Mountain conifers

1454. *Cortinarius elegantissimus* Rob. Henry
Uncommon 2.0 (7, 16). *Fagus*

1455. *Cortinarius eufulmineus* Rob. Henry
Rare 1.0 (12). Thermophilous deciduous oaks

1456. *Cortinarius flavoaurantians* Boccardo, Cleric. & Vizzini
Uncommon 3.0 (1, 11, 12). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1457. *Cortinarius flavovirens* Rob. Henry
Rare 1.0 (5). Thermophilous deciduous oaks P
GenBank accession number: OM403089

1458. *Cortinarius humolens* Brandrud
Occasional 5.0 (1, 2, 4, 11, 12). Thermophilous deciduous oaks, mesophilous broad-leaved forests, rare *Quercus ilex*

1459. *Cortinarius lentus* Boccardo, Cleric., Dovana & Vizzini
Rare 1.0 (3). Mesophilous broad-leaved forests
Note: The description of this species can be found in Dovana & al. (2020).

1460. *Cortinarius lilacinovelatus* Reumaux & Ramm
Rare 1.5 (12), Scansano. Thermophilous deciduous oaks

1461. *Cortinarius majusculus* Kühner (= *C. alcalinophilus* Rob. Henry)
Occasional 4.5 (5, 11, 12), Scansano, Capalbio, Castiglione della Pescaia. Thermophilous deciduous oaks, mesophilous broad-leaved forests
Note: We prefer to apply Kühner's epithet to this taxon, in agreement with Garnica & al. (2005).

1462. *Cortinarius molochinus* Bidaud & Ramm
Rare 1.0 (12). Thermophilous deciduous oaks, *Quercus ilex*

1463. *Cortinarius ochraceopallescens* Moënne-Locc. & Reumaux
Uncommon 2.5 (1, 12), Sorano. Thermophilous deciduous oaks, mesophilous broad-leaved forests

1464. *Cortinarius odoratus* (Joguet ex M.M. Moser) M.M. Moser
Uncommon 3.5 (2, 16), Montieri Lit: (1) (Antonini & Antonini 2006). Mesophilous broad-leaved forests

1465. *Cortinarius orichalceus* (Batsch) Fr. (= *C. cupreorufus* ss. Brandrud)
Rare <1 Lit: Seggiano (Antonini & Antonini 2006). Mountain conifers P

1466. *Cortinarius parasuaveolens* (Bon & Trescol) Bidaud, Moënne-Locc. & Reumaux (= *C. pseudogracilior* Reumaux)
Uncommon 2.5 (5) Lit: Monterotondo Marittimo, Massa Marittima, Castiglione della Pescaia (Antonini & Antonini 2006). Thermophilous deciduous oaks, *Quercus ilex*
Note: This taxon has gone through a complete revision (Clericuzio & al. 2017), so that the above literature records should be all reviewed. Our collection was confirmed by molecular analysis (Clericuzio & al. 2017).

1467. *Cortinarius platypus* (M.M. Moser) M.M. Moser
Rare 1.0 (12). Thermophilous deciduous oaks

GenBank accession number: OM403084
Note: More often, *C. lilacinovelatus* has been determined under this binomial. Genetic analysis has been performed to ensure its identity.

1468. *Cortinarius prasinus* (Schaeff.) Fr.
Uncommon 2.0 (1, 12). Thermophilous deciduous oaks P

1469. *Cortinarius pseudocisticola* Boccardo, Dovana, Dima, L. Albert, Borovička, Mikšík, Saar & Vizzini
Rare <1 Scansano. Mesophilous broad-leaved forests P
GenBank accession number: OM403087
Note: The description of this species is in Dovana & al. (2021).

1470. *Cortinarius quercus-ilicis* (Chevass. & Rob. Hry) Melot
Rare 1.5 Manciano; Lit: (18) (Barluzzi & al. 1996). Thermophilous deciduous oaks, *Quercus ilex*

1471. *Cortinarius rufo-olivaceus* (Pers.) Fr.
Occasional 6.0 (1, 2, 12, 14), Massa Marittima; Lit: Civitella-Paganico, Roccastrada (Antonini & Antonini 2006); Monterotondo Marittimo (AGMT 2012). Thermophilous deciduous oaks, mesophilous broad-leaved forests, *Quercus ilex*

1472. *Cortinarius sodagnitus* Rob. Henry
Fairly frequent 7.5 (1, 5, 6), Scansano; Lit: Gavorrano (Perini & al. 1989); Civitella-Paganico, Scarlino, Castiglione della Pescaia, Massa Marittima, Monterotondo Marittimo, Roccastrada (Antonini & Antonini 2006); Montieri (Leonardi & al. 2010). Mesophilous broad-leaved forests, thermophilous deciduous oaks, rare *Quercus ilex*

1473. *Cortinarius suaveolens* Bat. & Joachim
Uncommon 2.5 (1, 12), Scansano. Thermophilous deciduous oaks, mesophilous broad-leaved forests

1474. *Cortinarius sublilacinopes* Bidaud, Moënne-Locc. & Reumaux
Uncommon 2.0 (11, 12). Mesophilous broad-leaved forests, thermophilous deciduous oaks

1475. *Cortinarius vesterholtii* Frøslev & Jeppesen (= *C. provençalis* M.M. Moser)
Uncommon 2.0 (5, 12). Thermophilous deciduous oaks

1476. *Cortinarius violaceipes* Bidaud & Consiglio
Uncommon 2.0 (1, 12). *Quercus ilex,* thermophilous deciduous oaks P

1477. *Cortinarius xanthochlorus* Rob. Henry (incl.: *C. olivascentium* Rob. Henry)
Occasional 4.0 (1, 11, 12, 14). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1478. *Cortinarius xanthosuavis* Bon & Trescol
Rare <1 Lit: Massa Marittima (Consiglio & al. 2004). *Quercus ilex* P

Purpurascentes (ex Phlegmacium pp.)

1479. *Cortinarius collocandoides* Reumaux
Rare 1.0 (11). *Fagus*

1480. *Cortinarius subpurpurascens* (Batsch) J. Kickx ss. Pilàt
Rare 1.0 (11). *Fagus*

Anomali

1481. *Cortinarius anomalus* (Fr.) Fr. (incl.: *C. diabolicus* (Fr.) Fr., *C. rugosus* Rob. Henry, *C. viscidulus* M. M. Moser)
Fairly frequent 7.0 (1, 9, 11, 12, 14, 16) Lit: Castiglione della Pescaia, Massa Marittima (Antonini & Antonini 2006). Widespread

1482. *Cortinarius lebretonii* Quél.

Rare <1 Lit: Castiglione della Pescaia (Antonini & Antonini 2006). *Quercus ilex*

1483. *Cortinarius tabularis* (Fr.) Fr.
Rare 1.0 (1). Mesophilous broad-leaved forests

Myxotelamonia

1484. *Cortinarius infractus* (Pers.) Fr.
Common >10. Widespread

1485. *Cortinarius obscurocyaneus* Secr. ex J. Schröt.
Rare 1.0 (9). Thermophilous deciduous oaks

Telamonia sl.

1486. *Cortinarius acetosus* (Velen.) Melot
Uncommon 2.5 (12, 16) Lit: Santa Fiora (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1487. *Cortinarius sect. acuti sp.*
Uncommon 2.0 (16) Lit: Roccastrada, Seggiano (Antonini & Antonini 2006). Mesophilous broad-leaved forests
Note: *C. acutus* (Pers.) Fr. is a typical species of wet *Picea* forests, often associated with *Sphagnum*. However, in deciduous woods it is sometimes possible to encounter some taxa of section *acuti*: here we report a species of the group, whose name is difficult to assess. It is evident that the *acuti* species allied to broadleaved trees still need to be clarified.

1488. *Cortinarius alboviolaceus* (Pers.) Fr.
Rare 1.5 (5) Lit: Seggiano (Barluzzi & al. 1992). Thermophilous deciduous oaks, mesophilous broad-leaved forests P

1489. *Cortinarius aprinus* Melot
Uncommon 3.5 (1, 11, 12) Lit: Montieri (Leonardi & al. 2010). Mainly thermophilous deciduous oaks

1490. *Cortinarius assiduus* Mahiques, A. Ortega & Bidaud
Uncommon 2.0 (4, 12). Thermophilous deciduous oaks

1491. *Cortinarius bombycinus* Mahiques & Burguete
Rare 1.0 (12). Thermophilous deciduous oaks (*Cistus*) P

1492. *Cortinarius bulliardii* (Pers.) Fr.
Occasional 5.5 (1, 2, 11, 12), Massa Marittima; Lit: Castiglione della Pescaia, Massa Marittima (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, *Quercus ilex*

1493. *Cortinarius camphoratus* (Fr.) Fr.
Rare 1.0 (1). Mountain conifers

1494. *Cortinarius caperatus* (Pers.) Fr.
Rare 1.0 (1). Mountain conifers

1495. *Cortinarius castaneus* (Bull.) Fr. sl.
Rare 1.5 (14) Lit: Montieri (Leonardi & al. 2010). Thermophilous deciduous oaks, mesophilous broad-leaved forests
Note: A collective species, with various taxa involved, but still of unclear differentiation.

