# Diversity of wood-inhabiting aphyllophoraceous basidiomycetes on the island of Cyprus

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ABSTRACT — The diversity of wood-inhabiting aphyllophoraceous basidiomycetes on the island of Cyprus is explored in this paper, following a ten-year inventory between 2007 and 2016. A total of one-hundred-and-eight taxa are reported, fifty-eight of which constitute new records for the country. Twenty-two species occurring on the narrow-endemic golden oak of Cyprus (*Quercus alnifolia*) are documented for the first time on this host. Collections of *Laetiporus sulphureus* sensu lato from *Ceratonia* and *Eucalyptus* are phylogenetically analysed and revealed to belong to a distinct clade likely representing an undescribed species. Among the newly reported taxa, of particular interest are *Amaurodon viridis*, *Asterostroma ochroleucum*, *Byssomerulius hirtellus*, *Crustoderma dryinum*, *Dendrocorticium polygonioides*, *Postia inocybe*, *P. simani*, *Steccherinum ciliolatum*, and *S. oreophilum*, all of which are considered rare and are seldom reported in literature. The aggressive conifer pathogens *Heterobasidion annosum* and *Porodaedalea pini* are also rare and do not appear to have a significant impact on the island's pine-dominated forests. *Fuscoporia torulosa*, on the other hand, is commonly encountered on sclerophyllous vegetation and should be closely monitored. Previous aphyllophoraceous records from the island are critically discussed and re-evaluated, with old and new data compiled in the form of an annotated checklist, to include notes on the substrate, fruiting season, altitude, and estimated abundance.

KEY WORDS — *Aphyllophorales*, *Corticiaceae*, checklist, lignicolous fungi, *Laetiporus*, Mediterranean, *Quercus alnifolia*, wood-decaying fungi

## Introduction

Non-gilled wood-inhabiting basidiomycetes, including poroid, corticioid, hydnoid, merulioid, and pseudolamellate species, form a highly heterogeneous group of fungi, all of which had been historically placed in the order *Aphyllophorales* Rea (Donk 1964). Several phylogenetic investigations in recent years, have revealed the order to be entirely artificial, leading to major taxonomic revisions within this divergent group. As a result, aphyllophoraceous taxa are currently distributed across several orders among *Agaricomycetes* Doweld, many of them forming basal clades within *Agaricales* Underw. and *Boletales* E.-J. Gilbert (Parmasto 1995; Binder & Hibbett 2002; Langer 2002; Larsson et al. 2004; Binder et al. 2005, 2010, 2013; Matheny et al. 2006; Hibbett et al. 2007; Larsson 2007). Due to high macromorphological stasis, especially among the resupinate and corticioid phenotypes, aphyllophoroid species delimination relies heavily on substrate preferences and micromorphological features, such as the structure of the hyphal system and presence or absence of clamp connections, the type and shape of the cystidia and the basidia, as well as the shape and size of the spores (Jülich 1984; Ryvarden & Gilbertson 1993; Hansen & Knudsen 1997; Bernicchia 2005; Shmidt 2006; Bernicchia & Gorjón 2010).

As heterotrophic organisms, aphyllophoraceous fungi are mostly comprised of wood-decomposing saprotrophs, but also of pathogenic parasites. A small number of species, mostly


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members of the genus *Amphinema* P. Karst. and some tomentelloid lineages, are known to form ectomycorrhizal associations, even though their sporocarps colonize woody substrates (Erland & Taylor 1999; Kõljalg et al. 2000). Wood-decomposers are integral parts of the nutrient cycle, disassembling complex organic molecules into simpler compounds, thereby recycling biologically essential elements such as nitrogen and phosphorus (Dighton & Boddy 1989; Boddy & Watkinson 1995; Deacon 2005). Pathogenic fungi, on the other hand, parasitize on living or moribund trees and shrubs, often inflicting varying degrees of damage to tree populations and cultivations (Manion 1991; Woodward et al. 1998; Schmidt 2006). Depending on their trophic strategies, wood decomposers are classified into two major groups: the brown-rot species, which are mostly associated with conifers and decompose cellulose and hemicellulose; and the white-rot species, which are mostly associated with hardwoods and decompose lignin (Nilsson 1974, 1988; Peláez et al. 1995; Worrall et al. 1997). This highly specialised trophic niche appears to have emerged quite early in evolutionary history and lignin-decaying fungi are now thought to be ancestral to most *Agaricomycetes* (Floudas et al. 2012).

Aphyllophoraceous fungi have only been sparringly documented on the island of Cyprus. Located at the eastermost corner of the Mediterranean basin and occupying an area of 9200 $m^2$, Cyprus is a hotspot of biodiversity, accommodating over 1900 species, subspecies and varieties of vascular plants, about 140 of which are endemic (Médail & Quézel 1997; Myers et al. 2000; Tsintides et al. 2002; Merlo & Croitoru 2005). Of these, *Quercus alnifolia* Poech and *Cedrus brevifolia* A. Henry ex Elwes & A. Henry are the country's only endemic trees and of particular ecological interest, forming pure or mixed stands with *Pinus brutia* Ten., *Pinus nigra* subsp. *pallasiana* (Lamb.) Holmboe, *Arbutus andrachne* L. and other trees and shrubs. Although significant progress in documenting macromycete diversity in Cyprus has been achieved in recent years (Viney 2005; Loizides et al. 2011, 2016; Loizides & Kyriakou 2011; Loizides 2011, 2016; Torrejón 2013), aphyllophoroid taxa are poorly represented and records are presently scattered across several publications. Both the diversity of wood-inhabiting fungi, therefore, as well as the impact they may have on the island's flora, remain largely unknown.

The earliest records of aphyllophoraeous species on the island can be traced in the first checklist of Cyprus fungi (Nattrass 1937). Among some 350 species of ascomycetes, basidiomycetes and anamorphic fungi, Nattrass reported eighteen aphyllophoraceous taxa, to which *Laetiporus sulphureus* (Bull. : Fr.) Murrill was added a couple of years later (Nattrass & Papaioannou 1939). In a subsequent checklist, Georghiou & Papadopoulos (1957) reported *Thanatephorus cucumeris* (A. B. Frank) Donk, followed by a long dormant period of nearly half a century, during which no new data was published. Early in the 21st Century, Viney (2005) published several new records of macromycetes, including eleven previously unreported aphyllophoroid taxa, while in the same year, Tsopelas & Nikolaou (2005) documented the pathogenic *Heterobasidion annosum* (Fr. : Fr.) Bref., from *Pinus nigra* subsp. *pallasiana* forests in the Troodos National Park. More recently, Torrejón (2013) reported thirteen aphyllophoracous species from a variety of substrates, while Loizides (2016) added four more taxa from *Cistus* L. matorral, bringing the total number of aphyllophoroid species documented on the island to forty-nine.

The present study is the first inventory to exclusively focus on wood-inhabiting aphyllophoraceous basidiomycetes in Cyprus, supplemented by a critical review of previously published literature. A total of 108 aphyllophoroid taxa, 58 of which are here newly reported from the country, are compiled in the form of an annotated checklist, aimed at laying the groundwork for future research seeking to expand current knowlegde on these ecologically and economically significant, yet poorly documented organisms.

## Materials & Methods

A large number of sites within several phytogeographical regions were surveyed, as part of a general inventory carried out between 2007 and 2016. Most frequently visited ecosystems included *Pinus brutia* Ten. forests, *P. nigra* subsp. *pallasiana* (Lamb.) Holmboe forests, riparian *Platanus orientalis* L. and *Alnus orientalis* Decne. forests, *Quercus alnifolia* Poech, *Q. coccifera* subsp. *calliprinos* (Webb) Holmboe, *Q. infectoria* subsp. *veneris* (A. Kern) Meikle, and *Arbutus andrachne* L. stands, *Cedrus brevifolia* Holmboe forests and plantations, *Eucalyptus camaldulensis* Dehnh. and *E. gomphocephala* D.C. plantations, alluvial stands of *Salix alba* L. and *Tamarix tetrandra* Pall. Ex M. Bieb., coastal and inland *Juniperus phoenicea* L. and *Tamarix tetragyna* Ehrenb dunes, as well as matorral of *Ceratonia siliqua* L., *Cistus creticus* L., *C. monspeliensis* L., *C, parviflorus* Lam., *C. salvifolius* L., *Crataegus azarolus* L., *Genista sphacelata* Decne. and *Olea europaea* L. All fungi were photographed *in situ*, their host-plant/substrate was documented, and notes on their macromorphological aspect were taken. Alkaline reaction was tested by applying one drop of 5% potassium hydroxide (KOH) on the hymenium and/or context of fresh sporocarps. Microscopic studies were performed under a LEICA BM E binocular microscope at ×40, ×100, ×400 and ×1000 magnifications. Congo Red in 10% ammonia ($NH_3$), 5% potassium hydroxide (KOH) and normal tap water were used as mounting mediums. All diagnostically significant structures were observed. When necessary, Melzer's solution was applied to detect any amyloid or dextrinoid reactions. Selected collections from critical genera were molecularly tested and phylogenetically analysed at ALVALAB. The checklist is assembled from previously reported taxa as well as new records identified during the course of this survey. Taxa are arranged in alphabetical order. Doubtful records, or species identified only to genus, have been excluded (see also "Discussion"). Species reported for the first time from Cyprus are marked with an asterisk (*). Species reported for the first time on a host-plant/substrate are marked with a circumflex (^). Nomenclature follows Index Fungorum (http://www.indexfungorum.org) and recently published systematic revisions based on phylogenetic inferences. Exsiccata are kept in the private collection of the author.

## Data recorded

****Abortiporus biennis*** (Bull. : Fr.) Singer

One record from Pareklisia 27-XI-2012, ca 250 m a.s.l., on *Olea europaea* trunk, in cultivated land (ML21021172AB). Rare.

****Amaurodon viridis*** (Alb. & Schwein. : Fr.) J. Schröt.

One collection fitting well the description of this rare species: Mesa Potamos 9-I-2014, ca 700 m a.s.l., on fallen *Alnus orientalis* log (ML410219AV, Fig. 5A). Characterized by the arachnoid, nodulose or hydnoid (odontoid) basidiomata with greenish-gray or bluish-gray colours, a monomitic hyphal system with partially encrusted clumped hyphae, clumped tetrasporic basidia, and warty globose to subglobose spores measuring 4–5.5 µm (incl. warts < 0.5 µm). More information can be found in Kõljalg (1996). Apparently rare in Cyprus, but can be easily overlooked due to its growth on the underside of fallen logs and branches.

****Amphinema byssoides*** (Pers. : Fr.) J. Erikss.

Few collections, such as: Platania, 21-XII-2011, ca 1150 m a.s.l., on fallen *Pinus brutia* branch (ML11022121AB); Pera Pedi, 2-III-2014, ca 570 m a.s.l., on fallen *P. brutia* branch (ML410232AB, Fig. 5B); Platres, 2-XII-2015 (ML5102212AB), ca 1100 m a.s.l., on fallen *P. brutia* cone. Although the basidiocarps of this species usually inhabit the underside of fallen logs and branches, it is known to form ectomycorrhizal associations (Eriksson & Ryvarden 1973; Aučina et al. 2007). Probably widespread.

****Antrodia heteromorpha*** (Fr. : Fr.) Donk

Asgata 13-I-2010, ca 180 m a.s.l., on old, carbonized *Pinus brutia* branch (ML0102131AH, Fig. 5C); *Ibidem* 24-XII-2011, ca 200 m a.s.l (ML11022142AH). Perhaps widespread; recently synonymized

with *A. albida* (Fr. : Fr.) Donk (Spirin et al. 2013).

****Antrodia ramentacea*** (Berk. & Broome) Donk

Troodos 10-VI-2014, ca 1700 m a.s.l., on fallen *Pinus nigra* subsp. *pallasiana* branch (ML41601AR, Fig. 5D). Only documented once, but could be overlooked.

***Antrodia serialis*** (Fr. : Fr.) Donk

Pelendri 24-III-2011, ca 900 m a.s.l., on carbonized *Pinus brutia* trunk (ML1102342AS). Previously reported by Viney (2005) also on *Pinus*, above Karmi, Dec. 1999. A rather distinctive species, apparently uncommon.

