## Recommendations on generic names competing for use in *Leotiomycetes* (*Ascomycota*)

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Abstract: In advancing to one scientific name for fungi, this paper treats genera competing for use in the phylogenetically defined class Leotiomycetes except for genera of Erysiphales. Two groups traditionally included in the so-called "inoperculate discomycetes" have been excluded from this class and are also not included here, specifically Geoglossomycetes and Orbiliomycetes. A recommendation is made about the generic name to use in cases in which two or more generic names are synonyms or taxonomically congruent along with the rationale for the recommendation. In some cases the recommended generic name does not have priority or is based on an asexual type species, thus needs to be protected and ultimately approved according to Art. 57.2 of the International Code of Nomenclature for algae, fungi and plants (ICN). A table is presented listing all competing generic names and their type species noting the recommended generic name. New combinations are introduced for the oldest epithet in the recommended genus including Ascocalyx berenice, Ascoconidium purpurascens, Ascocoryne albida, A. trichophora, Blumeriella filipendulae, B. ceanothi, Botrytis arachidis, B. fritillariae-pallidoflori, Calloria urticae, Calycellina aspera, Dematioscypha delicata, Dermea abietinum, D. boycei, D. stellata, Diplocarpon alpestre, D. fragariae, Godroniopsis peckii, Grovesinia moricola, Heterosphaera sublineolata, Hyphodiscus brachyconium, H. brevicollaris, H. luxurians, Leptotrochila campanulae, Monilinia polystroma, Neofabraea actinidae, N. citricarpa, N. vagabunda, Oculimacula aestiva, O. anquioides, Pezicula brunnea, P. californiae, P. cornina, P. diversispora, P. ericae, P. melanogena, P. querciphila, P. radicicola, P. rhizophila, Phialocephala piceae, Pilidium lythri, Rhabdocline laricis, Streptotinia streptothrix, Symphyosirinia parasitica, S. rosea, Unguiculariopsis caespitosa, and Vibrissea laxa.

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#### INTRODUCTION

As a contribution to the 'one fungus—one name' process resulting from changes introduced with the recent *International Codes of Nomenclature for algae, fungi and plants* (ICN) (McNeill *et al.* 2012), this paper reviews genera competing for use in class *Leotiomycetes*. A recommendation is made about the name to use in cases where two or more generic names are synonyms or taxonomically congruent. In some cases the recommended generic name does not have priority or is based on an asexual type species and thus needs approval according to Art. 57.2 of the ICN and further explained by Hawksworth (2014). The background to the changes in the Code and the need for papers such as this one resulting in lists of protected names (McNeill *et al.* 2012, Art. 14.13) is provided by Rossman *et al.* (2013).

Many Leotiomycetes have cup-shaped, often stalked, ascomata with a widely exposed hymenium of unitunicate

asci and sterile paraphyses arranged in a compact palisade. These fungi are ecologically diverse and include plant pathogens, saprobes of leaves and wood, endophytes, mycorrhizas, and aquatic hyphomycetes (Wang et al. 2006a,b). This breadth of ecology means that different research communities have worked more or less independently on these fungi, for example, some primarily dealing with aquatic fungi while others are concerned with plant pathogens. Researchers in some of these mycological communities have often been concerned with asexual taxa while others have dealt with fungi that primarily produce a sexual morph. In an attempt to determine the correct single name to be applied to genera typified by species with sexual/asexual types, these communities are working together to determine the "best" or most widely accepted name for genera that represent the same group of related species regardless of whether the type species represents the sexual or asexual morph.

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VOLUME 5 · NO. 1

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Traditionally *Leotiomycetes* having morphologically similar ascomata and asci were regarded as an informal group termed the "inoperculate discomycetes" differentiated from the "operculate discomycetes" or *Pezizales*. The phylogenetically defined class *Leotiomycetes* within the subphylum *Pezizomycotina* does not include some of the groups previously referred to as the "inoperculate discomycetes", such as *Orbiliomycetes* and *Geoglossomycetes* (Wang 2006 a, b, Husted & Miller 2011); these groups are not considered in this paper. The class *Leotiomycetes* does include the ecologically specialised *Erysiphales*, the powdery mildews (Braun & Cook 2011, Braun 2012); however, the genera and species of this order have already been reviewed for one scientific name by Braun (2013).