1496. *Cortinarius chevassutii* Rob. Henry
Rare 1.0 (12). Thermophilous deciduous oaks

1497. *Cortinarius cinereobrunneolus* Chevassut & Rob. Henry
Rare 1.0 (12). Thermophilous deciduous oaks

1498. *Cortinarius cinnabarinus* Fr.
Uncommon 2.0 Lit: (7, 8) (Antonini & Antonini 2006). *Fagus,* mesophilous broad-leaved forests

1499. *Cortinarius conicus* (Velen.) Rob. Henry (incl.: *C. conicoides* Bidaud)
Occasional 5.0 (1, 3, 11, 12, 14). *Quercus ilex,* thermophilous deciduous oaks, rare elsewhere

1500. *Cortinarius decipiens* (Pers.) Fr.
Fairly frequent 8.0 (1, 6, 10, 11, 12, 13, 14) Lit: Scarlino (Perini & al. 1989); Gavorrano (Antonini & Antonini 2006). Widespread

1501. *Cortinarius diosmus* Kühner (incl.: var. *araneosovolvatus* Bon & Gaugué; *C. moserianus* Bohus)
Occasional 6.0 (1, 8, 12, 14, 18) Lit: Massa Marittima (Antonini & Antonini 2006); Montieri (Leonardi & al. 2010). *Quercus ilex,* thermophilous deciduous oaks, rare mesophilous broad-leaved forests

1502. *Cortinarius duracinus* Fr. s.l.
Fairly frequent 8.5 (1, 11, 12, 14), Scansano, Manciano; Lit: Castiglione della Pescaia (Antonini & Antonini 2006); (5), Scarlino, Gavorrano (Perini & al. 1989); Montieri, Seggiano (Barluzzi & al. 1992). Mainly thermophilous deciduous oaks
Note: In the absence of detailed molecular studies, we prefer to keep the various taxa described by Bidaud & al. (2016), under the single binomial of *C. duracinus*.

1503. *Cortinarius epipurrus* Chevassut & Rob. Henry
Uncommon 3.5 (4, 11, 12), Scansano. *Quercus ilex*, thermophilous deciduous oaks

1504. *Cortinarius furiosus* Carteret & Reumaux
Uncommon 2.0 (11, 12). Thermophilous deciduous oaks
Collection from site 11 GenBank accession number: OM403085

1505. *Cortinarius geraniolens* Bidaud
Uncommon 3.5 (12, 14 (as *C. subattenuatus* Carteret & Eyssart. (Clericuzio 2014)), 16) Lit: Roccastrada (Antonini & Antonini 2006 as *C. paleaceus*); Montieri (Leonardi & al. 2010, as *C. paleaceus*). Mesophilous broad-leaved forests, *Fagus*, thermophilous deciduous oaks
Note: In our opinion, all the species of the *C. flexipes-paleaceus* group, growing under broad-leaved trees in the Apennines, should be determined as *C. geraniolens*. This is also G. Eyssartier's opinion (pers. commun.).

1506. *Cortinarius glandicolor* (Fr.) Fr.
Uncommon 2.0 (1, 6). Mesophilous broad-leaved forests, *Fagus*

1507. *Cortinarius griseovioleipes* Moënne-Locc. & Reumaux
Rare 1.0 (12). Thermophilous deciduous oaks
Note: Reported as *C. basiroseus* A. Pearson ex P.D. Orton in Clericuzio (2014).

1508. Rare *Cortinarius hinnuleoradicatus* Bidaud, Moënne-Locc. & Reumaux
R 1.5 (11) Lit: Civitella-Paganico (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1509. *Cortinarius hinnuleovelatus* Reumaux
Rare <1 Lit: Roccastrada (Antonini & Antonini 2006). Mesophilous broad-leaved forests

1510. *Cortinarius hinnuleus* Fr. sl.
Uncommon 3.0 (11, 12, 14). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1511. *Cortinarius lucorum* (Fr.) Berger
Rare 1.0 (1). Mesophilous broad-leaved forests

1512. *Cortinarius obtusus* (Fr.) Fr.
Occasional 4.0 (8, 12, 14), Roccastrada; Lit: Montieri (Leonardi & al. 2010). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1513. *Cortinarius privignoides* Rob. Henry
Rare 1.0 (16). Mesophilous broad-leaved forests

1514. *Cortinarius pruinatus* Bidaud, Moënne-Locc. & Reumaux
Occasional 4.0 (8, 12, 14, 16). Mesophilous broad-leaved forests, thermophilous deciduous oaks

1515. *Cortinarius rigens* (Pers.) Fr.
Occasional 5.5 (6, 12, 14) Lit: (5), Castiglione della Pescaia (Antonini & Antonini 2006); Montieri (Leonardi et al 2010); Monterotondo Marittimo (AGMT 2012). Mainly thermophilous deciduous oaks, sometimes *Quercus ilex* or mesophilous broad-leaved forests

1516. *Cortinarius safranopes* Rob. Henry
Uncommon 3.0 Lit: (18) (Barluzzi & al. 1996); Massa Marittima, Gavorrano, Castiglione della Pescaia (Antonini & Antonini 2006); Montieri (Leonardi & al. 2010). *Quercus ilex,* thermophilous deciduous oaks

1517. *Cortinarius scaurotraganoides* Rob. Henry
Rare <1 Lit: Monterotondo Marittimo (Antonini & Antonini 2006). Thermophilous deciduous oaks

1518. *Cortinarius scobinaceus* Malençon & Bertault
Uncommon 3.5 (14), Sorano; Lit: Grosseto, Massa Marittima, Scarlino, Orbetello (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks (*Cistus*)

1519. *Cortinarius sertipes* Kühner
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). Riparian

1520. *Cortinarius tigrinipes* Bergeron
Rare 1.5 (1) Lit: Massa Marittima (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1521. *Cortinarius tortipes* Moënne-Locc. & Reumaux (incl.: *C. herculinus* Reumaux)
Rare 1.0 (14). Thermophilous deciduous oaks

1522. *Cortinarius torvus* (Fr.) Fr.
Fairly frequent 8.0 (1, 4, 5, 7, 11, 12), Monterotondo Marittimo, Roccastrada; Lit: Montieri, Castiglione della Pescaia (Antonini & Antonini 2006). Widespread, rare *Quercus ilex*

1523. *Cortinarius turgidus* Fr.
Rare 1.5 (7) Lit: Montieri (Leonardi & al. 2010). *Fagus,* mesophilous broad-leaved forests P

1524. *Cortinarius vernus* H. Lindstr. & Melot (= *C. erythrinus* (Fr.) Fr. ss. Ricken)
Uncommon 3.0 (9, 11, 14). Thermophilous deciduous oaks, mesophilous broad-leaved forests

1525. *Cortinarius vicinus* Bidaud, Consiglio, D. Antonini & M. Antonini
Rare <1 Lit: Roccastrada (Consiglio & al. 2005). Mesophilous broad-leaved forests

AGARICOMYCETES - BOLETALES

Boletaceae Chevall.

Alessioporus Gelardi, Vizzini & Simonini (= *Xerocomus* Quél. p.p.)

1526. *Alessioporus ichnusanus* (Alessio, Galli & Littini) Gelardi, Vizzini & Simonini
Rare 1.5 Follonica, Roccastrada, Sorano. Thermophilous deciduous oaks P

Aureoboletus Pouzar

1527. *Aureoboletus gentilis* (Quél.) Pouzar (= *A. cramesinus* Secr. ex Watling)

Fairly frequent 8.0 (1, 8, 12, 18), Capalbio, Montieri; Lit: (5) (Perini & al. 1989); Montieri (Barluzzi & al. 1992); Massa Marittima, Monterotondo Marittimo, Roccastrada (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, rare *Quercus ilex*

1528. *Aureoboletus moravicus* (Vaček) Klofac (= *Xerocomus m.* (Vaček) Herink; = *Xerocomus leonis* (D.A. Reid) Alessio)

Occasional 4.5 (4, 12) Lit: Castiglione della Pescaia, Civitella-Paganico, Monterotondo Marittimo, Roccastrada (Antonini & Antonini 2006), Montieri (Leonardi & al. 2010). Thermophilous deciduous oaks, *Quercus ilex*

Baorangia G. Wu & Zhu L. Yang

1529. *Baorangia emileorum* (Barbier) Vizzini, Simonini & Gelardi (= *B. aemilii* Barbier (*wrong spelling*); incl.: *Boletus spretus* Bertéa)

Rare 1.5 Montieri, Massa Marittima; Lit: Castel del Piano (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests

Boletus L. ss.

1530. *Boletus aereus* Bull.

Locally common 10. *Quercus ilex,* thermophilous deciduous oaks, sometimes mesophilous broad-leaved forests

1531. *Boletus aestivalis* (Paulet) Fr. (= *B. reticulatus* Schaeff. ss. Auct. pl.)