***Athelia decipiens*** (Höhn. & Litsch.) J. Erikss.

Reported by Torrejón (2013) on rotten wood of *Quercus infectoria* subsp. *veneris*, Ayia Paraskevi, 23-XI-2011, ca 597 m a.s.l.

****Asterostroma ochroleucum*** Bres. ex Torrend

One record of this microscopically stunning species, only rarely reported in literature: Panayia 17-II-2015, ca 1100 m a.s.l., on fallen *Pinus brutia* branch (ML5102271AO, Fig. 5E). Characterized by the irregularly globose, tuberculate-echinulate spores measuring 5.5–7 (–8) µm, the abundant irregularly cylindrical to clavate, flexuous gloeocystidia, a monomitic hyphal system lacking clamp connections, and spectacular thick-walled asterosetae, splitting into 4–8 acute branches up to 75 µm long (Breitenbach & Kränzlin 1986; Boidin et al. 1997; Boidin & Gilles 2000). Rare.

***Bjerkandera adusta*** (Willd. : Fr.) P. Karst.

Several sightings, such as: Platres 18-XI-2007, ca 900 m a.s.l., on *Platanus orientalis* trunk (ML70021181BA); *Ibidem* 31-X-2009 (ML90020113BA); Troodos 17-V-2009, ca 1650 m a.s.l., on decaying *Alnus orientalis* log (ML9002513BA); Fassouri 20-I-2010, ca 5 m a.s.l., on *Eucalyptus gomphocephala* trunk (ML0102102BA); Troodos 20-X-2012, ca 1650 m a.s.l., on decaying *A. orientalis* log (ML21020102BA); Platres 6-XII-2013, ca 900 m a.s.l., on *A. orientalis* trunk (ML31216BA). Also reported by Viney (2005) apparently growing on the concrete walls of a manhole, near Trikomo. Widespread, seen on a variety of substrates and elevations throughout the island, from sea-level to the peaks of Troodos mountains.

***Byssomerulius corium*** (Pers. : Fr.) Parmasto

Several collections from a variety of substrates and localities, some of which include: Kelefos 31-XII-2007, ca 500 m a.s.l., on decaying *Alnus orientalis* log (ML70022113BC); *Ibidem* 8-I-2009 (ML900218BC); Platres 16-XII-2010, ca 900 m a.s.l., on decaying *Platanus orientalis* log (ML01022161BC); Alassa 2-I-2011, ca 160 m a.s.l., on decaying *Salix alba* log (ML110212BC); Pyrgos 10-I-2011, ca 600 m a.s.l., on decaying *P. orientalis* log (ML1102101); Platres 4-5-2011, ca 1150 m a.s.l., on decaying unidentified log (ML110254BC); Kannaviou 28-XII-2016, ca 800 m a.s.l., on fallen *Platanus orientalis* branch (ML61022182BC). Also reported by Viney (2005) on *Ceratonia siliqua*, with no dates or localities given. Common.

****Byssomerulius hirtellus*** (Burt) Parmasto

Three collections of this versatile but rare Mediterranean species, all harvested from nearby localities in the same season: Saittas, 30-XII-2013, ca 720 m a.s.l., on fallen *Cistus salvifolius* twig (ML31022103BH); Mesa Potamos, 2-I-2014, ca 650 m a.s.l., on decaying *Platanus orientalis* log (ML410212BH, Fig. 5F); Mesa Potamos, 17-II-2014, ca 680 m a.s.l., on decaying *Pinus brutia* branch (ML41022271BH).

****Ceriporia purpurea*** (Fr. : Fr.) Donk sensu lato

Numerous collections, mostly from carbonized or decaying pine wood, such as: Pera Pedi, 25-III-2011, ca 540 m a.s.l., on decaying *Pinus brutia* branch (ML1102352CP); Trimiklini, 9-XII-2011, ca 600 m a.s.l., on decaying *P. brutia* branch (ML1102219CP); Asgata, 24-XII-2011, ca 170 m a.s.l., on carbonized *P. brutia* branch (ML11022142CP); Platres, 6-XII-2013, ca 900 m a.s.l., on decaying unidentified angiosperm branch (ML3102216CP, Fig. 5G); Souni, 14-II-2014, ca 400 m a.s.l., on carbonized *P. brutia* branch (ML4102241CP); *Ibidem*, 19-II-2014 (ML4102291CP); *Ibidem*, 9-III-

2014 ML410239CP). Spirin et al. (2016) recently provided a revision of the *Ceriporia purpurea* species-complex introducing a number of novelties, also including a description of *Ceriporia bresadolae* (Bourdot & Galzin) Donk, a closely-related species associated with gymnosperms. Most collections cited above may well belong the latter taxon, however Spirin et al. describe the pores of this species as initially pinkish, whereas most Cypriot collections feature pores which are almost always white at first, becoming pinkish-red only at full maturity. Pending molecular invastigations, the binomial "*C. purpurea*" is hence applied here in a broad context.

*^***Ceriporia reticulata** (Hoffin. : Fr.) Domański

Only one collection: Platania, 6-I-2014, ca 1100 m a.s.l., on decaying *Quercus alnifolia* branch (ML410216CR, Fig. 5H). Distribution not yet understood.

***Ceriporiopsis subvermispora** (Pilát) Gilb. & Ryvarden

Alassa, 11-XII-2011, ca 160 m a.s.l., on decaying log of *Salix alba* (ML11022111CS, Fig. 5H). Distribution not yet understood.

*^***Cerrena unicolor** (Bull. : Fr.) Murrill

Only seen once, in Platres, 20-XII-2010, ca 900 m a.s.l., on decaying *Quercus alnifolia* branch (ML01022102CU). Rare.

***Cerioporus meridionalis** (A. David) Zmitr. & Kovalenko

Among the commonest fungi on the island, widely distributed in low- to middle-elevation mattorral and scrubland, found on a wide variety of sclerophyllous plants: Asgata, 2-I-2008, ca 180 m a.s.l., on *Genista* roots (ML800212PM); Mosfiloti, 6-I-2009, ca 330 m a.s.l., among *Cistus* and *Pinus* litter (ML900216PM); Tochni, 6-I-2009, ca 80 m a.s.l., on *Genista* roots (ML900216PM); Drousia, 14-I-2009, ca 400 m a.s.l., among litter (ML9002141PM); Asgata, 3-II-2009, ca 170 m a.s.l., among *C. salvifolius* litter (ML900223PM); Trimiklini, 26-II-2010, ca 600 m a.s.l., on *C. salvifolius* roots (ML0102262PM); *Ibidem*, 3-III-2010 (ML010233PM); Prastio, 25-II-2011, ca 550 m a.s.l., among *C. salvifolius* litter (ML1102252PM); Lady's Mile, 18-I-2012, ca 0 m a.s.l., on halophytic vegetation residue (ML2102181PM); *Ibidem*, 23-I-2012 (ML2102181PM). Previously reported by Viney (2005) as "*Polyporus meridionalis* (A. David) H. Jahn", from roots of *Pinus* and garigue shrubs.

***Chondrostereum purpureum** (Pers. : Fr.) Pouzar

Platres, 18-XII-2010, ca 900 m a.s.l., on dead but still attached wood of *Malus domestica* (ML01022181CP, Fig. 7A); *Ibidem*, 6-I-2011 (ML110216CP). Probably rare, only seen in one locality so far.

***Conferticium ochraceum** (Fr. : Fr.) Hallenb.

Pera Pedi, 14-II-2014, ca 540 m a.s.l., on decaying wood of *Pinus brutia* (ML4102241CO); Previously reported by Torrejón (2013) on *Pinus nigra* subsp. *pallasiana* (erroneously listed as "*Pinus nigra* subsp. *palliata*"), Troodos, 17-XI-2011, ca 1698 m a.s.l.

***Coniophora arida** (Fr. : Fr.) P. Karst. sensu lato

One collection from Asgata, 30-I-2014, ca 170 m a.s.l., on old carbonized branch of *Pinus brutia* (ML4102103CA, Fig. 5J). The dextrinoid spores [measuring 11–13 (–13.5) × 6–8 (–9) µm in the Cypriot collection], have been traditionally used to discriminate this taxon from the closely-related *Coniophora puteana*. However, multigene molecular analyses in recent years have revealed several phylogenetic lineages within the *C. arida, C. olivacea* and *C. puteana* species-complex, which may in the future result in the proposal of further taxa (see Kauserud et al. 2007b; Skrede et al. 2012).

***Coniophora puteana** (Schumach. : Fr.) P. Karst. sensu lato

Occasionally seen, such as: Fassouri, 21-I-2009, ca 5 m a.s.l., on *Eucalyptus gomphocephala* stump (ML9002112CP); *Ibidem*, 20-I-2010 (ML0102121CP); Kelefos, 12-II-2011, ca 5 m a.s.l., on *Pinus brutia* stump (ML1102221CP, Fig. 5K). Since multiple cryptic species within collections identified as *C. puteana* and *C. arida* have been phylogenetically confirmed (Kauserud et al. 2007b; Skrede et al. 2012), the precise identity of the Cypriot collections can only be resolved by molecular sequencing.

***Coriolopsis gallica*** (Fr. : Fr.) Ryvarden

Tochni, 22-I-2008, ca 80 m a.s.l., on old carbonized *Ceratonia silqua* stump (ML8002122CG); Pentakomo, 19-II-2009, ca 80 m a.s.l., on decayed *Acacia* trunk (ML9002291CG); *Ibidem*, 13-I-2010 (ML0102131CG); *Ibidem*, 28-I-2011; Platres, 22-XI-2013, ca 900 m a.s.l., on unidentified angiosperm log (ML31021122CG); Pissouri, 11-XI-2016, ca 280 m a.s.l., on *Citrus sinensis* stump (ML61021111CG); Also reported by Viney (2005) on *Julgans* and cut timber, without dates and localities. A rather widespread species.

****Crustoderma dryinum*** (Berk. & M.A. Curtis) Parmasto

Two collections of this seldomly reported but unmistakable species: Moniatis, 12-XII-2011, ca 750 m a.s.l., on decaying *Pinus brutia* log (ML11022121CD, Fig. 5L); Mesa Potamos, 2-I-2014, ca 650 a.s.l., on decaying *P. brutia* log (ML410212CD). Notable for its saffron-yellow phlebioid basidiocarps with clamped hyphae, the narrowly elliptical to subcylindrical cyanophilous spores measuring 7–9 × 2.5–3.5 µm, and the strikingly long, cylindrical and distinctly projecting cystidia measuring 80–120 × 6–8 µm (see also Eriksson & Ryvarden 1975; Bernicchia & Gorjón 2010). Rare.

***Dacryobolus karstenii*** (Bres.) Oberw. ex Parmasto

Reported by Nattrass (1937) as "*Stereum karstenii* Bres.", on *Pinus halepensis* (probably referring to *P. brutia*), Troodos, Aug. 1931.

***Daedaleopsis nitida*** (Durieu & Mont.) Zmitr. & Malysheva

Cedar Valley, 22-XI-2011, ca 1000 m a.s.l., on fallen *Quercus alnifolia* branch; leg. & det. Bruce Ing. First reported by Nattrass (1937) as "*Hexagonia nitida* Mont.", also on *Q. alnifolia*, Stavros tis Psokas, Sept. 1935. Rare.

*^***Dendrocorticium polygonioides*** (P. Karst.) M.J. Larsen & Gilb.

A new record for Cyprus and a new host for this uncommon species: Pano Amiantos, 19-XI-2013, ca 1150 m a.s.l., on decaying *Quercus alnifolia* branch (ML31021191DP, Fig. 5M). This corticioid fungus is characterized by the extensively cracked basidiocarps often displaying pinkish or violaceous tinges, the clamped, thick-walled hyphae, the ovoid spores measuring 7–9 × 5.5–6.5 µm, and abundant, often encrusted dendrohyphidia (Eriksson & Ryvarden 1976; Larsen & Gilbertson 1977; Boidin & Gilles 1998; Bernicchia & Gorjón 2010). Probably rare in Cyprus, so far known only from one collection.