Within Leotiomycetes, considerable taxonomic confusion exists at all levels, thus the orders and families are not included for the genera mentioned here. The confusion extends to the genus level, making some decisions about connections between genera based on sexual and asexual morphs impossible at this time. For example a confused taxonomy has existed for the genera Mollisia and Cadophora. After de Hoog et al. (1999) showed that the type species of Phialophora is not a member of Leotiomycetes, the name Cadophora was adopted by Gams (2000) for the phialophoralike asexual morphs of some *Mollisia* species. Subsequently, it was determined that specimens representing the type species of Mollisia, M. cinerea, and Cadophora, C. fastigiata, belong in divergent clades (Day et al. 2012, Baschien et al. 2013) and these two generic names do not represent the same lineage. A maximum likelihood tree places Cadophora s. str. into Rhynchosporium (Baschien et al. 2013) along with Mollisia dextrinospora, whereas Mollisia s. str. belongs in the Vibrissea-Loramyces clade (Wang et al. 2006a, b). Thus, these generic names are not taxonomically congruent, meaning that they do not circumscribe the same set of species and thus do not compete with each other for use as the single name for the genus represented by the type and related species.

Taxonomic confusion also results if a genus as currently conceived is not monophyletic. For example, the type species of the large genus Lophodermium is the grassinhabiting L. arundinaceum (Johnston 2001). This species is phylogenetically distinct from the important pine-inhabiting species such as Lophodermium pinastri and L. seditiosum (Lantz et al. 2011). In determining which generic names might compete with Lophodermium, only the type species influences this decision, although could be changed by conservation or protection. The pine-inhabiting species must be placed in another genus unless Lophodermium is conserved or protected with a different pine-inhabiting type species. The names of the asexual morphs connected with species of Lophodermium on pine such as L. conigenum are placed in Leptostroma, in this case L. pinorum (Minter 1980). However, the type species of Leptostroma is L. scirpi, again not congeneric with L. pinorum (Lantz et al. 2011). Thus although Lophodermium conigenum is the sexual morph of Leptostroma pinorum, neither genus is appropriate for these species as the generic names are currently typifed. Thus in establishing the correct names for competing genera, the first step is always to review the phylogenetic status of their type species.

Many of the generic names of *Leotiomycetes* are old, especially those of the asexual morphs. DNA sequences are available for only a few of the type species, and most certainly not from the type specimen but also not from an authentic or as yet designated epitype specimen. Thus resolving the taxonomic issues amongst these fungi is difficult because of a lack of knowledge about the phylogenetic position of the type species of potentially competing genera. Many genera, especially those applied to asexual morphs, are polyphyletic often including several hundred names described in the 1800s and 1900s that have since been placed outside the genus or that remain obscure. This resulted from asexually typified genera having previously been regarded as "formgenera" rather than representing monophyletic genera.

In reviewing the potentially competing generic names for sexual and asexual morphs of aquatic hyphomycetes, it was determined that only one of these appears to be truly taxonomically congruent. The names applied to the sexual and asexual morphs of a species are mostly based on polyphyletically defined genera in which the type species is not congeneric with the names used for the connected specific names. For example, Dimorphospora foliicola, the monotype species of Dimorphospora, has a sexual morph placed in Hymenoscyphus. However, the type species of Hymenoscyphus, H. fructigenus, and D. foliicola are probably not congeneric. A BLAST search of sequences from D. foliicola does not link Dimorphospora with Hymenoscyphus. Also, in Baschien et al. (2013), the ex-type culture of D. foliicola does not appear in a clade together with Hymenoscyphus. As another example *Tricladium splendens*, type of the genus Tricladium, has a sexual morph named Hymenoscyphus splendens. The latter species appears to be closely related to H. varicosporoides (Seena et al. 2010, Baschien et al. 2013), however, *H. varicosporoides* is considered the sexual morph of a Tricladium (Sivichai et al. 2003) that is conspecific with an isolate of T. indicum from South Africa for which Webster et al. (1995) named the sexual morph as Cudoniella indica. Given the differences in morphology between the aquatic hyphomycetes and their sexual morphs and the tendency towards morphological convergence in this habitat, determining whether these taxa are congeneric is difficult without molecular phylogenetic data.

Based on the type species, generic names representing sexual and asexual morphs were investigated to determine if these generic names circumscribed the same group of species. If the type species of two genera represent the same species, the respective genera are considered synonyms. If the type species of one genus is judged to be congeneric with the type species of the other genus, i.e. the type species are within the same circumscription as the set of related species, the generic names are termed taxonomically congruent or congeneric. If molecular phylogenetic data are available, these are used to determine if the type species are congeneric. If phylogenetic data are not available but it appears likely that the genera are congeneric, they are included. If later it is determined that these genera are not taxonomically congruent, then both generic names are available for use as explained in Rossman (2014).