Fairly frequent 7.5 (1, 7, 8, 11), Montieri; Lit: Arcidosso, Castel del Piano, Monterotondo Marittimo, Roccastrada, Santa Fiora, Seggiano (Antonini & Antonini 2006). Mesophilous broad-leaved forests, *Fagus*, rare thermophilous deciduous oaks

1532. *Boletus edulis* Bull. (incl.: *B. venturi* Bon)

Occasional 5.5 (7, 11), Montieri; Lit: (8), Civitella-Paganico, Massa Marittima, Roccastrada, Seggiano (Antonini & Antonini 2006). *Fagus,* Mountain conifers, sometimes mesophilous broad-leaved forests

1533. *Boletus pinophilus* Pilát & Dermek (= *B. pinicola* (Vittad.) A. Venturi)

Uncommon 3.0 Lit: (7, 8), Castel del Piano, Santa Fiora (Antonini & Antonini 2006). Mountain conifers, *Fagus,* rare mesophilous broad-leaved forests

Buchwaldoboletus Pilát

1534. *Buchwaldoboletus sphaerocephalus* (Barla) Watling & T.H. Li (= *B. hemichrysus* (Berk. & M.A. Curtis) Pilát p.p.)

Rare <1 Pitigliano. Coastal pines

Butyriboletus D. Arora & J.L. Frank (= *Boletus* L. pp.)

1535. *Butyriboletus appendiculatus* (Schaeff.) D. Arora & J.L. Frank

Occasional 5.5 (12) Lit: (1, 7) Arcidosso, Castel del Piano, Monterotondo Marittimo, Roccastrada, Santa Fiora (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, *Fagus*

1536. *Butyriboletus fechtneri* (Velen.) D. Arora & J.L. Frank

Uncommon 3.5 Lit: (1, 5), Monterotondo Marittimo, Roccastrada (Antonini & Antonini 2006); Seggiano (Barluzzi & al. 1992). Thermophilous deciduous oaks, mesophilous broad-leaved sometimes *Quercus ilex* P

1537. *Butyriboletus fuscoroseus* (Smotl.) Vizzini & Gelardi (= *B. pseudoregius* (Heinr. Huber) D. Arora & J.L. Frank)

Occasional 5.0 (12), Roccastrada, Scarlino; Lit: Castiglione della Pescaia, Civitella-Paganico, Massa Marittima, Monterotondo Marittimo, Roccastrada (Antonini & Antonini 2006), Montieri (Leonardi & al. 2010). Thermophilous deciduous oaks, *Quercus ilex*

1538. *Butyriboletus regius* (Krombh.) D. Arora & J.L. Frank

Occasional 6.0 (3, 7, 8), Massa Marittima; Lit: Arcidosso, Castel del Piano, Civitella-Paganico, Monterotondo Marittimo, Santa Fiora (Antonini & Antonini 2006). Mainly mesophilous broad-leaved forests, sometimes thermophilous deciduous oaks or *Fagus*.

1539. *Butyriboletus subappendiculatus* (Dermek, Lazebn. & J. Veselský) D. Arora & J.L. Frank
Rare 1.0 Lit: (7) (Antonini & Antonini 2006). *Fagus*

Caloboletus Vizzini (= *Boletus* L. pp.)

1540. *Caloboletus calopus* (Pers.) Vizzini
Fairly frequent 7.0 (1, 7, 8, 12), Castel del Piano, Montieri, Seggiano; Lit: Arcidosso, Roccastrada, Santa Fiora (Antonini & Antonini 2006). *Fagus*, Mountain conifers, sometimes mesophilous broad-leaved forests

1541. *Caloboletus radicans* (Pers.) Vizzini (= *Boletus albidus* Roques)
Occasional 6.0 (1, 2, 4, 12), Massa Marittima, Scansano; Lit: Arcidosso, Monterotondo Marittimo (Antonini & Antonini 2006). Thermophilous deciduous oaks, *Quercus ilex,* sometimes mesophilous broad-leaved forests

Chalciporus Bataille

1542. *Chalciporus piperatus* (Bull.) Bataille
Uncommon 3.0 (7), Montieri; Lit: Arcidosso, Castel del Piano, Santa Fiora (Antonini & Antonini 2006). Mountain conifers, sometimes *Fagus*

Cyanoboletus Gelardi, Vizzini & Simonini

1543. *Cyanoboletus pulverulentus* (Opat.) Gelardi, Vizzini & Simonini (= *Boletus p.* Opat.)
Uncommon 2.5 Scarlino; Lit: (18) (Barluzzi & al. 1996); Castiglione della Pescaia, Roccastrada (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks

Exsudoporus Vizzini, Simonini & Gelardi (= *Boletus* L. pp.)

1544. *Exsudoporus permagnificus* (Pöder) Simonini, Vizzini & Gelardi
Uncommon 2.5 Montieri, Roccastrada; Lit: (1), Roccastrada (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks, rare mesophilous broad-leaved forests P

Hemileccinum Šutara (= *Xerocomus* Quél. pp.)

1545. *Hemileccinum depilatum* (Redeuilh) Šutara
Uncommon 3.5 (3, 11, 12) Lit: Arcidosso (Antonini & Antonini 2006). Mainly mesophilous broad-leaved forests

1546. *Hemileccinum impolitum* (Fr.) Šutara
Locally common 10. *Quercus ilex,* thermophilous deciduous oaks, rare mesophilous broad-leaved forests

Hortiboletus Simonini, Vizzini & Gelardi (= *Xerocomus* Quél. pp.)

1547. *Hortiboletus engelii* (Hlaváček) Biketova & Wasser (= *Xerocomus communis* ss. Auct.)
Fairly frequent 7.5 (2, 3, 4, 7, 11, 14), Follonica, Massa Marittima, Scansano. Thermophilous deciduous oaks, mesophilous broad-leaved forests, sometimes *Quercus ilex*

1548. *Hortiboletus rubellus* (Krombh.) Simonini, Vizzini & Gelardi
Fairly frequent 8.5 (2, 5, 12, 13), Castiglione della Pescaia; Lit: (18) (Barluzzi & al. 1996); Massa Marittima, Orbetello (Simonini and Ladurner 2003); Arcidosso, Castel del Piano, Monterotondo Marittimo, Scarlino (Antonini & Antonini 2006). Widespread, often synanthropic

Imleria Vizzini (= *Xerocomus* Quél. pp.)

1549. *Imleria badia* (Fr.) Vizzini
Occasional 4.5 (8), Campagnatico; Lit: (7), Arcidosso, Castel del Piano, Santa Fiora, Seggiano (Antonini & Antonini 2006). *Fagus,* Mountain conifers, mesophilous broad-leaved forests

Imperator G. Koller, Assyov, Bellanger, Bertéa, Loizides, G. Marques, P.-A. Moreau, J.A. Muñoz, N. Oppicelli, D. Puddu & F. Richard (= *Boletus* L. pp.)

1550. *Imperator luteocupreus* (Bertéa & Estadès) Assyov, Bellanger, Bertéa, Courtec., G. Koller, Loizides, G. Marques, J.A. Muñoz, N. Oppicelli, D. Puddu, F. Richard & P.-A. Moreau
Occasional 4.0 (3), Castiglione della Pescaia, Roccastrada; Lit: (5), Arcidosso, Castel del Piano (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, rare *Fagus*

1551. *Imperator rhodopurpureus* (Smotl.) Assyov, Bellanger, Bertéa, Courtec., G. Koller, Loizides, G. Marques, J.A. Muñoz, N. Oppicelli, D. Puddu, F. Richard & P.-A. Moreau
Occasional 4.0 Montieri; Lit: (1, 8), Arcidosso, Castel del Piano, Massa Marittima (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, rare *Quercus ilex*

1552. *Imperator torosus* (Fr.) Assyov, Bellanger, Bertéa, Courtec., G. Koller, Loizides, G. Marques, J.A. Muñoz, N. Oppicelli, D. Puddu, F. Richard & P.-A. Moreau
Rare 1.0 Lit: Arcidosso, Castel del Piano (Antonini & Antonini 2006). Mainly mesophilous broad-leaved forests P

Lanmaoa G. Wu & Zhu L. Yang

1553. *Lanmaoa fragrans* (Vittad.) Vizzini, Gelardi & Simonini (= *Boletus f.* Vittad.)
Uncommon 3.0 Arcidosso, Montieri; Lit: (5), Arcidosso, Civitella-Paganico (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, *Quercus ilex*

Leccinellum Bresinsky & Manfr. Binder (= *Leccinum* Gray p.p.)

1554. *Leccinellum crocipodium* (Letell.) Della Maggiora & Trassin.
Fairly frequent 6.5 (12), Capalbio, Massa Marittima, Roccastrada; Lit: (1, 5), Civitella-Paganico, Massa Marittima, Monterotondo Marittimo, Scarlino (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, sometimes *Quercus ilex*

1555. *Leccinellum lepidum* (H. Bouchet ex Essette) Bresinsky & Manfr. Binder (incl.: *L. corsicum* (Roll.) Bresinsky & Manfr. Binder)
Locally common 10. *Quercus ilex*, rare thermophilous deciduous oaks

Leccinum Gray

1556. *Leccinum duriusculum* (Schulzer ex Kalchbr.) Singer
Rare 1.0 Montieri; Lit: Roccastrada (Antonini & Antonini 2006). Riparian *(Populus)* P

1557. *Leccinum quercinum* (Pilát) E.E. Green & Watling (= *L. aurantiacum* (Bull.) Gray ss. Auct.)
Uncommon 3.5 (1), Roccastrada; Lit: Civitella-Paganico, Massa Marittima, Roccastrada, Santa Fiora (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests
Note: We prefer to use the names *L. quercinum* and *L. rufum* to distinguish the *Quercus*-associated species, from the *Populus*-associated species, rejecting the name *L. aurantiacum* that has been used for both.