*^***Dichomitus campestris*** (Quél.) Domański & Orlicz

Platres, 22-XI-2008, ca 900 m a.s.l., on decaying *Quercus alnifolia* branch (ML90021122DC); Kelefos, 22-XI-2009, ca 500 m a.s.l., on decaying *Alnus orientalis* branch (ML90021122DC); Platres, 14-XI-2012, ca 1100 m a.s.l., on decaying *Q. alnifolia* branch (ML21021141DC, Fig. 5N); *Ibidem*, 6-XII-2013, ca 900 m a.s.l., on decaying *Q. alnifolia* branch (ML3102216DC). Sparringly encountered and probably uncommon, restricted in riparian forests.

****Dichomitus squalens*** (P. Karst.) D.A. Reid

Pelendri, 17-II-2010, ca 900 m a.s.l., on the trunk of carbonized but still standing *Pinus brutia* tree (ML01021171DS). Probably rare, only seen once.

****Diplomitoporus flavescens*** (Bres.) Domański.

A common decomposer of high-altitude pine forests, exclusively seen on the bark of fallen logs and branches of *Pinus nigra* subsp. *pallasiana*; numerous sightings, such as: Troodos, 1-X-2008, ca 1550 m a.s.l (ML8002011DF); *Ibidem*, 10-X-2008, ca 1800 m a.s.l (ML80020101DF); *Ibidem*, 17-V-2009, ca 1650 m a.s.l (ML90020171DF, Fig. 7B); *Ibidem*, 10-IV-2010, ca 1650 m a.s.l (ML01020101DF); Prodromos, 29-IX-2011, ca 1350 m a.s.l (ML1102992DF); Troodos, 10-VI-2014, ca 1750 m a.s.l (ML4102601DF); *Ibidem*, 3-XI-2015, ca 1750 m a.s.l (ML5102113DF); Trooditissa, 27-IX-2016, ca 1350 m a.s.l. (ML6102972DF).

***Exidiopsis calcea*** (Pers. : Fr.) K. Wells

Reported by Torrejón (2013) on *Pinus brutia* branch, Platres (trail to Caledonia falls), 19-XI-2011, ca 1324 m a.s.l.

***Fomes fomentarius*** (L.) : Fr.

Platres, 18-XI-2007, ca 900 m a.s.l., on decaying *Alnus orientalis* log (ML70021181FF); Pelendri, 1-IV-2009, ca 800 m a.s.l., on carbonized *Platanus orientalis* log (ML900241FF); Platres, 18-XII-2010, ca 900 m a.s.l., on *Malus domestica* trunk (ML01022181FF); Platania, 29-V-2016, ca 1000 m a.s.l., on *P. orientalis* trunk (ML6102592FF). Also reported by Nattrass (1937): Saittas, Feb. 1932, on *Populus nigra*; Stavros tis Psokas, Jan. 1936, on *P. orientalis*. Widespread, but infrequently seen.

***Fomitiporia punctata*** (P. Karst.) Murrill

Akamas, 4-I-2011, ca 200 m a.s.l., on *Cistus monspeliensis* branch (ML110214FP, Loizides 2016); Previously reported by Nattrass (1937) as "*Poria friesiana* Bres.", on *Citrus sinensis* stump, Famagusta, July 1933; and Viney (2005) as "*Phellinus punctatus* (P. Karst.) Pilát" on *Olea europaea*, Karmi, without date. Not frequently documented, but perhaps overlooked.

****Fomitiporia robusta*** (P. Karst.) Fiasson & Niemelä

Only once documented: Saittas, 30-XII-2010, ca 720 m a.s.l., on *Pistacia terebinthus* trunk (ML01022103FR, Fig. 7C). Probably rare.

***Fomitiporia rosmarini*** (Bernicchia) Ghob.-Nejh. & Y.C. Dai

Only one record of this rare Mediterranean species, mostly associated with *Cistus*: Kelefos, 4-IV-2011, ca 500 m a.s.l., on *C. salvifolius* branch (ML110244PR, Loizides 2016).

****Fomitopsis pinicola*** (Sw. : Fr.) P. Karst.

An unmistakable species which is rare in Cyprus, only seen twice in black pine forests: Troodos, 11-X-2008, ca 1750 m a.s.l., on *Pinus nigra* subsp. *pallasiana* trunk (ML 80020111FP); *Ibidem*, 3-X-2009, ca 1650 m a.s.l., on decaying *P. nigra* subsp. *pallasiana* log (ML9002013FP).

***Fuscoporia torulosa*** (Pers. : Fr.) T. Wagner & M. Fisch.

Very widespread throughout the island, with numerous sightings, such as: Trimiklini, 3-XII-2007, ca 600 m a.s.l., on living *Olea europaea* trunk (ML7002213PT); Stavros tis Psokas, 25-X-2008, ca 1100 m a.s.l., on living *Quercus alnifolia* trunk (ML80020152PT); Platres, 25-XI-2008, ca 1050 m a.s.l., on living *O. europaea* trunk (ML80021152PT); Mesa Potamos, 31-XII-2009, ca 700 m a.s.l., on living *Q. alnifolia* trunk (ML90022113PT); Kelefos, 2-XI-2009, ca 500 m a.s.l., on dead unidenfified trunk (ML9002112PT); Agros, 5-XI-2009, ca 1000 m a.s.l., on dead *Q. infectoria* subsp. *veneris* trunk (ML9002115PT); Platania, 30-XII-2009, ca 1050 m a.s.l., on living *Q. alnifolia* trunk (ML9002112PT); Mesa Potamos, 2-I-2010, ca 700 m a.s.l., on living *Q. infectoria* subsp. *veneris* trunk (ML010212PT); Prastio, 25-II-2011, ca 500 m a.s.l., on living *Pistacia lentiscus* roots (ML1102252PT); Ayia Paraskevi, 11-IV-2011, ca 520 m a.s.l., on living *Q. alnifolia* trunk (ML1102411PT); Fassouri, 6-X-2013, ca 5 m a.s.l., on living *Eucalyptus camaldulensis* trunk (ML3102016PT); Troodotissa, 10-VI-2014, ca 1300 m a.s.l., on living *Q. alnifolia* trunk (ML4102601PT); *Ibidem*, 27-IX-2016, ca 1400 m a.s.l. (ML6102972PT). Also reported by Nattrass (1937) as "*Fomes torulosus* (Pers.) Fr." on *Ceratonia siliqua* trunk, Lefkara, April 1931; by Kotlaba (1997) as "*Phellinus torulosus* (Pers.) Bourdot & Galzin", Kantara, 11-XII-1990, ca 600 m a.s.l. on dead branch of *Arbutus andrachne*; by Viney (2005), on *C. siliqua* and *Prunus dulcis*, without dates and localities; and by Loizides (2011) from collections listed above. One of the commonest polypores in Cyprus and a dangerous pathogen; see "Discussion" for further remarks.

***Ganoderma adspersum*** (Schulzer) Donk

Alassa, 21-X-2008, ca 180 m a.s.l., on decaying *Salix alba* log (ML80020112GA); *Ibidem*, 23-XI-2009, ca 180 m a.s.l., on decaying *S. alba* trunk (ML90021132GA); Moniatis, 16-XI-2010, ca 850 m a.s.l., on *Platanus orientalis* (ML01021161GA); Platres, 18-XII-2010, ca 1150 m a.s.l., on *Quercus infectoria* subsp. *veneris* (ML01022181GA); Mari, 23-XII-2010, ca 30 m a.s.l., on *Ceratonia siliqua* (ML01022132GA, Fig. 7D); Kellaki, 22-XI-2011, ca 600 m a.s.l., on *C. siliqua* (ML11021122GA);

Mari, 23-XII-2010, ca 30 m a.s.l., on *C. siliqua* (ML01022132GA); Kelefos, 7-I-2014, ca 500 m a.s.l., on *Alnus orientalis* (ML410217GA). Previously reported by Viney (2005) on *Ficus carica* and *Prunus dulcis*, in Karmi, without dates. See "Discussion" for more details.

^***Ganoderma lucidum*** (Curtis : Fr.) P. Karst.

Platania, 28-XI-2008, ca 1050 m a.s.l., at the base of *Quercus alnifolia* (ML80021182GL); Mesa Potamos, 2-I-2010, ca 1150 m a.s.l., on the ground, attached to *Q. alnifolia* roots (ML010212GL); Cedar Valley, 22-XI-2011, ca 1000 m a.s.l., on the ground, attached to *Q. alnifolia* roots (ML11021122GL); Platres, 16-X-2012, ca 900 m a.s.l., at the base of *Q. alnifolia* (ML21020161GL); *Ibidem*, 26-XI-2014 (ML41021162GL, Fig. 7E). Also reported by Nattrass (1937) as "*Ganoderma luscidum* (Leyss.) Karst." on the ground, Agros, Oct. 1934. This iconic pharmaceutical species appears to be uncommon in Cyprus and so far only found growing from the roots of the endemic golden oak.

****Ganoderma resinaceum*** Boud.

Stavros tis Psokas, 18-XI-2009, ca 1100 m a.s.l., on living *Quercus infectoria* subsp. *veneris* (ML90021181GR, Fig. 7F); *Ibidem*: 22-XI-2011 (ML11021122GL). Probably rare.

***Gloeophyllum abietinum*** (Bull. : Fr.) P. Karst.

Asgata, 10-II-2011, ca 170 m a.s.l., on carbonized *Pinus brutia* log (ML1102201GA); Kalavasos, 29-XI-2012, ca 160 m a.s.l., on carbonized *Pinus brutia* log (ML21021192GA). Previously reported by Nattrass (1937) as "*Lenzites abietina* (Bull.) Fr." on worked timber, Nicosia, May 1931; and on dead trunk of *Cupressus* sp., Hilarion, March 1931; and by Viney (2005) on fallen *Cupressus* and *Pinus*, without dates and localities. Easily recognised in the field, but not frequently seen.

***Gloeophyllum trabeum*** (Pers. : Fr.) Murrill

Saittas, 12-III-2009, ca 750 m a.s.l., on carbonized *Pinus brutia* log (ML9002321GT); *Ibidem*, 15-III-2009 (ML9002351GT); Mosfiloti, 23-I-2011, ca 250 m a.s.l., on *Cupressus sempervirens* stump (ML1102132GT). Previously reported by Nattrass (1937) as "*Trametes trabea* (Pers.) Bres." on trunk of *P. halepensis* (probably referring to *P. brutia*), Stavros tis Psokas, Sept. 1935; and Viney (2005) on dead conifers and sawn wood, without dates and localities. Uncommon, more frequently seen on carbonized conifer wood after forest fires.

****Gloeoporus taxicola*** (Pers. : Fr.) Gilb. & Ryvarden

Two collections from the same locality: Trooditissa, 22-V-2014, ca 1350 m a.s.l., on decaying *Pinus nigra* subsp. *pallasiana* log (ML4102522GT, Fig. 5O); *Ibidem*, 10-VI-2014 (ML4102601GT). Distribution not yet understood.

***Heterobasidion annosum*** (Fr. : Fr.) Bref.

Troodos, 27-IX-2008, ca 1750 m a.s.l., on decaying *Pinus nigra* subsp. *pallasiana* stump (ML8002972HA); *Ibidem*, 20-X-2012, ca 1650 m a.s.l., on decaying *P. nigra* subsp. *pallasiana* log (ML21020102HA). First reported by Tsopelas & Nikolaou (2005) on stumps of *P. nigra* subsp. *pallasiana*, Troodos, June 2003. An aggressive conifer pathogen, which is nonetheless uncommon in Cyprus; see "Discussion" for further remarks.

***Hyphoderma incrustatum*** K.H. Larss.

Reported by Torrejón (2013) on decaying log of *Pinus nigra* subsp. *pallasiana* (erroneously listed as "*P. nigra* subsp. *palliata*"), Troodos, 17-XI-2011, ca 1698 m a.s.l.

***Hyphoderma nemorale*** K.H. Larss.

Reported by Torrejón (2013) on decaying branch of *Quercus alnifolia,* Platres (trail to Caledonia falls), 19-XI-2011, ca 1324 m a.s.l.

*^***Hyphodontia quercina*** (Pers. : Fr.) J. Erikss.