After a thorough review of the literature and discussion among members of various user communities, one generic

name is recommended for use here. Since July 2011, generic names compete for priority regardless of whether the type material of the type species of the genus represents a sexual or an asexual morph. In most cases the generic name that has priority, i.e. the name that was described first, would be that to be adopted under the ICN and is recommended. However, a number of factors have contributed to recommendations that priority of publication be over-ruled. One factor is the potential number of names changes required. This can be determined to some extent by the number of names listed under each genus in Index Fungorum<sup>1</sup> or MycoBank in which placement of species on other genera is indicated. A second factor is the frequency of use of each generic name as determined by searches of database resources such as Google, Google Scholar, MycoBank, and the SMML Fungal Databases<sup>2</sup>. The latter retrieves reports of fungi on plant hosts and retains the original fungus name, thus one can see how commonly used is a particular genus. Consideration is given to which generic name is used most commonly and whether specific names of importance to user communities would be changed. Finally this document was circulated among a number of users for comments and these comments accommodated to the greatest extent possible. Sometimes these opinions were in conflict and thus the authors of this document came to a consensus among themselves. The names of all participants who responded to requests for input about this document are listed in the Acknowledgements.

For each genus the rationale is presented for this recommendation and inclusion on the list of protected genera of Leotiomycetes. Teleomorph or sexually typified genera are indicated by an (S), while anamorph or asexually typified genera are indicated by an (A). If a sexually typified genus that is younger than an asexually typified genus is recommended for use, then the term protect indicates that this genus does not have priority and thus must be included on this list of protected names of genera in Leotiomycetes. If an asexually typified genus has priority, i.e. it is the oldest generic name, and is recommended for use, then the term **protect** indicates that this genus has priority but has an asexual type species and therefore must be protected as dictated in Article 57.2 of the ICN if both names are widely used. These are the two situations in which action is needed such that these genera must be approved by the Nomenclature Committee for Fungi (NCF) appointed by the Melbourne Congress. For competing genera in which the genus representing the sexual morph has priority and is recommended for use, no action is needed even though the name is included on this list. Finally, if the generic synonymy is relatively conclusive, specific names have been evaluated for priority. New combinations are made if an older epithet exists for the type and other species that must be placed in the genus recommended for use.

Because of their importance to plant pathologists seven specific names from the genera treated here will be formally proposed for conservation in a separate publication. Conservation is required for these names because the oldest

<sup>1</sup>http://www.IndexFungorum.org

competing epithet is not in the correct genus. These include: Blumeriella jaapii (cause of shot-hole disease of Prunus), Gremmeniella abietina (cause of Scleroderris canker of conifers), Leptotrochila medicaginis (cause of yellow leaf blotch of alfalfa), Neofabraea malicorticis (cause of bull's eye rot on apple and pear), Oculimacula yallundae (cause of eyespot of wheat), Pezicula cinnamomea (pezicula canker of red oak), and Pyrenopeziza brassicae, (cause of light leaf spot on winter oilseeed rape).

Generic names considered here are presented in Table 1 with the recommended generic name listed first and in bold. For each generic name, the place of publication and the type species with its place of publication and the currently accepted specific name are listed. Additional synonyms of the recommended generic name are listed in the third column. If action is needed, this is noted in the last column.

#### RATIONALE FOR RECOMMENDATIONS

### Protect Ascocalyx 1926 (S) over Bothrodiscus 1907 (A) and Pycnocalyx 1916 (A)

The generic name Ascocalyx, with the sexual type species A. abietis, and the asexually typified generic name Bothrodiscus, with the type species B. berenice now referred to as B. pinicola, were shown to be morphs of the same fungus by Groves (1936) by isolation of identical colonies from ascospores and conidia. In addition, the monotypic genus Pycnocalyx, with the type species P. abietis, is also considered a taxonomic synonym of Ascocalyx and A. abietis (Groves 1936); despite the identical species epithets, the names are heterotypic. Thus these three generic names are considered synonyms. Seven specific names have been placed in Ascocalyx, with only four remaining in that genus, while two of the three names in Bothrodiscus are considered synonyms of A. abietis. All species of this genus occur on the Pinaceae on which they cause minor cankers (Groves 1968, Smerlis 1973). Ascocalyx is the most frequently used generic name. Therefore, we recommend that Ascocalyx be protected over the two older asexually typified genera. Based on this recommendation, the binomial of the type and most commonly encountered species, a fungus causing a canker on pine (Kondo & Kobayashi 1984), must be changed as follows:

#### **Ascocalyx berenice** (Berk. & M.A. Curtis) Baschien, comb. nov.

MycoBank MB808789

Basionym: Fusisporium berenice Berk. & M.A. Curtis, Grevillea 3: 147 (1875).