1558. *Leccinum pseudoscabrum* (Kallenb.) Šutara (= *L. carpini* (R Schulz) M.M. Moser ex D.A. Reid)
Uncommon 3.0 (1, 12), Massa Marittima; Lit: Roccastrada (Antonini & Antonini 2006). Mesophilous broad-leaved forests, thermophilous deciduous oaks

1559. *Leccinum rufum* (Schaeff.) Kreisel (= *L. aurantiacum* (Bull.) Gray ss. Auct.)
Uncommon 3.0 (1, 7), Montieri; Lit: Civitella-Paganico (Antonini & Antonini 2006). Riparian, *Fagus*

Neoboletus Gelardi, Simonini & Vizzini (= *Boletus* L. p.p.)

1560. *Neoboletus luridiformis* (Rostk.) Gelardi, Simonini & Vizzini (= *Boletus erytrhopus* Pers. ss. Auct.; incl.: *Boletus discolor* (Quél.) Boud.)

Occasional 5.0 (7, 8) Lit: (18) (Barluzzi & al. 1996); Roccastrada (Barluzzi & al. 1992), Arcidosso, Santa Fiora, Seggiano (Antonini & Antonini 2006). *Fagus,* mountain conifers, mesophilous broad-leaved forests, rare *Quercus ilex*

Note: We have never found *Neoboletus xanthopus* (Klofac & A. Urban) Klofac & A. Urban in Grosseto, nor it has been reported by other authors. However, its presence is quite probable in our opinion, as we found it in nearby Livorno province.

Phylloporus Quél.

1561. *Phylloporus pelletieri* (Lév.) Quél. (= *Ph. rhodoxanthus* ss. Auct. Eur.)
Rare <1 Lit: Arcidosso (Antonini & Antonini 2006). Mesophilous broad-leaved forests

Pulchroboletus Gelardi, Vizzini & Simonini (= *Xerocomus* Quél. pp.)

1562. *Pulchroboletus roseoalbidus* (Alessio & Littini) Gelardi, Vizzini & Simonini
Rare <1 Roccastrada. *Quercus ilex* P

Rheubarbariboletus Vizzini, Simonini & Gelardi (= *Xerocomus* Quél. pp.)

1563. *Rheubarbariboletus armeniacus* (Quél.) Vizzini, Simonini & Gelardi
Fairly frequent 8.5 (1, 3, 10, 16), Capalbio, Massa Marittima, Scansano, Scarlino; Lit: (5), Castiglione della Pescaia, Monterotondo Marittimo (Antonini & Antonini 2006); Grosseto (Simonini and Ladurner 2003). *Quercus ilex,* thermophilous deciduous oaks, sometimes mesophilous broad-leaved forests

1564. *Rheubarbariboletus persicolor* (H. Engel, Klofac, H. Grünert & R. Grünert) Vizzini, Simonini & Gelardi
Uncommon 2.0 Lit: (5), Civitella-Paganico, Roccastrada (Antonini & Antonini 2006). *Quercus ilex*

Rubroboletus Kuan Zhao & Zhu L. Yang (= *Boletus* L. pp.)

1565. *Rubroboletus dupainii* (Boud.) Kuan Zhao & Zhu L. Yang
Uncommon 2.5 (4), Massa Marittima; Lit: Massa Marittima, Monterotondo Marittimo (Antonini & Antonini 2006). Thermophilous deciduous oaks, *Quercus ilex*

1566. *Rubroboletus legaliae* (Pilát & Dermek) Della Maggiora & Trassin. (= *Boletus splendidus* C. Martín; = *B. satanoides* Smotl. ss. Auct.)
Uncommon 3.5 Capalbio; Lit: (5), Arcidosso, Castel del Piano, Scarlino (Antonini & Antonini 2006), Montieri (Leonardi & al. 2010). *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

1567. *Rubroboletus lupinus* (Fr.) Costanzo, Gelardi, Simonini & Vizzini
Oc 4.0 (2, 12), Roccastrada; Lit: (5), Monterotondo Marittimo (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks

1568. *Rubroboletus pulchrotinctus* (Alessio) Kuan Zhao & Zhu L. Yang
Uncommon 2.0 (2) Lit: Massa Marittima, Monterotondo Marittimo (Antonini & Antonini 2006). *Quercus ilex,* thermophilous deciduous oaks

1569. *Rubroboletus rhodoxanthus* (Krombh.) Kuan Zhao & Zhu L. Yang
Fairly frequent 8.0 (4, 8), Capalbio, Montieri; Lit: (5), Arcidosso, Castiglione della Pescaia Castel del Piano, Civitella-Paganico, Massa Marittima, Monterotondo Marittimo, Roccastrada, Santa Fiora (Antonini & Antonini 2006). Mainly mesophilous broad-leaved forests

1570. *Rubroboletus satanas* (Lenz) Kuan Zhao & Zhu L. Yang
Fairly frequent 8.0 (1, 4, 5, 12), Scansano; Lit: Castiglione della Pescaia, Gavorrano (Perini & al. 1989); Castel del Piano, Monterotondo Marittimo, Massa Marittima, Roccastrada (Antonini & Antonini 2006); Montieri (Leonardi & al. 2010). Mainly thermophilous deciduous oaks, sometimes mesophilous broad-leaved forests

Strobilomyces Berk.

1571. *Strobilomyces strobilaceus* (Scop.) Berk.

Uncommon 2.0 (7), Castiglione della Pescaia; Lit: Seggiano (Antonini & Antonini 2006). Mesophilous broad-leaved forests, *Fagus*, rare thermophilous deciduous oaks

Suillellus Murrill (= *Boletus* L. pp.)

1572. *Suillellus comptus* (Simonini) Vizzini, Simonini & Gelardi
Uncommon 3.0 (3), Montieri; Lit: (5) (Antonini & Antonini 2006); Montieri (Leonardi & al. 2010). *Quercus ilex,* thermophilous deciduous oaks

1573. *Suillellus luridus* (Schaeff.) Murrill (incl.: *S. mendax* Simonini & Vizzini)
Common >10. Widespread

1574. *Suillellus queletii* (Schulzer) Vizzini, Simonini & Gelardi
Locally common 10. Thermophilous deciduous oaks, *Quercus ilex,* mesophilous broad-leaved forests

Tylopilus P. Karst.

1575. *Tylopilus felleus* (Bull.) P. Karst.
Uncommon 2.0 (1) Lit: Monterotondo Marittimo, Seggiano (Antonini & Antonini 2006). Mesophilous broad-leaved forests

Wakefieldia Corner & Hawker

1576. *Wakefieldia macrospora* (Hawker) Hawker
Rare 1.0 Lit: (18) (Barluzzi & al. 1996). *Quercus ilex*

Xerocomellus Šutara (= *Xerocomus* Quél. pp.)

1577. *Xerocomellus chrysenteron* (Bull.) Šutara
Uncommon 2.5 (7) Lit: Montieri (Barluzzi & al. 1992), Arcidosso, Castel del Piano (Antonini & Antonini 2006). *Fagus,* Mountain conifers, rare mesophilous broad-leaved forests
Note: Many bibliographic reports, where "*X. chrysenteron*" was collected under *thermophilous deciduous oaks* or *Quercus ilex*, are here attributed to *X. cisalpinus*, a much more common species in thermophilous habitats.

1578. *Xerocomellus cisalpinus* (Simonini, H. Ladurner & Peintner) Klofac
Locally common 10. *Quercus ilex,* thermophilous deciduous oaks, mesophilous broad-leaved forests

1579. *Xerocomellus porosporus* (Imler ex Watling) Šutara
Uncommon 3.0 (8, 18) Lit: Castel del Piano, Monterotondo Marittimo (Antonini & Antonini 2006). Mesophilous broad-leaved forests, *Fagus,* rare thermophilous deciduous oaks or *Quercus ilex*

1580. *Xerocomellus pruinatus* (Fr. & Hök) Šutara
Uncommon 2.0 (7, 11). *Fagus,* mesophilous broad-leaved forests

1581. *Xerocomellus redeulhii* A.F.S. Taylor, U. Eberh., Simonini, Gelardi & Vizzini (= *Xerocomus dryophilus* (Thiers) N. Siegel, C.F. Schwarz & J.L. Frank ss. Auct. Europ.)
Occasional 6.0 (2, 4, 15, 17), Roccastrada, Scarlino; Lit: Castiglione della Pescaia (Antonini & Antonini 2006), Montieri (Leonardi & al. 2010). *Quercus ilex,* rare thermophilous deciduous oaks

1582. *Xerocomellus sarnarii* Simonini, Vizzini & U. Eberh.
Rare <1 Lit: Orbetello (Ariyawansa & al. 2015). *Quercus ilex*

Xerocomus Quél.