Platres, 28-IV-2011, ca 900 m a.s.l., on decaying branch of *Quercus alnifolia* (ML1102482HQ, Fig. 5P); Mesa Potamos, 9-I-2014, ca 800 m a.s.l. on dead but still attached *Q. alnifolia* branch (ML410219HQ). Occasional, fruiting in large patches locally on the endemic golden oak.

***Inonotus hispidus*** (Bull. : Fr.) P. Karst.

Reported by Nattrass (1937) as "*Polyporus hispidus* (Bull.) Fr." on trunk of *Populus nigra*, Nicosia, Jan. 1936, but so far not seen by the author.

****Inonotus tamaricis*** (Pat.) Maire

Akrotiri, 21-I-2012, ca 2 m a.s.l., on living *Tamarix tetragyna* (ML2102112IT); Germasogeia (marshes around dam area), 13-I-2013, ca 250 m a.s.l., on dead *Tamarix* sp. (ML3102131IT, Fig. 7G). This is a typically southern but cosmopolitan species, frequently reported across the Mediterranean, but also from the Balcans, Caucasus, North Africa and Southern Asia, with its distribution stretching as far as China (Klán 1978; Dai et al. 1997; Bernicchia 2005; Ryvarden 2005). Easily recognised in the field by its host-specificity on *Tamarix* and the distinctly marbled context at the fruitbody's base. The spores of the Cypriot collections measure 6.5–8.5 × 5.5–6.5 µm.

****Inonotus triqueter*** (Fr.) P. Karst.

Occasionally encountered at the higher peaks of Troodos mountains, such as: Platania, 10-X-2009, ca 1050 m a.s.l., on living *Pinus brutia* (ML90020101IT); Stavros tis Psokas, 18-XI-2009, ca 1100 m a.s.l., on living *P. brutia* (ML90021181IT); Platania, 23-XI-2009, ca 1050 m a.s.l., on living *P. brutia* (ML90021132IT); *Ibidem*, 30-XII-2012 (ML21022103IT); Troodotissa, 25-X-2011, ca 1350 m a.s.l., on living *P. nigra* subsp. *pallasiana* (ML11020152IT, Fig. 7H); *Ibidem*, 14-X-2012 (ML21020141IT).

***Laetiporus sulphureus*** (Bull. : Fr.) Murrill sensu lato

Numerous collections: Kalavasos, 13-XI-2007, ca 60 m a.s.l., on *Eucalyptus gomphocephala* stump (ML70021131LS); Fassouri, 18-X-2008, ca 5 m a.s.l., on living *E. camaldulensis* trunk (ML80020181LS); Kalavasos, 19-X-2008, ca 60 m a.s.l., on *E. gomphocephala* stump (ML80020192LS); Fassouri, 20-X-2008, ca 5 m a.s.l., on living *E. camaldulensis* trunk (ML80020102LS); *Ibidem*, on the ground, attached to *E. camaldulensis* roots (ML80020102LS2); *Ibidem*, 22-X-2008 (ML80020122LS); *Ibidem*, 26-X-2008, on living *E. camaldulensis* trunk (ML80020162LS); Pera Pedi, 31-XII-2008, ca 600 m a.s.l., on *Quercus infectoria* subsp. *veneris* stump (ML80022113LS); Fassouri, 8-X-2009, ca 5 m a.s.l., on living *E. camaldulensis* trunk (ML9002018LS); Lemesos, 10-X-2009, ca 15 m a.s.l., on living *Ceratonia siliqua* trunk, leg. S. Michailides (ML90020101LS); Prastio, 18-X-2009, ca 500 m a.s.l., on *C. siliqua* trunk, leg. Anonymous (KX685447); Fassouri, 21-X-2009, ca 5 m a.s.l., on living *E. camaldulensis* trunk (ML90020112LS); *Ibidem*, 21-X-2009, on decaying *E. camaldulensis* log (ML90020112LS2); *Ibidem*, 6-XI-2009, on living *E. camaldulensis* trunk (ML9002116LS); *Ibidem*, 25-X-2010 (ML01020152LS); *Ibidem*, 25-X-2010, on the ground, attached to *E. camaldulensis* roots (ML01020152LS); *Ibidem*, 18-X-2011, on living *E. camaldulensis* trunk (ML11020181LS); *Ibidem*, 18-X-2011 (ML11020181LS2); *Ibidem*, 11-X-2012 (ML21020111LS); *Ibidem*, 5-X-2013 (KX685448, Fig. 7I); *Ibidem*, 6-X-2013 (ML3102016LS). Apesia, 30-IX-2015, ca 450 m a.s.l., on living *C. siliqua* stump, leg. Ch. Kyriakou (ML5102903LS). Also reported by Nattrass & Papaioannou (1939) as "*Polyporus sulphureus* (Bull.) Fr." on *C. siliqua*; by Viney (2005) on *Melia azedarach*, Kyrenia, Nov. 1999, as well as Kyriakou et al. (2008), and Loizides et al. (2011), from collections cited above. Can be locally frequent in years with early rainfall; see "Discussion" for further remarks.

****Lentinus arcularius*** (Batsch : Fr.) Zmitr.

Rare in Cyprus, known only from one collection in Platres, 28-IV-2011, ca 900 m a.s.l., on decaying, unidentified angiosperm log (ML1102482PA). Recently transferred to genus *Lentinus* Fr. from genus *Polyporus* P. Micheli ex Adans., based on molecular data (Sotome et al. 2008; Zmitrovich 2010).

****Leucogyrophana pseudomollusca*** (Parmasto) Parmasto

Alassa, 31-XII-2013, ca 160 m a.s.l., on decaying *Salix alba* log (ML31022113LP). Mesa Potamos, 2-I-2014, ca 720 m a.s.l., on decaying *Alnus orientalis* log (ML410212LP). This species is widely associated with brown cubical rot, but appears to be rare in Cyprus with only two collections so far.

***Lyomyces sambuci*** (Pers. : Fr.) P. Karst.

Reported by Torrejón (2013) on rotten branch of *Quercus infectoria* subsp. *veneris*, Ayia Paraskevi, 23-XI-2011, ca 597 m a.s.l.

****Meripilus giganteus*** (Pers. : Fr.) P. Karst.

Only once seen in the last decade, following a collection brought to the author from cultivated land around Pelendri, 5-X-2013, ca 850 m a.s.l., from an unidentified angiosperm stump (ML3102015MG); leg. unknown. Evidently very rare; not a species to evade attention.

****Odontia fibrosa*** (Berk. & M.A. Curtis) Kõljalg

Platania, 21-XII-2011, ca 1150 m a.s.l., on decaying *Pinus brutia* log (ML11022112OF). Recently moved to genus *Odontia* Pers. from genus *Tomentella* Pers. ex Pat., based on molecular data (Tedersoo et al. 2014).

***Peniophora cinerea*** (Pers. : Fr.) Cooke

Reported by Torrejón (2013) on decaying branch of *Ceratonia siliqua*, Asgata, 24-XI-2011, ca 158 m a.s.l.

***Peniophora lycii*** (Pers. : Fr.) Höhn. & Litsch.

Akrotiri, 11-II-2014, ca 50 m a.s.l., on *Juniperus phoenicea* branch (ML4102211PL); *Ibidem*, 14-II-2014 (ML4102241PL); Trimiklini, 28-II-2014, ca 500 m a.s.l., on fallen *Cistus* sp. twig (ML4102282PL); Previously reported by Nattrass (1937) as "*Peniophora caesia* (Bres.) Bourd.", on *Ceratonia siliqua*, Lefkara, June 1931. Perhaps frequent but overlooked; apparently widespread on Mediterranean vegetation (Bernicchia & Gorjón 2010; Pecoraro et al. 2014).

***Peniophora meridionalis*** Boidin

Reported by Torrejón (2013) on decaying branch of *Quercus infectoria* subsp. *veneris*, Ayia Paraskevi, 24-XI-2011, ca 597 m a.s.l.

***Peniophora quercina*** (Pers. : Fr.) Cooke

Ayia Paraskevi, 9-XII-2016, ca 560 m a.s.l., on fallen *Quercus infectoria* subsp. *veneris* branch (ML6102219PC); Previously reported by Torrejón (2013) on the same host, Ayia Paraskevi, 24-XI-2011, ca 597 m a.s.l.

*^***Peniophora violaceolivida*** (Sommerf.) Massee

Platres, 17-XII-2011, ca 1200 m a.s.l., on decaying *Quercus alnifolia* branch (ML11022171PV, Fig. 6A). Maybe widespread but overlooked.

****Peniophorella praetermissa*** (P. Karst.) K.H. Larss. sensu lato

One collection corresponding to this species complex, recently shown to incorporate as many as eight phylogenetically distinct lineages, most of which are morphologically indistinguishable and yet to be formally described (Hallenberg et al. 2007). The Cypriot collection is notable for its dimorphic cystidia completely lacking apical encustations, as well as an absence of stephanocysts. Gloeocystidia are fusiform, measuring 55–65 × 7–12 µm, while leptocystidia are cylindrical to subutriform with capitate apices, measuring 40–45 × 8–10 µm. Spores are elliptical to allantoid and measure 9–12 × 4.5–6 µm. Souni, 19-II-2014, ca 400 m a.s.l., on old, carbonized *Pinus brutia* branch (ML4102291PP, Fig. 6B).

***Phaeolus schweinitzii*** (Fr. : Fr.) Pat.

Troodos, 15-IX-2009, ca 1760 m a.s.l., on the ground, attached to *Pinus nigra* subsp. *pallasiana* roots (ML9002951PS). *Ibidem*, 24-X-2014, ca 1800 m a.s.l. (ML41020142PS). Previously reported by Nattrass (1937) as "*Polyporus schweinitzii* Fr." on *P. halepensis* trunk (likely referring to *P. brutia*), Stavros tis Psokas, Jan. 1936, and by Loizides et al. (2011), from collections listed above. Uncommon or rare.

****Phanerochaete sanguinea*** (Fr. Fr.) Pouzar

Mesa Potamos 4-II-2014, ca 650 m a.s.l., on decaying *Alnus orientalis* log (ML410224PS, Fig. 6C). This striking species causes a distinct reddish-orange staining on the substrate it colonizes. It had been recently placed in the newly-proposed genus *Atheliachaete* Spirin & Zmitr. (Ţura et al. 2011), but

reinstated in genus *Phanerochaete* P. Karst. in a subsequent study by Floudas & Hibbert (2015). The latter binomial is provisionally retained here. Distribution not yet understood.

****Phanerochaete sordida*** (P. Karst.) J. Erikss. & Ryvarden
Mesa Potamos, 2-I-2014, ca 700 m a.s.l., on decaying *Platanus orientalis* log (ML410212PS, Fig. 6D). Distribution not yet understood.

*^***Phellinopsis conchata*** (Pers. : Fr.) Y.C. Dai
One collection fitting the description of this species: Platres 6-XII-2013, ca 900 m a.s.l., on the underside of dead but still attached *Quercus alnifolia* branch (ML3102216PC). Distribution not yet understood.

^***Phellinus erectus*** A. David, Dequatre & Fiasson
Few collections, such as: Ayia Paraskevi, 3-III-2010, ca 560 m a.s.l., on *Quercus alnifolia* trunk (ML010233PE, Fig. 7J); Kelefos, 8-I-2011, ca 500 m a.s.l. on the ground attached to *Q. coccifera* subsp. *calliprinos* roots, det. Martyn Ainsworth (ML110218PE); Archimandrita, 3-IV-2011, ca 450 m a.s.l., on the ground attached to *Q. coccifera* subsp. *calliprinos* roots (ML110243PE); Prastio, 5-III-2012, ca 500 m a.s.l., on *Cistus salvifolius* branch (ML210135PE); *Ibidem*, 24-II-2013, ca 500 m a.s.l., on *C. salvifolius* branch (ML3102242PE); Kalavasos, 23-I-2016, ca 170 m a.s.l., on *Cistus* sp. branch (ML6102132PE). Reported to be rare elsewhere (Bernicchia 1983, 2005; Polemis et al. 2013), but apparently widespread in Cyprus, mostly seen on *Cistus* and *Quercus* (Loizides 2016).

***Phellinus igniarius*** (L. : Fr.) Quél.
Reported by Viney (2005) on *Tamarix*, Orta Kioyiou, Jan. 2001. Not yet confirmed by the author.