1583. *Xerocomus ferrugineus* (Schaeff.) Alessio (= *X. spadiceus* (Schaeff. ex Fr.) Quél.)
Occasional 5.0 (1, 7, 8) Lit: Montieri (Barluzzi & al. 1992), Arcidosso, Castel del Piano, Santa Fiora (Antonini & Antonini 2006). Mountain conifers, *Fagus,* mesophilous broad-leaved forests
Note: Often this species has been confused with *X. subtomentosum*. Some literature reports have been excluded, see Doubtful, excluded or differently interpreted taxa.

1584. *Xerocomus subtomentosus* (L.) Quél.
Common >10. Widespread

Gyroporaceae Locq.

Gyroporus Quél.

1585. *Gyroporus castaneus* (Bull.) Quél.
Common >10. Widespread
Note: The occurrence of *Gyroporus ammophilus* (M.L. Castro & L. Freire) M.L. Castro & L. Freire in Grosseto province is likely, but we do not have evidence of it to date.

1586. *Gyroporus cyanescens* (Bull.) Quél.
Rare 1.5 (7) Lit: Santa Fiora (Antonini & Antonini 2006). *Fagus* P

Suillaceae Besl & Bresinsky

Suillus Gray

1587. *Suillus bellinii* (Inzenga) Kuntze
Fairly frequent 6.5 (1, 10), Massa Marittima; Lit: (18) (Barluzzi & al. 1996); Civitella-Paganico, Monterotondo Marittimo, Roccastrada (Antonini & Antonini 2006), Castiglione della Pescaia, Grosseto (Angeli and Tulli 2011), Monterotondo Marittimo (AGMT 2012). Coastal pines

1588. *Suillus bovinus* (L.) Roussel
Rare 1.5 Grosseto, Montieri; Lit: Roccastrada (Antonini & Antonini 2006). Coastal pines, mountain conifers

1589. *Suillus collinitus* (Fr.) Kuntze
Locally common 10. Coastal pines, sometimes mountain conifers

1590. *Suillus granulatus* (L.) Roussel
Occasional 4.0 Massa Marittima; Lit: (7), Arcidosso, Castel del Piano, Santa Fiora, Seggiano (Antonini & Antonini 2006), Montieri (Pecoraro & al. 2021). Mountain conifers

1591. *Suillus grevillei* (Klotzsch) Singer
Uncommon 2.0 (8) Lit: (7) (Antonini & Antonini 2006). Mountain conifers

1592. *Suillus luteus* (L.) Roussel
Uncommon 2.5 Massa Marittima; Lit: (8), Arcidosso, Castel del Piano (Antonini & Antonini 2006). Mountain conifers, rare coastal pines

1593. *Suillus mediterraneensis* (Jacquet. & J. Blum) Redeuilh
Rare 1.0 (18). Coastal pines

1594. *Suillus variegatus* (Sw.) Richon & Roze
Rare 1.0 Massa Marittima; Lit: Seggiano (Antonini & Antonini 2006). Mountain conifers

Gomphidiaceae Maire ex Jülich

Chroogomphus (Singer) O.K. Mill.

1595. *Chroogomphus fulmineus* (R. Heim) Courtec. (?= *C. ochraceus* (Kauffman) O.K. Mill.)
Uncommon 2.0 Monterotondo Marittimo; Lit: Castiglione della Pescaia, Massa Marittima, Monterotondo Marittimo (Antonini & Antonini 2006). Coastal pines
Note: In our opinion, a significant part of these finds could represent *C. subfulmineus* Niskanen, Loizides, Scambler & Liimat., judging by macromorphological characters, but we have no evidence to substantiate this assumption.

1596. *Chroogomphus helveticus* (Singer) M.M. Moser
Rare <1 Lit: Seggiano (Antonini & Antonini 2006). Mountain conifers

1597. *Chroogomphus mediterraneus* (Finschow) Vila, Pérez-De-Greg. & G. Mir.
Rare <1 Scarlino. Coastal Pines

1598. *Chroogomphus rutilus* (Schaeff.) O.K. Miller
Fairly frequent 6.5 (10, 11, 17), Massa Marittima, Roccastrada; Lit: Arcidosso, Castel del Piano, Seggiano (Antonini & Antonini 2006), Monterotondo Marittimo (AGMT 2012), Montieri (Pecoraro & al. 2021). Coastal pines, mountain conifers

Gomphidius Fr.

1599. *Gomphidius glutinosus* (Schaeff.) Fr.
Rare <1 Lit: Santa Fiora (Antonini & Antonini 2006). Mountain conifers

1600. *Gomphidius roseus* (Fr.) Fr.
Rare <1 Lit: Montieri (Antonini & Antonini 2006). Mountain conifers

Hygrophoropsidaceae Kühner

Hygrophoropsis (J. Schröt.) Maire ex Martin-Sans

1601. *Hygrophoropsis aurantiaca* (Wulfen) Maire
Uncommon 3.5 Massa Marittima, Montieri; Lit: (7), Civitella-Paganico, Seggiano (Antonini & Antonini 2006), Montieri (Pecoraro & al. 2021). Mountain conifers, rare coastal pines

Leucogyrophana Pouzar

1601. *Leucogyrophana mollusca* (Fr.) Pouzar
Rare 1.0 (11). Mountain conifers

Paxillaceae Lotsy, **Tapinellaceae** Locq.

Melanogaster Corda

1602. *Melanogaster variegatus* (Vittad.) Tul. & C. Tul.
Rare <1 Lit: Isola del Giglio (Gargano & al. 2010). *Quercus ilex*

Paxillus Fr.

1603. *Paxillus involutus* (Batsch) Fr.
Fairly frequent 8.5 (1, 3, 8, 12), Scansano; Lit: (11) (Pecoraro & al. 2021); Arcidosso, Castel del Piano, Massa Marittima, Roccastrada, Santa Fiora (Antonini & Antonini 2006), Montieri (Leonardi & al. 2010). Riparian, mesophilous broad-leaved forests

1602. *Paxillus rubicundulus* P.D. Orton (= *P. filamentosus* (Scop.) Fr,)
Uncommon 2.5 (12), Montieri, Roccastrada; Lit: Arcidosso (Antonini & Antonini 2006). Riparian
Note: This is a species complex (Jargeat & al. 2016). We did not attempt morphological assignment of the various species inside the complex.

Pseudomerulius Jülich

1603. *Pseudomerulius aureus* (Fr.) Jülich
Rare 1.0 Lit: (18) (Bernicchia & Gorjón 2010). Coastal pines P

Tapinella E.-J. Gilbert

1604. *Tapinella atrotomentosa* (Batsch) Šutara (= *Paxillus a.* (Batsch) Fr.)
Occasional 4.0 (11), Gavorrano; Lit: (7), Arcidosso, Santa Fiora, Seggiano (Antonini & Antonini 2006). Coastal pines, mountain conifers

1605. *Tapinella panuoides* (Fr.) E.-J. Gilbert (= *Paxillus p.* (Fr.) Fr.)

Fairly frequent 6.5 (10, 17), Capalbio, Castiglione della Pescaia, Gavorrano, Grosseto, Massa Marittima, Roccastrada, Scarlino; Lit: Castel del Piano, Civitella-Paganico (Antonini & Antonini 2006). Coastal pines, sometimes mountain conifers

Coniophoraceae Ulbr.

Coniophora DC.

1606. *Coniophora arida* (Fr.) P. Karst.
Rare 1.5 (9) Lit: Santa Fiora (Bernicchia & Gorjón 2010). Coastal pines, mountain conifers

1607. *Coniophora puteana* (Schumach.) P. Karst.
Uncommon 2.0 (2, 9). Coastal pines

Rhizopogonaceae Gäum. & C.W. Dodge

Rhizopogon Fr.

1608. *Rhizopogon luteolus* Fr.
Uncommon 2.0 (10) Lit: (18) (Barluzzi & al. 1996). *Quercus ilex/*Coastal pines

1609. *Rhizopogon roseolus* (Corda) Th. Fr. (incl.: *R. vulgaris* (Vittad.) M. Lange)
Uncommon 2.5 (10, 17), Castiglione della Pescaia. *Quercus ilex,* Coastal pines

1610. *Rhizopogon villosulus* Zeller
Rare <1 Santa Fiora. Mesophilous broad-leaved forests P

Sclerodermataceae Corda, **Diplocystidiaceae** Kreisel

Astraeus Morgan

1611. *Astraeus hygrometricus* (Pers.) Morgan
Common >10. Widespread

Pisolithus Alb. & Schwein.

1612. *Pisolithus arhizus* (Scop.) Rauschert (= *P. tinctorius* (Pers.) Coker & Couch)
Fairly frequent 9.5 (2, 9, 12, 15), Gavorrano, Follonica, Isola del Giglio, Grosseto, Massa Marittima, Orbetello, Roccastrada; Lit: (18) (Barluzzi & al. 1996); Monterotondo Marittimo (Antonini & Antonini 2006), Grosseto (Angeli and Tulli 2011). *Quercus ilex,* thermophilous deciduous oaks

Scleroderma Pers.