***Phellinus pomaceus*** (Pers.) Maire
Numerous sightings, some of which include: Lefkara, 13-V-2008, ca 520 m a.s.l., on living *Prunus dulcis* (ML8002531PP); Vouni, 2-VIII-2008, ca 750 m a.s.l., on living *P. dulcis* (ML800282PP); Troodos, 13-IX-2008, ca 1800 m a.s.l., on living *P. avium* (ML8002931PP); *Ibidem*, 15-IX-2008 (ML8002951PP); *Ibidem*, 1-X-2008 (ML8002011PP); Potamitissa, 7-IV-2009, ca 820 m a.s.l., on *P. avium* (ML900247PP); Alassa, 9-III-2010, ca 450 m a.s.l., on *P. dulcis* (ML010239PP); Mandria, 3-IV-2010, ca 650 m a.s.l., on *P. dulcis* (ML010243PP); Potamitissa, 30-III-2014, ca 860 m a.s.l., on *P. avium* (ML4102301PP). Several sightings were also reported by Nattrass (1937) as "*Fomes pomaceus* Pers. Big, & Guill.": on trunk of *P. persica*, Pedhoulas, June 1931; on branch of *P. cerasus*, Prodromos, Oct. 1933; on branch of *P. dulcis*, Agros, Jan. 1936; on branch of *P. domestica*, Ayios Amvrosios, Kyrenia, Feb. 1936; and on trunk and branch of *P. armeniaca*, Limassol, Feb. 1936. This is one of the most common and widespread polypores on the island, seen almost invariably where *Prunus* trees are present, but it is not known to be aggressively pathogenic.

***Phellinus rimosus*** (Berk.) Pilát
Reported by Viney (2005) on *Pistacia terebinthus*, near Kharcha, without date.

*^***Phlebia aurea*** (Fr. : Fr.) Nakasone
Platres, 27-XI-2013, ca 1100 m a.s.l., on decaying *Quercus alnifolia* branch (ML31021172PA, Fig. 6E). Distribution not yet understood.

****Phlebia subochracea*** (Alb. & Schwein.) J. Erikss. & Ryvarden
Alassa, 26-I-2013, ca 170 m a.s.l., on decaying *Salix alba* log (ML3102162PS, Fig. 6G). *Ibidem*, 6-XII-2013 (ML3102216PS); *Ibidem*, 2-I-2014 (ML410212PS). An unmistakable species, frequently seen on *S. alba* logs and branches, but yet to be documented on other substrates.

****Phlebia tremellosa*** (Schrad. : Fr.) Nakasone & Burds.
Several collections, such as: Kato Platres, 11-XI-2008, ca 800 m a.s.l., on decaying, unidentified angiosperm branch (ML8002911MT); Alassa, 10-I-2009, ca 170 m a.s.l., on decaying *Salix alba* log (ML9002101MT); *Ibidem*, 7-I-2010 (ML010217MT, Fig. 6H); *Ibidem*, 20-I-2011 (ML1102101MT); Mandria, 28-III-2011, ca 700 m a.s.l., on decaying, unidentified angiosperm branch (ML1102382MT); Alassa, 26-I-2013, ca 170 m a.s.l., on decaying *S. alba* log (ML3102162MT); *Ibidem*, 2-I-2014

(ML410212MT). Can be locally frequent.

****Phlebia uda*** (Fr. : Fr.) Nakasone.

One collection: Alassa, 26-I-2013, ca 170 m a.s.l., on decaying *Salix alba* branch (ML3102162PU, Fig. 6F). Distribution not yet understood.

*^***Phlebiopsis ravenelii*** (Cooke) Hjortstam

First record for Cyprus and host-tree for this striking species, characterized by the acute and abundant, apically encrusted cystidia meauring 45–90 × 10–15 (–20) μm, and elliptical to suballantoid spores measuring 4–6.5 × 2–3 μm. Mesa Potamos, 9-I-2014, ca 800 m a.s.l., on decaying branch of the endemic *Quercus alnifolia* (ML410219PR, Fig. 6I); Distribution not yet understood.

***Phylloporia ribis*** (Schumach. : Fr.) Ryvarden

One record from Pera Vasa, 29-XII-2012, ca 600 m a.s.l., on the base of *Cistus salvifolius* (ML21022192PR); Previously reported by Nattrass (1937) as "*Fomes ribis* (Schum.) Fr." on *Rosa* sp. Nicosia, July 1931; and by Viney (2005) on *Cistus* branch, near Orga, Dec. 2001. Apparently uncommon.

***Porodaedalea pini*** (Brot. : Fr.) Murrill

Troodos, 28-VII-2010, ca 1500 m a.s.l., on living *Pinus nigra* subsp. *pallasiana* (ML0102882PP, Fig. 7K); *Ibidem*, 11-VI-2014 (ML4102411PP); Platania, 4-IV-2016, ca 1050 m a.s.l., on living *P. brutia* (ML610244PP); Previously reported by Nattrass (1937) as "*Trametes pini* (Brot.) Fr." on trunk of *P. halepensis*, Stavros tis Psokas, Feb. 1933 (probably referring to *P. brutia*). This conifer pathogen is only sparringly seen in Cyprus; see remarks in "Discussion".

*^***Porostereum spadiceum*** (Pers. : Fr.) Hjortstam & Ryvarden

Frequently seen on various substrates and elevations, such as: Kilani, 31-XII-2008, ca 750 m a.s.l., on decaying, unidentified angiosperm log (ML80022113LS, Fig. 7L); Platres, 16-VII-2010, ca 1100 m a.s.l., on decaying, *Quercus alnifolia* branch (ML0102761LS); Fassouri, 7-I-2011, ca 5 m a.s.l., on decaying, *Eucalyptus gomphocephala* branch (ML110217LS); Pentakomo, 24-XII-2011, ca 50 m a.s.l., on decaying *Ceratonia siliqua* branch (ML1102842LS); Trooditissa, 17-XI-2013, ca 1350 m a.s.l., on decaying, *Q. alnifolia* branch (ML31021171LS).

****Postia inocybe*** (A. David & Malençon) Jülich

Two collections of this rare Mediterranean species, from Pissouri, 2-I-2012, ca 280 m a.s.l., on decorticated *Pinus brutia* branch (ML210212PI, Fig. 5Q); *Ibidem*, 28-I-2014 (ML4102182PI). Characterized by the its occurrence on gymnosperms and the often effused-reflexed, or sometimes pileate basidiomata. Microscopically it has a clamped, monomitic hyphal system, apically encrusted lageniform to fusiform cystidia (25–30 × 5–8 μm), and slenderly allantoid biguttulate spores [measuring 4.5–6 × 1.5 (–2) μm in the Cypriot collections] (Ryvarden & Gilbertson 1994; Bernicchia 1995, 2005).

****Postia simani*** (Pilát) Jülich

Similar to *P. inocybe*, but differing in the fully resupinate or only slightly effused-reflexed basidiomata, slightly longer and more narrow spores (measuring 5.5–6.5 × 1–1.5 μm in the Cypriot collection), as well as longer, more slender, cylindrical to sublageniform cystidia (21–41 × 3–5 μm). So far known from one collection at Kelefos, 8-II-2013, ca 550 m a.s.l., on decorticated branch of an unidientified tree (ML310228PS, Fig. 5R). According to Ryvarden & Gilbertson (1994) and Bernicchia (2005) this taxon might be conspecific with *P. hibernica*.

*^***Pseudoinonotus dryadeus*** (Pers. : Fr.) T. Wagner & M. Fisch.

New record for Cyprus and host-tree for this striking species from Trooditissa, 12-VIII-2010, ca 1250 m a.s.l., on living *Quercus alnifolia* (ML0102821ID, Fig. 7M). Apparently rare, only seen in one locality so far.

***Radulomyces confluens*** (Fr. : Fr.) M.P. Christ.

Two collections from the same locality, but on different substrates: Trimiklini, 31-XII-2013, ca 550 m

a.s.l. on fallen *Genista sphacelata* branch (ML31022113RC); *Ibidem*, on fallen *Cistus* sp. twig (ML31022113RC2, Loizides 2016). Might be widespread but overlooked.

***Rigidoporus sanguinolentus*** (Alb. & Schwein. : Fr.) Donk

Troodos, on fallen log of *Pinus nigra* subsp. *pallasiana*, 20-X-2012 (ML21020102RS). Also reported by Torrejón (2013) on the same host (erroneously listed as "*P. nigra* subsp. *palliata*"), Troodos, 17-XI-2011, ca 1698 m a.s.l.

***Rigidoporus ulmarius*** (Sowerby : Fr.) Imazeki

One collection from the trunk and roots of *Platanus orientalis*, Kelefos bridge, 2-XI-2012, ca 480 m a.s.l. (ML2102112RS). Previously reported by Nattrass (1937) as "*Fomes ulmarius* (Sow.) Fr." on trunk of *Populus nigra* Ayios Nicolaos, Paphos, 1933. Rare.

*^***Schizopora radula*** (Pers. : Fr.) Hallenb.

Mesa Potamos, 2-I-2014, ca 800 m a.s.l., on decaying branch of *Quercus alnifolia* (ML410212SR, Fig. 6J). Distribution not yet understood.

***Skeletocutis nivea*** (Jungh.) Jean Keller

Reported as "common" in the woods near Halefka (without date and location) by Viney (2005), but yet to be confirmed by the author.

****Skeletocutis percandida*** (Malençon & Bertault) Jean Keller

Few collections, such as: Mesa Potamos, 2-I-2014, ca 700 m a.s.l., on decorticated *Pinus brutia* log (ML410212SP, Fig. 6K); *Ibidem*, 17-II-2014, ca 730 m a.s.l. (ML4102271SP); Pera Pedi, 2-III-2014, ca 550 m a.s.l., on decorticated *P. brutia* branch (ML410232SP). A widespread Mediterranean species (Bernicchia et al. 2007b; Ţura et al. 2008; Saitta et al. 2011), which also appears to be common in Cyprus.

*^***Steccherinum ciliolatum*** (Berk. & M.A. Curtis) Gilb. & Budington

One collection matching well the description of this rarely reported species, featuring fully resupinate creamy-white to dull ochraceous-cream odontoid basidiomata with tiny, ciliate and often bifurcate aculei extending all the way to the edge of the fimbriate margin. Microscopically, this species is notable for the shortly elliptical or ovoid spores measuring 4–5 × (2–) 2.5–3 µm, and clamped hyphae < 4–5 µm wide, forming long-cylindrical, strongly encrusted at the apex pseudocystidia. Platres, 12-X-2012, ca 800 m a.s.l., on decaying *Quercus alnifolia* branch (ML21022021SC, Fig. 6L). Apparently rare, but might be overlooked.

****Steccherinum lacerum*** (P. Karst.) Kotir. & Saaren.

Two records from different substrates and localities: Kelefos, 6-II-2011, ca 500 m a.s.l., on decaying *Quercus coccifera* subsp. *calliprinos* branch (ML110226JL, Fig. 6M); Alassa, 11-XII-2012, ca 160 m a.s.l. on decaying *Salix alba* log (ML21022111JL). Distribution not yet understood.

****Steccherinum ochraceum*** (Pers. : Fr.) Gray

Several collections of this apparently widespread species, mostly present in resupinate forms in Cyprus: Platres, 9-XII-2011, ca 900 m a.s.l., on decaying *Platanus orientalis* log (ML1102219SO); *Ibidem*: 6-I-2011 (ML110216SO); *Ibidem*: 6-XII-2013, on decaying *Alnus orientalis* log (ML3102216SO, Fig. 6N); Fassouri, 28-I-2013, ca 5 m a.s.l., on decaying *Eucalyptus gomphocephala* log (ML3102182SO); Mesa Potamos, 17-II-2014, ca 620 m a.s.l., on decaying *P. orientalis* log (ML4102271SO).