1613. *Scleroderma areolatum* Ehrenb.
Rare 1.5 (4) Lit: Santa Fiora (Antonini & Antonini 2006). Thermophilous deciduous oaks, mesophilous broad-leaved forests, sometimes *Quercus ilex*

1614. *Scleroderma bovista* Fr.
Uncommon 2.5 (7), Capalbio; Lit: (18) (Barluzzi & al. 1996). Thermophilous deciduous oaks, *Fagus*

1615. *Scleroderma cepa* Pers.
Rare 1.0 Castiglione della Pescaia, Lit: Scarlino (Antonini & Antonini 2006). Thermophilous deciduous oaks P

1616. *Scleroderma citrinum* Pers.
Uncommon 3.0 (1) Lit: Arcidosso, Castel del Piano, Massa Marittima, Monterotondo Marittimo (Antonini & Antonini 2006). Mainly mesophilous broad-leaved forests, sometimes *Fagus*

1617. *Scleroderma meridionale* Demoulin & Malençon

Uncommon 2.5 (10), Capalbio; Lit: (18) (Barluzzi & al. 1996). *Quercus ilex,* coastal pines, rare thermophilous deciduous oaks

1618. *Scleroderma polyrhizum* (J.F. Gmel.) Pers. (= *S. geaster* Fr.)
Uncommon 2.5 Lit: (5), Scarlino, Gavorrano (Perini & al. 1989); Castiglione della Pescaia (Antonini & Antonini 2006). *Quercus ilex,* coastal pines, thermophilous deciduous oaks

1619. *Scleroderma verrucosum* (Bull.) Pers.
Common >10. Widespread

Doubtful, excluded or differently interpreted taxa:

Cantharellus cibarius Fr.
Doubtful and excluded for the time being. Its presence in M. Amiata is not unlikely, but not confirmed, to date. The reports by Antonini & Antonini (2006), were all assigned to *C. pallens*, the dominant species at lower altitudes.

Ramaria aurea (Schaeff.) Quél.
Excluded. The collection by Antonini & Antonini (2006), under *Q. cerris* and *Q. ilex* probably belong to the *R. flava* complex.

Antrodiella romellii (Donk) Niemelä
Doubtful. A collection of ours (Scarlino) needs to be confirmed.

Rickenella brunneolilacea Bon, Contu & Curreli
Likely, to be confirmed. We have personally seen some specimens likely belonging to this taxon in Grosseto province (mainly in *Quercus ilex*), but so far, they have not been properly investigated.

Albatrellus ovinus (Schaeff.) Kotl. & Pouzar
Doubtful. A collection from Massa Marittima (*Coastal Pines*) seems to fit better with *A. subrubescens*.

Lactarius castanopus Sarnari
Doubtful and excluded so far. Described once from Capalbio, it has never been found again.

Lactarius uvidus (Fr.) Fr.
Doubtful. The various reports of this species in Antonini & Antonini (2006) should be compared with *L. luridus*, a much more common species in thermophilous habitats.

Lactarius pterosporus Romagn.
Doubtful. The report from Castiglione della Pescaia (Antonini & Antonini 2006) is unusual for the habitat. It should be checked.

Lactarius fuliginosus (Fr.) Fr.
Unclear taxon. Reports of this species should be compared with common *L. azonites*.

Russula alutacea (Fr.) Fr.
Doubtful. The morphological traits of this species (sometimes reported in Grosseto) are poorly defined, and the separation from the common *R. vinosobrunnea* is still unclear.

Russula amethystina Quél.
Excluded. Reported by Sarnari (2005) from Pigelleto, erroneously indicated as belonging to Grosseto province (actually in the municipality of Piancastagnaio, province of Siena).

Russula foetens Pers.
All the reports from *Quercus ilex* and *thermophilous deciduous oaks* are here assigned to *R. subfoetens*, a species that completely substitutes *R. foetens* in these two habitats. In Grosseto province, *R. foetens* is typical of *Fagus* and sometimes of *Castanea*.

Russula impolita (Romagn.) Bon
Excluded. The collections of *R. impolita* (Romagn.) Bon reported by Sarnari (2005), are more likely to be assigned to

Russula lutensis Romagn.

Russula lundellii Singer (= *R. intermedia* P. Karst.; = *R. mesospora* Singer)
Excluded. *R. lundelli* is a strict *Betula* associate (Romagnesi, 1985; Sarnari, 1998). In Central Italy, such reports should be probably assigned to *R. rutila*.

Russula laricina Velen.
Excluded. The report by Sarnari refers to a locality (Pigelleto) located in the Siena province.

Russula pectinata Fr.
Excluded. Reported by Leonardi & al. (2010) for Monterotondo Marittimo. The Friesian binomial has been assigned to a variety of different taxa, so that currently it is a *nomen confusum* (Sarnari 1998).

Russula puellaris Fr.
Excluded. One of the two reports by Sarnari (2005) refers to a locality (Pigelleto) in the Siena province; the latter (Civitella-Paganico), in *thermophilous deciduous oaks*, actually belongs to a taxon very close to *R. versicolor* Jul. Schaff. (=? *R. pseudopuellaris* Bon), of which we also have some collections outside Grosseto. The true identity of this species is under investigation.

Russula velenovskyi Melzer & Zvára
Excluded. This species is absent in central Italy (Sarnari 2005, and personal observations). The report by Antonini & Antonini (2006) probably corresponds to *R. laeta*.

Hygrophorus marzuolus (Fr.) Bres.
Likely, but not confirmed. A species well-known to local mushroom hunters from the M. Amiata region; however, we couldn't find a single report of a precise growing site for this species.

Hydropus atramentosus (Kalchbr.) Kotl. & Pouzar
Doubtful. Only one basidiome found, in sample site n. 12. To be confirmed.

Clitocybe trullaeformis (Fr.) P. Karst.
Unclear, and excluded for the time being. Two distinct taxa are often reported under this name: 1. An *Infundibulicybe* species, similar to *I. squamulosa*. 2. A species very close, if not identical, to *Spodocybe font-queri*. For this reason, the binomial *Clitocybe trullaeformis* is considered a *nomen confusum* for the time being.

Tricholoma fulvum (DC.) Bigeard & H. Guill. (incl.: *T. pseudonictitans* Bon)
Excluded. This taxon is known to be associated with *Betula* and *Picea*, in boreal regions. Its finding in a broadleaved forest in a temperate region, as reported by Antonini & Antonini (2006), is unlikely.

Tricholoma roseoacerbum A. Riva
Excluded. See notes under *Tricholoma acerbum*.

Clitopilus cystidiatus Hauskn. & Noordel.
Excluded. There are a few reports of this species in Grosseto (as *Clitopilus acystidiatus* (Antonini & Antonini 2006)), but at present, the separation of this taxon from *C. prunulus* is unclear.

Entoloma aethiops (Scop.) G. Stev.
Excluded. A report from Isola del Giglio (Sommier & De Stefani, 1900) is likely to belong to *E. corvinum*. *E. aethiops* is a species growing mainly in *Sphagnum* bogs.

Amanita porphyria Alb. & Schwein.
Doubtful and excluded for the time being. A taxon typically allied to alpine conifers. The finding by Antonini & Antonini (2006) in a mixed hardwood forest, should be compared with dark specimens of *A. citrina*, sometimes occurring under broad-leaved trees.

Melanoleuca stridula (Fr). Singer
Doubtful. Reported by Barluzzi & al. (1996) from site 18. For the time being, we consider it as a synonym of *M. graminicola*.

Melanoleuca substrictipes Kühner

Doubtful. Reported by Clericuzio (2012) for site 12. R. Para, after revision of Kühner's type, considers it a doubtful taxon (pers. commun.).

Calvatia lilacina (Mont. & Berk.) Henn.
One doubtful collection, to be confirmed.

Parasola plicatilis (Curtis) Redhead, Vilgalys & Hopple
Doubtful. Most coprinoid fungi, determined on the ground as *P. plicatilis,* turned out to belong to *P. leiocephala*, after microscopic investigation. The actual spread of the former species should be carefully investigated in Grosseto province.

Psathyrella casca (Fr.) Konrad & Maubl.
Doubtful. A collection made at sampling site n. 16 may correspond to this species. To be confirmed.

Hebeloma crustuliniforme (Bull.) Quél. s.s.
Doubtful. Given the actual genetic-based interpretation of the species (Vesterholt & al. 2014), the former reports of *H. crustuliniforme* should all be reviewed.

Hebeloma subsaponaceum P. Karst. (current name: *H. syrjense* (P. Karst.) P. Karst.).
Excluded. The reports of this species are here assigned to *H. hetieri*.

Cortinarius delibutus Fr.
Excluded. The collection from Castiglione della Pescaia (Antonini & Antonini 2006, in *Quercus ilex*) should probably be assigned to *C. crystallinus*. The former is a typical boreal species, absent in the strictly Mediterranean belt.

Cortinarius subelatior Bidaud, Moënne-Locc. & Reumaux
Doubtful. We have a few *Myxacium* collections which might be assigned to this species (see also the colour plate in Consiglio, 2005), or else to another debated taxon, viz. *C. mucifluoides* Rob. Henry ex Bidaud, Moënne-Locc. & Reumaux. Further studies are necessary to determine whether such collections fall within the intraspecific variability of *C. livido-ochraceus,* as suggested by the Scandinavian school (Brandrud & al. 1998).

Cortinarius caerulescens (Schaeff.) Fr.
Doubtful. *C. caerulescens* has been recently neo-typified by Liimatainen & al. (2014). Taxa in sect. *Caerulescentes* are difficult to determine without molecular studies.

Cortinarius calochrous (Pers.) Gray
Records of this species from the literature, when reported growing under oaks, have been excluded. *C. calochrous* in its present interpretation (Brandrud & al. 1992) is an exclusive *Fagus* associate.

Cortinarius cinnamofulvus R. Henry
Doubtful and excluded. Reported by Barluzzi & al. (1992) for Montieri and Roccastrada: these records are likely to be assigned to *C. olivaceofuscus*.

Cortinarius cyaneus (Bres.) M.M. Moser
Another taxon of sect. *Caerulescentes* of *Cortinarius*, for which the observations under *C. caerulescens* hold.

Cortinarius pseudocrassus Joss. ex P.D. Orton
Excluded. There are two reports in Antonini & Antonini (2006) for this taxon, which, however, is considered exclusive to boreal-alpine conifers, mainly *Picea* (Brandrud & al. 1992).

Cortinarius pseudosulphureus R. Henry
Excluded. In Antonini & Antonini (2006) there is a report of *C. pseudosulphureus* from Scarlino (Cala Martina) in *Quercus ilex*. This species is presently considered a synonym of *C. citrinus*, an exclusive *Fagus* symbiont (Brandrud & al. 1998).

Cortinarius radicatoviolaceus R. Henry
Excluded. Reported by Barluzzi & al. (1996), in site 18. According to IF, it is a later synonym of *C. alboviolaceus* (Pers.) Fr.

Cortinarius splendens R. Henry

A report in Antonini & Antonini (2006), from Massa Marittima (*Quercus ilex*), is assigned by us to *C. majusculus* Kühner. *C. splendens* is another strictly *Fagus* associate.

Cortinarius purpurascens Fr.
Doubtful. Mainly a boreal-alpine species, whose presence in the Central-Southern Apennines needs to be confirmed. A report from Antonini & Antonini (2006) might correspond better to *C. subpurpurascens*, or *C. collocandoides*.

Cortinarius evernius (Fr.)
Excluded. A report from Montieri (Leonardi & al. 2012) is excluded, as this species is typical of *Vaccino-Piceion* in alpine habitats.

Cortinarius paleaceus Fr. and ***Cortinarius umbrinolens*** P.D. Orton
Excluded. All the literature findings in Grosseto of the *C. paleaceus* group are assigned by us to *C. geraniolens*.

Xerocomus ferrugineus (Schaeff.) Alessio
Most reports of this species are here assigned to the much more common *X. subtomentosum*. In Central Italy *X. ferrugineus* is only found in mountain habitats.

DISCUSSION

Our list contains 1619 species, plus a minimal number of infra-specific taxa. Here we will briefly examine these data with respect to frequency, habitat and taxonomic units.

Data sorted by frequency

Table 2 shows the distribution of the 1619 species in the frequency classes previously defined: common, locally common, fairly frequent, occasional, uncommon, rare. As has been observed with other regional lists (Zotti & Orsino, 2001; Angelini et al., 2017) common species account only for a minority of the total recorded taxa, while rare ones are the large majority.
In our list, common and widespread species amount to 98 taxa, corresponding to 6% of total.
Locally common species amount to 70 taxa, 4% of total. Here we find some obligatory mycorrhizal fungi, for instance: *Craterellus lutescens,* associated with pine (*Coastal Pines* and/or *Mountain Conifers*); L*actarius pallidus* with *Fagus* (*Fagus*); *Lactarius subumbonatus,* probably exclusively mycorrhyzal with oaks; *Lactarius atlanticus* with *Quercus ilex*, *Lactarius pyrogalus* with *Corylus avellana*. We also note some narrowly specialized saprotrophic or parasitic species, such as *Cerioporus varius*, only associated with *Fagus; Heterobasidion annosum*, in Grosseto privunce only with *Abies alba; Hemimycena lactea* with *Pinus sp. pl.; Gymnopilus penetrans* with *Pinus* and *Abies; Fuscoporia torulosa,* with *Quercus*, etc.
Fairly frequent species amount to 129 units (8.0%); occasional species to 213 (13%), and uncommon species to 415 (26%).
Rare species are the majority, with 694 records (43%), 518 (32%) of which have been recorded only once.

Data sorted by habitat

Table 3 reports the distribution of the reported species by habitat.
Thermophilous oaks make up the species-richest habitat, with 656 records, and mesophile broad-leaved woods follow with 592 records. These two habitats often intergrade, making woods dominated by deciduous oaks by far the richest in Agaricomycetes biodiversity in Grosseto province, and likely in the whole Italian Apennines.
Helm-oak forests (*Quercus ilex*) have 580 reports. Here we have also included maquis-like vegetation (*Phyllirea, Erica, Arbutus*, *Cistus* etc.), and *Quercus suber* woods. *Cistus*-allied species were included partly in *Quercus ilex*, and partly in thermophilous deciduous oaks. Fifteen species were found to be exclusively allied to *Cistus sp*. The sole *Russula monspeliensis* seems to be an exclusive associate of *Cistus monspeliensis* L., while all the other species are generally found under the much more common *Cistus salvifolius* L. A few species growing in association with *Cistus* seem to be facultative, being also found elsewhere (for instance, *Russula galochroides* and *Hebeloma cavipes*).
Sand dunes has been separated from other strictly Mediterranean cenoses, to account for the very limited number of species growing in this peculiar habitat. Seventeen taxa were found there, among them *Laccariopsis mediterranea, Agaricus aridicola, Psathyrella ammophyla, Inocybe dunensis.* These species represent an important part of the biodiversity of dune systems, and should be strictly protected.
Fagus sylvatica forests (*Fagus*) hosted 217 species, significantly less than those typical of oak woods.

Conifer woods, introduced in the majority of cases, host a significant fungal biodiversity, with a total of 303 records. They can be divided in 136 species associated with coastal pines, and 167 with montane conifers; some species may occur in both kinds of conifer woods. Most species growing under conifers are not found elsewhere.
Thirty-two species are reported for hygrophilous vegetation (Riparian), a number surely underestimated with respect to the actual and potential mycological richness of this habitat.
Seventy-one species were found to be mainly associated with synanthropic vegetation (synanthropic). These species are mostly saprotrophic; some are lignicolous on introduced or cultivated trees, such as *Fomitiporia robusta*, often on *Robinia pseudoacacia* L.; *Phellinus tuberculosus,* on different cultivated species of *Prunus; Cyclocybe cylindracea*, often on plantations of *Populus nigra* L. var. *italica* Moench, and sometimes also on *Acer negundo* L. in city parks. Coprophilous species, primarily found on cattle dung, belong in this category. The few mycorrhizal species labeled synanthropic are typical of open and disturbed sites, sometimes even growing under isolated trees in parks and yards. *Inosperma adaequata* and *Russula ochrospora* are typical examples of this category.
Finally, the widespread species (widespread) amount to 181 species. This label does not mean that such taxa occur everywhere, but that they do not show a preference for a particular habitat in Grosseto province. These species are often common, but not necessarily so.

Results sorted by taxonomic ranking

Distribution of the species through the ranks reveals that at the class level, the majority fell within Agaricomycetes. Inside Agaricomycetes, Table 4 shows the dominance of order Agaricales (1003 records), followed by Russulales (216), Polyporales (133), and Boletales (94).
At the family level, most species belonged to Russulaceae (179 records) and Agaricaceae (128), followed by Cortinariaceae (126), and then by Mycenaceae and Inocybaceae, with 69 and 67 records, respectively (Table 5).
Genera with more than 20 recorded species are reported in Table 6. *Russula* is the richest, with 131 records, closely followed by *Cortinarius* (126). *Inocybe* sl. (here intended + *Mallocybe*, *Inosperma* and *Pseudosperma*) has 67 species; *Mycena* sl. (+ *Phlaeomana* and *Roridomyces*), *Entoloma* and *Lactarius* sl. (+ *Lactifluus*) follow with 59, 51 and 48 species, respectively. No genus outside Agaricales and Russulales has more than 20 recorded species: part of the reason is due to recent division of Boletales, Polyporales and Hymenochaetales.