****Steccherinum oreophilum*** Lindsey & Gilb.

One collection of this rare species, characterized by the odontoid-irpicoid hymenium featuring large, irregularly flattened to angular aculei, a dimitic hyphal system with clamped generative hyphae, elliptical spores (measuring 5.5–7 × 2.5–3.5 µm in the Cypriot collection), and numerous, acutely conical and apically encrusted pseudocystidia (Lindsey & Gilbertson 1977; Bernicchia & Gorjón 2010). Mesa Poatamos, 2-I-2014, ca 650 m a.s.l., on decaying *Platanus orientalis* log (ML410212SO, Fig. 6O).

*^***Stereum gausapatum** (Fr. : Fr.) Fr.

Rather common on living and dead wood of *Quercus alnifolia*, such as: Platres, 24-XI-2008, ca 900 m a.s.l., on dead but still attached *Q. alnifolia* branch (ML80021142SG); Platres, 16-VII-2010, ca 1100 m a.s.l., on decaying *Q. alnifolia* branch (ML01022161SG, Fig. 7N); *Ibidem*, 16-XII-2010 (ML01022161SG); *Ibidem*, 18-XII-2010, ca 1100 m a.s.l., on decaying *Q. alnifolia* branch (ML01022181SG); Kannaviou, 27-XII-2010, on fallen twig of *Q. alnifolia* (ML01022172SG).

^***Stereum hirsutum*** (Willd. : Fr.) Pers.

Numerous sightings, such as: Platania, 22-XII-2007, ca 1050 m a.s.l., on *Quercus alnifolia* stump (ML70022122SH); Platres, 30-X-2008, ca 900 m a.s.l., on decaying *Q. alnifolia* branch (ML80020103SH); Platania, 20-XI-2008, ca 1050 m a.s.l., on *Q. alnifolia* stump (ML80021102SH); Kellaki, 22-XII-2009, ca 550 m a.s.l., on *Cistus* twigs (ML90022122SH); Kalavasos, 3-II-2010, ca 160 m a.s.l., on *Acacia* branch (ML010223SH); Pentakomo, 12-II-2012, ca 50 m a.s.l., on fallen *Acacia* twigs (ML2102221); Platania, 30-XII-2014, ca 1050 m a.s.l., on *Q. alnifolia* trunk (ML41022103SH). Also reported by Nattrass (1937) as "common on dead wood", and by Viney (2005) on *Olea* and *Ceratonia* wood, with no further details. Apparently common, but deviant forms are regularly encountered on diverse substrates throughout the island. The delimination of *S. hirsutum* from similar taxa with an ochraceous-yellow hymenium is not always straight-forward and cryptic species might exist.

***Stereum ochraceoflavum*** (Schwein.) Sacc.

Platres, 16-XII-2010, ca 900 m a.s.l., on decaying angiosperm twig (ML01022161SO). Previously reported by Torrejón (2013) on decaying branch of *Quercus alnifolia,* Platres (Plsilo Dendro), 17-XI-2011, ca 1171 m a.s.l., and by Loizides (2016) Drousia, 24-XII-2014, ca 580 m a.s.l., on *Cistus monspeliensis* twig (ML41022142SO). Probably less common that *S. hirsutum*, but easily confused in the field.

^***Stereum reflexulum*** Lloyd

Spilia, 28-XI-2015, ca 1100 m a.s.l., on decaying *Quercus alnifolia* branch, det. P.-A. Moreau (ML51021182SR, Fig. 7O); Also reported by Loizides (2016) from Pera Pedi, 24-II-2010, ca 550 m a.s.l., on decaying *Cistus salvifolius* twig (ML0102242SR). Distribution not yet understood; a number of similar-looking *Stereum* species can be seen on a wide diversity of substrates in Cyprus, whose taxonomical status is not always clear.

*^***Stereum sanguinolentum*** (Alb. & Schwein. : Fr.) Fr.

Moniatis, 28-XII-2012, ca 850 m a.s.l., on decaying *Pinus brutia* branch (ML21022182SS); Saittas, 30-XII-2014, ca 650 m a.s.l., on decaying *P. brutia* branch (ML41022103SS); Pera Pedi, 25-III-2013, ca 550 m a.s.l., on decaying *P. brutia* branch (ML3102352SS, Fig. 7P); Trimiklini, 14-II-2014, ca 650 m a.s.l., on decaying *P. brutia* branch (ML4102241SS); Panayia, 17-II-2015, ca 1050 m a.s.l., on decaying *P. brutia* branch (ML5102271SS). Common and widespread late in the season, in mountainous *Pinus brutia* forests. Not yet seen on *P. nigra* subsp. *pallasiana*.

*^***Stereum subtomentosum*** Pouzar

Occasional or frequent on fallen or still attached branches of the endemic *Quercus alnifolia*: Platania, 5-XII-2009, ca 1050 m a.s.l., on *Q. alnifolia* trunk (ML9002215SS, Fig. 7Q); *Ibidem*, 24-XII-2010 (ML01022142SS); Platres, 19-I-2011, ca 1150 m a.s.l., on decaying *Q. alnifolia* branch (ML1102191SS); *Ibidem*, on decaying *Alnus orientalis* branch (ML1102191SS2); Platania, 16-XI-2014, ca 1050 m a.s.l., on *Q. alnifolia* stump (ML41021161SS).

*^***Terana coerulea*** (Lam. : Fr.) Kuntze

A morphologically stunning and easily recognised species, documented from a wide diversity of substrates such as: Dora, 31-I-2011, ca 650 m a.s.l., on decaying *Styrax officinalis* branch, leg. T. Alexandridis (ML1102113PC, Fig. 6P); Platres, 4-V-2011, ca 1100 m a.s.l., on decaying *Quercus alnifolia* log (ML110254PC); Kelefos, 2-III-2014, ca 550 m a.s.l., on decaying *Q. coccifera* subsp. *calliprinos* branch (ML410232PC); Panayia, 17-II-2015, ca 1000 m a.s.l., on decaying *Q. infectoria*

subsp. *veneris* branch (ML5102271PC). Occasionally encountered, but can be locally abundant; so far the only aphyllophoroid fungus documented on all three oak species on the island.

***Thanatephorus cucumeris*** (A.B. Frank) Donk

Reported by Georgiou & Papadopoulos (1957) on *Dianthus caryophyllus,* with no further details.

***Thanatephorus sterigmaticus*** (Bourdot) P.H.B. Talbot

Reported by Torrejón (2013) on non-decorticated dead branch of *Cistus creticus,* Fini, 21-XI-2011, ca 953 m a.s.l.

***Tomentella asperula*** (P. Karst.) Höhn. & Litsch.

Reported by Torrejón (2013) on rotten wood of *Quercus infectoria* subsp. *veneris*, Ayia Paraskevi, 23-XI-2011, ca 597 m a.s.l.

*^***Trametes hirsuta*** (Wulfen : Fr.) Lloyd

Several collections of this frequent and rather widespread species, such as: Platres, 21-X-2007, ca 900 m a.s.l., on decaying *Quercus alnifolia* branch (ML70020112TH); *Ibidem*: 28-X-2008, ca 900 m a.s.l., on decaying *Platanus orientalis* branch (ML80020182TH); *Ibidem*: 29-X-2008, ca 900 m a.s.l., on decaying *P. orientalis* branch (ML80020192TH); Pelendri, 4-I-2009, ca 700 m a.s.l., on carbonized *P. orientlalis* log (ML80020192TH); Saittas, 28-IV-2009, ca 700 m a.s.l., on carbonized *P. orientlalis* log (ML9002482TH); Platres, 13-IV-2009, ca 900 m a.s.l., on decaying *Q. alnifolia* branch (ML9002431TH); *Ibidem*, 16-XII-2010 (ML01022161TH); *Ibidem*: 28-IV-2011 (ML1102482TH); *Ibidem*: 28-IV-2011, on decaying *P. orientalis* branch (ML1102482TH).

***Trametes pubescens*** (Schumach. : Fr.) Pilát

Reported by Viney (2005) on *Malus* stump, Lefka, Feb. 1997. Not yet seen by the author.

^***Trametes versicolor*** (L. : Fr.) Lloyd

Platres, 27-X-2008, ca 900 m a.s.l., on decaying, unidentified angiosperm log (ML80020172TV); *Ibidem*, 28-IV-2011, ca 900 m a.s.l. on decaying angiosperm log, probably *Prunus* (ML1102482TV); Platania, 5-XII-2012, ca 1050 m a.s.l., on decaying *Quercus alnifolia* branch (ML2102215TV). Previously reported by Nattrass (1937) as "*Polystictus versicola* (Linn.) Fr.", on dead wood of *Casaurina equisetifolia*, Nicosia, Feb. 1935; by Viney (2005) on *Ceratonia siliqua* stump, above Larnaka tis Lapithou, Dec. 1998; and by Loizides et al. (2011) from collections cited above. Occasionally encountered.

****Trichaptum fuscoviolaceum*** (Ehrenb. Fr.) Ryvarden

Few collections from different localities, such as: Kelefos, 25-XI-2009, ca 520 m a.s.l., on *Pinus brutia* stump (ML90021152TF); Moniatis, 20-XII-2010, ca 800 m a.s.l., on decaying *P. brutia* branch (ML01022102TF); Pera Pedi, 4-IV-2011, ca 700 m a.s.l., on decaying *P. brutia* branch (ML110244TF); Platania, 2-I-2015, ca 1050 m a.s.l., on decaying *P. brutia* branch (ML510212TF, Fig. 7R); Kannaviou, 28-XII-2016, ca 800 m a.s.l. on *P. brutia* stump (ML61022182TF). Not frequently seen, though apparently widespread.

***Vuilleminia comedens*** (Nees : Fr.) Maire

Kelefos, 22-XI-2011, ca 500 m a.s.l., on fallen *Alnus orientalis* log, leg. & det. Stewart Skeates; Also reported by Torrejón (2013) on decaying branch of *Quercus infectoria* subsp. *veneris*, Ayia Paraskevi 23-XI-2011, ca 597 m a.s.l. Combined phylogenetic, morphological and crossing studies have recently revealed that the taxon *Vuilleminia alni* Boidin, Lanq. & Gilles (to which at least one Cypriot collection corresponds) is conspecific to this species (Ghobad-Nejhad et al. 2010).

***Vuilleminia macrospora*** (Bres.) Hjortstam

Several collections, such as: Archimandrita, 16-II-2013, ca 700 m a.s.l., on attached *Cistus* sp. branch (ML3102261VM); Saittas, 12-II-2014, ca 650 m a.s.l., on attached *Cistus* sp. branch (ML4102221VM); Prastio, 24-II-2014, ca 560 m a.s.l., on *C. salvifolius* branch (ML4102242VM, Loizides 2016), and Torrejón (2013) on *C. creticus* branch, Fini, 21-XI-2011, ca 953 m a.s.l. Very common, almost invariably present where *Cistus* shrubs occur.

***Vuilleminia megalospora*** Bres.

Reported by Torrejón (2013) on decaying branch of *Quercus alnifolia*, Platres (trail to Caledonia falls), 19-XI-2011, ca 1324 m a.s.l.

****Xenasmatella vaga*** (Fr. : Fr.) Stalpers

Several collections, such as: Platania, 21-XII-2011, ca 1100 m a.s.l., on decaying log of *Pinus brutia* (ML11022112XV); *Ibidem*, 5-I-2012, ca 1100 m a.s.l., on decaying unidentified branch (ML210215XV); Trooditissa, 10-V-2014, ca 1350 m a.s.l., on fallen log of *P. nigra* subsp. *pallasiana* (ML4102501XV, Fig. 6Q); *Ibidem*, 21-V-2014, ca 1350 m a.s.l., on fallen log of *P. nigra* subsp. *pallasiana* (ML4102512XV); Panayia, 17-II-2015, ca 1050 m a.s.l., on fallen unidentified branch (ML5102271XV); Kannaviou, 28-XII-2016, ca 800 m a.s.l. on fallen inidentified branch (ML61022182XV). Common and widespread.

****Xylodon nespori*** (Bres.) Hjortstam & Ryvarden

Asgata, 30-I-2014, ca 180 m a.s.l., on fallen unidentified branch (possibly *Pistacia*) in mixed matorral (ML4102103XN, Fig. 6R). Distribution not yet understood.

## Discussion

A total of ninety-one taxa were identified in the course of this survey, fifty-eight of which are here reported for the first time, bringing the total number of aphyllophoroid fungi recorded in Cyprus to one-hundred-and-eight. At least nine previously reported species are considered doubtful and have been excluded. *Ganoderma applanatum* (Pers.) Pat., reported in the first list of Cyprus fungi (Nattrass 1937, without iconography), following two collections from *Ceratonia siliqua* in Ayios Theodoros, Larnaka (June 1931), and *Alnus orientalis* in Marathasa (March 1936), is one such record. Although *Ganoderma* species are associated with a wide range of tree-hosts (Ryvarden & Gilbertson 1993; Bernicchia 2005; Sankaran et al. 2005), *G. applanatum* has not been verified during this ten-year survey and all collections from *Alnus orientalis* and *C. siliqua* have revealed to belong to the closely related *G. adspersum*. The latter is perhaps the most widespread representative of the genus in Cyprus and is frequently associated with *C. siliqua* in Mediterranean ecosystems (Plank 1980; Kuhbier et al. 1984; Ţura 2010).

Zyngas (1973) reported an additional collection from *C. siliqua* (Akanthou, 1967), which he curiously listed under the name "*Ganoderma solani* (Mart.) Sacc." Searches in public databases (http://www.indexfungorum.org; http://www.mycobank.com) and monographic works (Bernicchia 2005) have failed to reveal a fungus by such binomial; this entry is therefore considered erroneous. Interestingly, a collection from *C. siliqua* in South Africa has been recently described as a new species, with the name *Ganoderma enigmaticum* M.P.A. Coetzee, Marinc., M.J. Wingf. (Coetzee et al. 2015). This new taxon, however, is reported as a laccate, stipitate fungus with strikingly narrow spores (8–11 × 3.5–6 μm), a combination of features not matching any of the Cypriot collections studied so far. Hence, both Zyngas's erroneous reference of "*G. solani*", as well as Nattrass's doubtful record of *G. applanatum* are excluded from the present list.

The identification of *Grifola frondosa* (Dicks. : Fr.) Gray, presumably based on a photograph of a fungus from an unidentified tree-host (Viney 2005), is also considered doubtful. This species is known to have a predominantly continental and northern European distribution and was never seen in Cyprus by the author. Moreover, *G. frondosa* is rare in neighboring Greece (Zervakis et al. 1998; Konstandinidis 2009) and apparently absent from the Greek islands (Polemis et al. 2012a & 2012b; Dimou et al. 2016). Viney's identification

appears to have been based on an ambiguous photograph provided by a collector, depicting the sterile surface of a grayish multipileate fungus, without a view of the hymenium (p. 61: 19b) and could well represent a different fungus. Since no herbarium material for this collection is likely to exist ("it was promptly eaten by its discoverer and pronounced good", p. 60: 19b), this doubtful record is excluded in the present list.

Records from another publication by Momany & Gücel (2009) are also excluded, as most of the names provided in this work appear to be misapplied. Among several aphyllophoraceous taxa misidentified, "*Coltricia perennis* (L. ex. Fr.) Murr." most likely depicts the widespread *Cerioporus meridionalis*; "*Coriolus versicolor* (L. ex. Fr.) Quel." depicts an unrelated fungus with a pseudolemellate hymenium (perhaps a *Gloeophyllum* sp.); "*Schizopora paradoxa* (Schrad. ex Fr.) Donk" also depicts a *Gloeophyllum* species, probably *G. abietinum*; "*Chondrostereum purpureum* (Fr.) Fr." depicts a *Stereum* species with an ochraceous-brown hymenium; while "*Ganoderma adspersum* (Schulz.) Donk." and "*Rigidoporus ulmarius* (Snow. ex Fr.) Imazeki" depict brown-pored *Phellinus* sensu lato species. This publication is therefore considered dubious and all records therein rejected.

Of the pathogenic species documented on the island, the frequently encountered *Fuscoporia torulosa* is a cause for concern and should be closely monitored. This necrophytic parasite attacks living trees causing alveolar white rot, ultimately resulting in the tree's death. Over 160 plant species are known to be infected by this fungus worldwide (Campanile et al. 2008), among them the narrow-endemic *Quercus alnifolia* and the declining *Q. infectoria* subsp. *veneris*, which, during the course of this survey, were found to be frequently parasitized by *F. torulosa*. Further studies are necessary to evaluate the level of threat posed by this fungus on indigenous flora and what control measures, if any, might be necessary.

Contrary to the widespread *Fuscoporia torulosa*, the aggressive conifer pathogens *Heterobasidion annosum* and *Porodaedalea pini* are rarely encountered on the island. The former is a highly destructive root- and butt-rot parasite, common throughout the temperate northern hemisphere and responsible for some 800-million-euros-a-year loss in Europe (Woodward et al. 1998; Asiegbu et al. 2005), but only known from four collections in Cyprus, all from *Pinus nigra* subsp. *pallasiana* forests (Tsopelas & Nikolaou 2005, and this study). Likewise, the trunk-rot parasite *P. pini* is known from two collections from *P. nigra* subsp. *pallasiana* and two from *P. brutia* [one reported by Nattrass (1937) as "*P. halepensis*" but most likely corresponding to the former]. Even though none of these two species currently appear to pose a significant threat to the island's extensive coniferous forests, it should be borne in mind that *P. nigra* subsp. *pallasiana* forests constitute a highly vulnerable ecosystem in Cyprus, restricted to the highest peaks of the Troodos mountain range. Since black pine populations are imminently threatened by accellerated climate changes and temperature increases (Solomon et al. 2007; Lelieveld et al. 2012; Shoukri & Zachariadis 2012), the damage inflicted by these two pathogens during increased abiotic stress, may therefore become more significant in the future.

A somewhat unexpected outome of this survey, has been the lack of aphyllophoraceous fungi found in association with the narrow-endemic *Cedrus brevifolia*. This finding, or rather absence of finds, could well be an artefact due to the limited number of visits carried out in Tripilos, the natural area of expansion of the tree, and the difficulties in accessing the higher elevations of the site beyond Cedar Valley. However, no aphyllophoraceous fungi were recorded in any of the *C. brevifolia* artificial plantations either, despite several of these sites being frequently surveyed in the greater Troodos area. More intensive monitoring of the natural populations of *C. brevifolia* is necessary, to establish any associations of this vulnerable Cyprus endemic with aphyllophoroid fungi, including potential threats from pathogens.

The other narrow-endemic tree on the island, *Quercus alnifolia*, is by contrast a highly popular substrate among aphyllophoroid fungi (see Fig. 1) and some of the most interesting finds in this study originate from this host. *Quercus alnifolia* belongs to the "*Ilex*" lineage and is closely affiliated to *Quercus ilex* L. (Denk & Grimm 2010), the latter also associated with a large number of ectomycorrhizal, arbuscular mycorrhizal, but also wood-inhabiting fungi (Saitta et al. 2011). At least twenty-seven aphyllophoroid taxa have so far been identified on *Q. alnifolia*, twenty-two of which are here documented for the first time on this host. The majority are comprised of wood-decomposing saprotrophs, but pathogens do occasionally occur, most notably *Fuscoporia torulosa*.

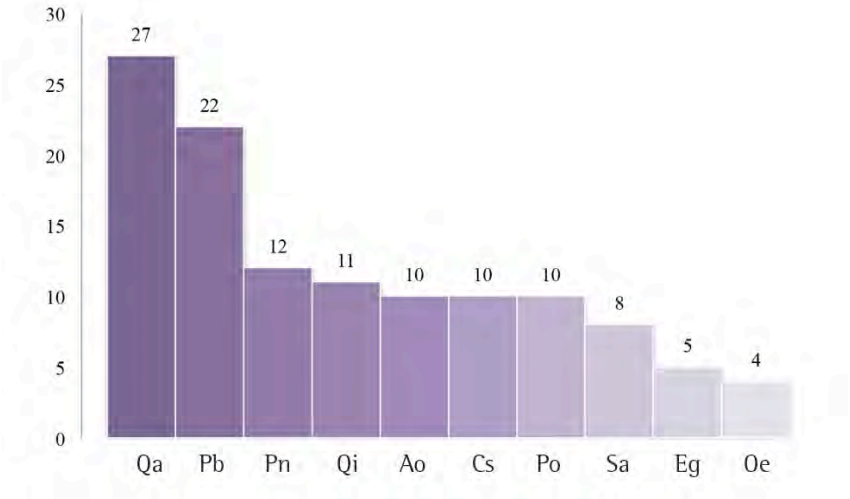


**Figure 1**:

Ten most popular tree-hosts for aphyllophoroid fungi in Cyprus, based on taxa identified so far.
From left: *Quercus alnifolia* (Qa); *Pinus brutia* (Pb); *Pinus nigra* subsp. *pallasiana* (Pn); *Quercus infectoria* subsp. *veneris* (Qi); *Alnus orientalis* (Ao); *Ceratonia siliqua* (Qs); *Platanus orientalis* (Po); *Salix alba* (Sa); *Eucalyptus gomphocephala* (Eg); *Olea europaea* (Oe).

Over twenty-two species have been documented on *Pinus brutia*, mostly poroid members of the genera *Antrodia* P. Karst., *Ceriporia* Donk, *Postia* Fr. and *Skeletocutis* Kotl. & Pouzar. By contrast, only twelve species have been identified on the other indigenous pine species on the island, *Pinus nigra* subsp. *pallasiana*, which is nonetheless far less widespread than the former. Of these, only five taxa were found on both hosts (Fig. 3), highlighting the marked differences in mycobiota structure and composition between the two ecosystems. Out of the remaining tree species on the island, *Quercus infectoria* subsp. *veneris* is also a popular substrate, with eleven species overall documented on this host. *Platanus orientalis* and *Alnus orientalis* provide regular substrates for aphyllophoroid fungi in wet riparian forests, with ten species recorded on each tree species, while *Ceratonia siliqua* is also associated with ten taxa, mostly broad-host range species found at various elevations throughout the island. *Salix alba*, although a popular host associated with eight species, has a limited and rather localised distribution in Cyprus, with *Phlebia subochracea* and *P. tremellosa* being the most frequently recorded species.

Other commonly encountered species include *Cerioporus meridionalis* and *Stereum hirsutum*, both seen on a wide diversity of substrates within several phytogeographical regions. *Porostereum spadiceum* and *Steccherinum ochraceum* are less frequently encountered but perhaps equally versatile, documented from a diverse range of substrates and habitats. *Stereum*

*gausapatum* and *Vuilleminia macrospora* on the other hand, are locally abundant, but restricted to *Quercus* and *Cistus*, respectively, while the equally common *Stereum sanguinolentum* appears to be exclusively associated with *Pinus brutia*. Notably, *Terana coerulea* is the only aphyllophoroid fungus recorded on all three oak species on the island, which otherwise share very few taxa between them (Fig. 2). Other species, such as *Amaurodon viridis*, *Asterostroma ochroleucum*, *Byssomerulius hirtellus*, *Crustoderma dryinum*, *Dendrocorticium polygonioides*, *Postia inocybe*, *P. simani*, *Steccherinum ciliolatum* and *S. oreophilum*, are notable because of their rarity and seldomly appear in published literature.

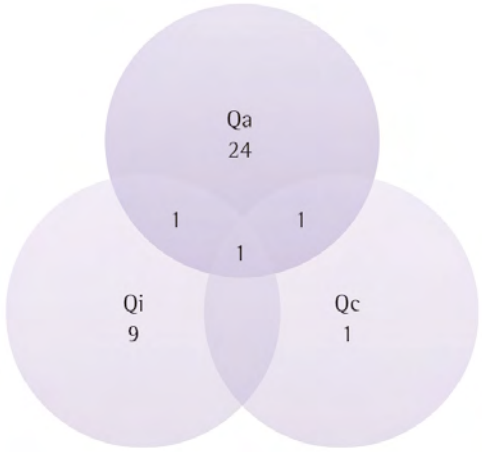


**FIGURE 2** (LEFT):

Aphyllophoroid fungi associated with each of the three indigenous oak species in Cyprus, demonstrating little host overlap between species. Clockwise: *Quercus infectoria* subsp. *veneris* (Qi); *Quercus alnifolia* (Qa); *Quercus coccifera* subsp. *calliprinos* (Qc).