New, rare, and interesting species

In the development of the present work, two new species were found and described: *Tephrocybella constrictospora* from site 14 (Monte Auto) (Hyde & al. 2017), and *Cortinarius lentus* from site 3 (Monte Sassoforte) (Dovana & al. 2020). The former has been found, so far, only in the type locality, while the latter has been found also in two sites in Liguria and one in Southern France. At least three species were first reports for Italy: *Tephroderma fuscopallens* (Clericuzio, 2019) and *Cortinarius chailluzi* (Clericuzio, 2014) from Rocconi (site n. 12), and *Crepidotus macedonicus* from Montioni (site n. 4; Clericuzio & al. 2017). Probably *Antrodia tanakae* should be added to this list. Finally, *Clavaria appendiculata, Ramariopsis hirtipes, Gymnopus inexpectatus, Rhodocollybia giselae, Inocybe suecica, Inocybe tiliae* and *Cortinarius pseudocisticola* are all recently described species: to date they are considered rare and localized.
In the list we have indicated, by a capital P, a certain number of species that may be added to a regional or national red list, in addition to those already suggested by Antonini & Antonini (2006).

CONCLUSIONS

Grosseto province contains a wide array of habitats within a relatively limited area (4,503 km^2), ranging from strictly Mediterranean cenoses, such as maquis, sand dunes, and evergreen forests, to mountain cenoses dominated by *Fagus* and *Abies*, passing through large extensions of oak and mixed broad-leaved woods. Calcareous, siliceous and more acidic soils are well represented; the soil texture varies from sandy to strongly clayey, with several intermediate mixtures. These biomes support in the mycotal richness here reported, with 1619 Agaricomycotina species. The present list is limited almost entirely to Agaricomycetes, while all other classes have been documented only minimally; even within the Agaricomycetes, groups like hypogeous taxa and many others, have been underreported, leaving much more work to be done. In addition, consistent work needs to be done, to assess the taxa present inside morphological species complexes, such as *Hydnellum concrescens, Russula albonigra, Mycena filopes, Paxillus rubicundulus*, and others.

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VOUCHER	**BLASTn closest match** (Accession No.)	**ITS length** (query/reference) (Similarity, %)	**GenBank accession codes**
291220A008	Antrodia tanakai (KC543142)	683/685(99%)	OM417571
311009T003	Cheimonophyllum candidissimum (DQ486687)	495/497(99%)	OM401937
281020T009	Clitocybe rivulosa (KJ680979)	656/657(99%)	OM401936
011016A011	Coriolopsis trogii (OK641918)	515/515(100%)	OM417561
300619A005	Corticium polygonioides (MH857525)	496/499(99%)	OM417572
241114C002	Cortinarius cisticola (DQ663272)	514/514(100%)	OM403088
241114C003	Cortinarius flavovirens (EU057034)	606/610(99%)	OM403089
161013C004	Cortinarius furiosus (KX964562)	215/217(99%)	OM403085
071110C007	Cortinarius perpallens (NR130243)	583/583(100%)	OM403082
141108C006	Cortinarius platypus (MZ669986)	605/606(99%)	OM403084
171014C001	Cortinarius pseudocisticola (EU057075)	588/590(99%)	OM403087
260419A014	Cristinia helvetica (MZ159632)	324/325(99%)	OM401935
020119A016	Crustomyces subabruptus (KP814558)	612/612(100%)	OM417562
221018T011	Delicatula integrella (MZ159362)	661/668(99%)	OM417580
171014H001	Hygrocybe konradii var. konradii (KF306329)	671/683(98%)	OM401932
071113I001	Inocybe suecica (NR_164552)	567/568(99%)	OM403083
021119L001	Lepiota farinolens (AY176368)	453/455(99%)	OM403081
291113T018	Mycena capillaripes (MT153129)	593/595(99%)	OM403090
231018T016	Mycena cicognanii (JF908486)	247/248(99%)	OM417579
171015T005	Mycena olida (KF499358)	701/703(99%)	OM417583
300820A007	Phlebia subserialis (MF476035)	642/644(99%)	OM417573
210818A012	Polyporus melanopus (KC572025)	575/577(99%)	OM417567
261012A004	Ramaria albidoflava (MT452502)	172/173(99%)	OM417569
041016T001	Ripartites metrodii (JF908748)	568/568(100%)	OM401931
200818A010	Sidera sp. (MW477794)	393/396(99%)	OM401934
021010A008	Sidera vulgaris s.l. (MW198484)	432/435(99%)	OM417563
151020A006	Steccherinum straminellum (JN710597)	652/652(100%)	OM417566
161013T017	Tephrocybe aff. mephitica (KP192631)	531/532(99%)	OM417584
201016T004	Tephroderma fuscopallens (NR_154493)	627/627(100%)	OM417582
021119A001	Trechispora nivea (JX392832)	556/556(100%)	OM417564
281020T008	Tricholoma umbonatum (LT000063)	612/613(99%)	OM417578
311009T002	Tricholoma viridilutescens (LT000095)	281/281(100%)	OM417577
211016T015	Uncultured fungus (HQ625469)	706/709(99%)	OM417581
230816A013	Uncultured fungus(FJ820847) / [Scopuloides leprosa (MW487975)]	634/634(100%) / [637/638(99%)]	OM417568
161014R001	Uncultured Russulaceae (HQ667811)	536/565(95%)	OM403086
291120A003	Vuilleminia comedens (HM046891)	536/537(99%)	OM417570
100221A002	Vuilleminia comedens (HM046898)	423/423(100%)	OM417565
200516A017	Yuchengia narymica (JN641261)	578/580(99%)	OM401933

Table 1. Voucher numbers, accession codes, BLASTn closest match, and ITS length (with % similarity) of the collections investigated at molecular level.

Frequency class	N. of species	% of total
Common	98	6
Locally common	70	4
Fairly frequent	129	8
Occasional	213	13
Uncommon	415	26
Rare	694	43

Table 2. Distribution of the 1619 records by frequency class.

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Habitat type	N. of species
Quercus ilex	580
Coastal Pines	136
Sand dunes	17
Thermophilous deciduous oaks	656
Mesophilous broad-leaved	592
Fagus	217
Mountain Conifers	167
Ripar	32
Synanthropic	71
Widespread	181

Table 3. Distribution by habitat.

Classes and orders	N. of species
Tremellomycetes	4
Dacrymycetes	5
Agaricomycetes	1610
- Auriculariales	7
- Sebacinales	2
- Cantharellales	23
- Trechisporales	9
- Gomphales	43
- Hymenochaetales	45
- Corticiales	8
- Gloeophyllales	2
- Thelephorales	16
- Polyporales	133
- Russulales	216
- Atheliales	9
- Agaricales	1003
- Boletales	94

Table 4. Number of species for each class and order of Agaricomycotina reported in the check-list.

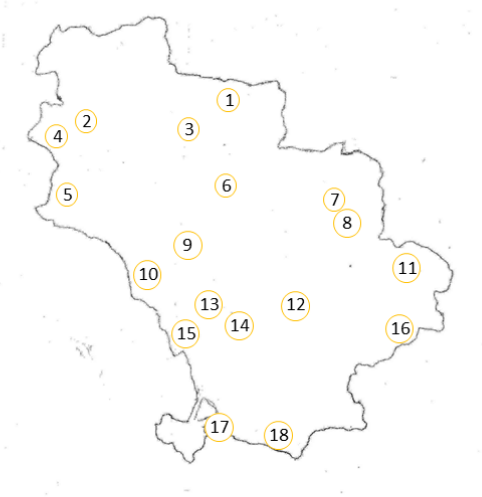
Genus	N. of species
Russulaceae	179
Agaricaceae	128
Cortinariaceae	126
Mycenaceae	69
Inocybaceae	67
Entolomataceae	61
Tricholomataceae sl	59
Boletaceae	59

Table 5. Families having more than 50 species.

Genus	N. of species
Russula	131
Cortinarius	125
Inocybe sl.	67
Mycena sl.	58
Entoloma	51
Lactarius sl.	48
Amanita	35
Tricholoma	34
Lepiota	31
Agaricus	28
Hebeloma	25

Table 6. The genera having more than 20 reported species.

Figure 1. Map of Grosseto province.



1. Valle del Farma
2. Valpiana - Lillatraia
3. Monte Sassoforte
4. Montioni - Poggio 3 Cancelli
5. Cala Violina - Cala Martina
6. Fattoria di Pietratonda
7. Prato delle Macinaie and vicinities
8. M. Amiata chestnut woods
9. Roselle
10. Coastline between Marina and Castiglione
11. Monte Penna - Montevitozzo
12. Roccconi – Rocchette di Fazio
13. Monte Bottigli
14. Monte Auto
15. Monti dell'Uccellina
16. Alta valle del Lente
17. Duna Feniglia
18. Lago di Burano

Figure 2. Localization of the sampling sites.

Figure 3. From top left to bottom right:
Hymenochaete fuliginosa, Phanerochaete martelliana, Phlebia livida, Yuchengia narymica.

Figure 4. From top left to bottom right: *Clitopilus baronii,*
Hygrophorus pseudodiscoideus var. cisticola, Resupinatus niger, Entoloma reinwaldii.

Figure 5. From top left to bottom right:
Leucoagaricus menieri, Lepiota farinolens, Lepiota cystophora, Gymnopilus flavus.

Figure 6. From top left to bottom right: *Inocybe amblyspora, Inocybe suecica, Cortinarius furiosus, Cortinarius bombycinus.*