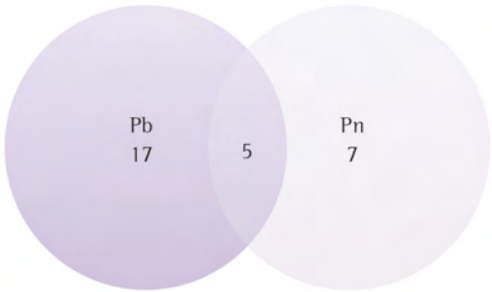


**FIGURE 3** (RIGHT):

Aphyllophoroid fungi associated with the two indigenous pine species in Cyprus. Left: *Pinus brutia* (Pb); right: *Pinus nigra* subsp. *pallasiana* (Pn)

A note must be finally reserved for *Laetiporus sulphureus* sensu lato, a widely applied binomial recently revealed to encompass at least three distinct phylogenetic clades (Song & Cui 2017). Cypriot populations display a markedly xerophytic ecology and are typically seen in early autumn on roots and truncks of *Eucalyptus camaldulensis* and *Ceratonia siliqua* (Kyriakou et al. 2009; Loizides et al. 2011). Molecular sequencing of the ITS region has placed collections from Cyprus in a putatively undescribed lineage (Fig. 4), informally labelled as the "E2" clade by Song & Cui (2017), clustering them together with North American collections from *Quercus* and *Fraxinus*. Contrary to the latter study reporting a white hymenial surface for this species, however, Cypriot collections display a typically sulphur-yellow hymenium when fresh (see Fig. 7i) and are macromorphologically indistinguishable from continental collections of *L. sulphereus* sensu lato represented by the "C" and "E1" clades. More dedicated studies, including sequencing of type material (if available), or the appointment of epitypes are needed, before the phylogenetic identity of *L. sulphereus* sensu stricto and the cryptic diversity around it can be fully clarified.

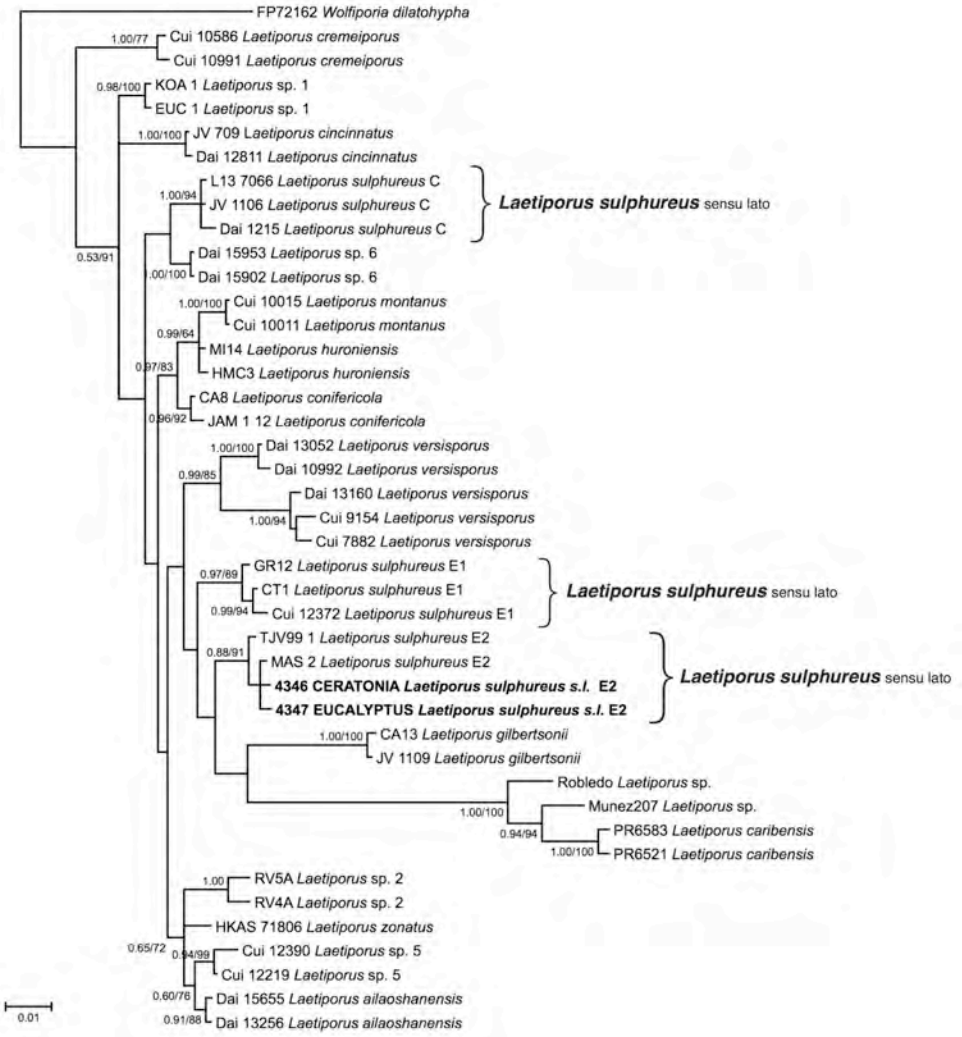


**Figure 4**:

50% majority rule consensus phylogram produced from ITS rDNA, 28S rDNA, rpb2 and tef1 sequences of *Laetiporus* in MrBayes (6225 sampled trees). Nodes supported by >0.95 Bayesian PP or >70% ML BP are shown annotated.

Further sequencing is necessary, to resolve the precise identity of a number of insufficiently clarified taxa currently known to encompass multiple phylogenetic lineages, such as *Ceriporia purpurea*, *Coniophora arida*, *C. puteana*, or *Peniophorella praetermissa*, but also collections not conforming to any of the species currently described in literature. Given the high levels of plant endemism present in Cyprus, but also the species novelties proposed from the island in recent years (Loizides et al. 2015b; 2016a & 2016b; Moreau et al. in prep.), it is likely that more intensive sampling of aphyllophoroid fungi will in the future reveal more surprises.

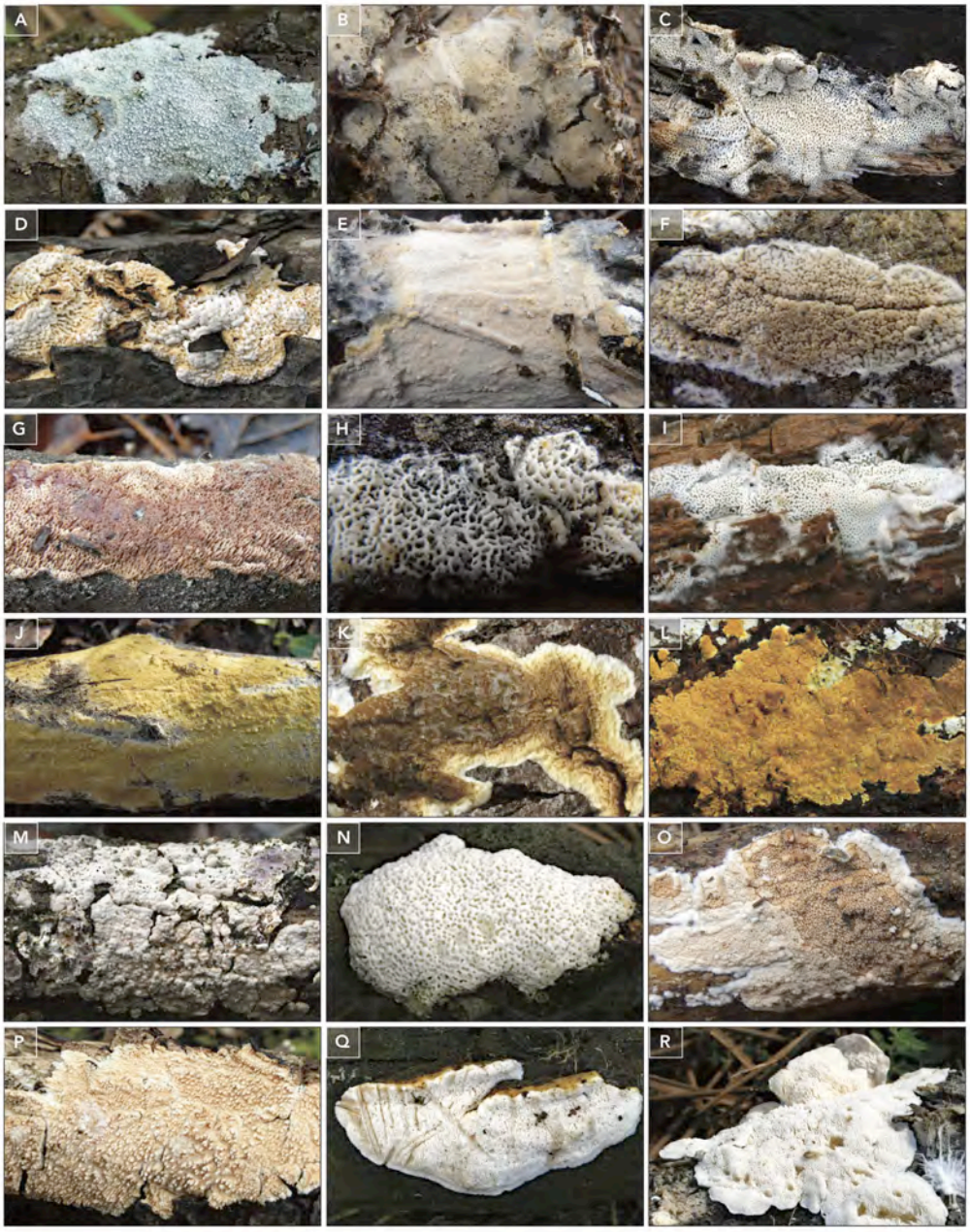


**Figure 5**:
**A:** *Amaurodon viridis*; **B:** *Amphinema byssoides*; **C:** *Antrodia heteromorpha*;
**D:** *Antrodia ramentacea*; **E:** *Asterostroma ochroleucum*; **F:** *Byssomerulius hirtellus*;
**G:** *Ceriporia purpurea* sensu lato; **H:** *Ceriporia reticulata*; **I:** *Ceriporiopsis subvermispora*;
**J:** *Coniophora arida* sensu lato; **K:** *Coniophora puteana* sensu lato; **L:** *Crustoderma dryinum*;
**M:** *Dendrocorticium polygonioides*; **N:** *Dichomitus campestris*; **O:** *Gloeoporus taxicola*;
**P:** *Hyphodontia quercina*; **Q:** *Postia inocybe*; **R:** *Postia simanii*.


**Figure 6:**
**A:** *Peniophora violaceolivida*; **B**: *Peniophorella praetermissa* sensu lato; **C:** *Phanerochaete sanguinea*; D: *Phanerochaete sordida*; E: *Phlebia aurea*; F: *Phlebia uda*; **G:** *Phlebia subochracea*; **H:** *Phlebia tremellosa*; **I:** *Phlebiopsis ravenelii*; **J:** *Schizopora radula*; **K:** *Skeletocutis percandida*; **L:** *Steccherinum ciliolatum*; **M:** *Steccherinum lacerum*; **N:** *Steccherinum ochraceum*; **O:** *Steccherinum oreophilum*; **P:** *Terana coerulea*; **Q:** *Xenasmatella vaga*; **R**: *Xylodon brevisetus*.


**Figure 7**:
**A:** *Chondrostereum purpureum*; **B**: *Diplomitoporus flavescens*; **C:** *Fomitiporia robusta*;
**D:** *Ganoderma adspersum*; **E:** *Ganoderma lucidum*; **F:** *Ganoderma resinaceum*;
**G:** *Inonotus tamaricis*; **H:** *Inonotus triqueter*; **I:** *Laetiporus sulphureus* sensu lato;
**J:** *Phellinus erectus*; **K:** *Porodaedalea pini*; **L:** *Porostereum spadiceum*;
**M:** *Pseudoinonotus dryadeus*; **N:** *Stereum gausapatum*; **O:** *Stereum reflexulum*;
**P:** *Stereum sanguinolantum*; **Q:** *Stereum subtomentosum*; **R:** *Trichaptum fuscoviolaceum*

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