Synonyms: Bothrodiscus pinicola Shear, Bull. Torrey bot. Club **34**: 313 (1907).

Ascocalyx abietis Naumov, Bolezni Rast. 14: 138 (1925) [1926].

Pycnocalyx abietis Naumov, Zap. Ural'sk. Obšč. Ljubit. Estestv. **35**: 11 (1916).

**Ascocalyx obscurus** (Peck) Baschien, **comb.** nov.

MycoBank MB808790

<sup>2</sup>Systematic Mycology and Microbiology Laboratory, ARS, USDA; http://nt.ars-grin.gov/fungaldatabases/

Basionym: Excipulina obscura Peck, Bull. Torrey Bot. Club **22**:209 (1895).

Synonyms: Bothrodiscus obscurus (Peck) Nag Raj, Canad. J. Bot. 57: 2489 (1979).

Ascocalyx tenuisporus J.W. Groves, Canad. J. Bot. 46: 1275 (1968).

Note: Although the differentiation of Ascocalyx abietis from Gremmeniella abietina has sometimes been a matter of discussion (Petrini et al. 1989), the two are now generally considered distinct. The epithets for A. berenice as A. abietis and G. abietina should not be confused; these are two different fungi. The latter is the cause of a serious canker disease of conifers and has sometimes been classified in Ascocalyx, thus the use of this generic name as A. abietina in the literature refers to Gremmeniella abietina.

#### Protect Ascoconidium 1942 (A) over Sageria 1975 (S)

The type species of Ascoconidium, A. castaneae, was described as the asexual morph of the earlier Dermatea purpurascens (Seaver 1942), while the type species of Sageria, S. tsugae, is the sexual morph of A. tsugae (Funk 1975). Although one might question whether these two species are congeneric, Nag Raj & Kendrick (1975) present a convincing case for the generic synonymy, showing that both asexual morphs have large phialides with conidiogenous loci at the base and apices that rupture to release large, cylindrical, multiseptate conidia. The sexual morphs are likewise similar. Thus these generic names are regarded as taxonomically congruent, although there is presently no molecular data to confirm this. The two genera, each with two named species, are well characterised. Although the species are considered minor pathogens, neither species is economically significant. Neither generic name is widely used. One argument in favour of Sageria is that 'ascoconidium' is also used as a technical term (Kirk et al. 2008) for conidia that arise from ascospores within asci; in fact, Seaver (1942) derived the generic name from this term. We propose following priority and recommend the older asexual generic name for use. The most commonly reported species is Ascoconidium purpurascens often as Sageria purpurascens or Dermatea purpurascens on Castanea in eastern North America (Verkley 1999). Adopting Ascoconidium combined with considering S. purpurascens to be synonymous with the type species, A. castaneae, means that the basionym Dermatea purpurascens must be transferred to Ascoconidium.

#### **Ascoconidium purpurascens** (Ellis & Everh.) Rossman, **comb nov.**

MycoBank MB808791

Basionym: Dermatea purpurascens Ellis & Everh., J. Mycol. **4**: 100 (1888).

Synonyms: Sageria purpurascens (Ellis & Everh.) Verkley, Stud. Mycol. 44: 150 (1999).

Ascoconidium castaneae Seaver, Mycologia 34: 414 (1942).

## Protect Ascocoryne 1967 (S) over Coryne 1816 (A), Pirobasidium 1902 (A), Pleurocolla 1924 (A) and Endostilbum 1964 (A)

The type species of the genus Coryne, C. dubia, is considered the asexual morph of the type species of Ascocoryne, A. sarcoides. This genetic connection between the morphs has been proven by culturing of ascospores and conidia, hence the two genera are synonyms. This species protects wood from decay by basidiomycetes and has been explored as a biological control of Heterobasidion annosum in Scandinavia, mostly under the confused moniker Coryne sarcoides (Singh 1989). The complexities of the nomenclature and typification of these two genera were described by Groves & Wilson (1967) using the code of nomenclature then in force. They argued that the epithet sarcoides should be applied to a sexual morph. Pirobasidium was based on the same epithet that was ascribed to Jacquin (1781). Groves & Wilson (1967) suggested that the rules of nomenclature needed to be changed and based on this philosophical position attributed the description of a new asexual "species" to Höhnel (1902) alone. This interpretation is no longer recognized. Additionally they sought to "neotypify" both the sexual and asexual names, Lichen sarcoides and Acrospermum dubium by the same specimen from North America, but their neotypification is not supportable because original illustrations exist. Endostilbum, typified by E. cerasi, is now considered the asexual morph of Ascocoryne solitaria (Korf & Candoussau 1974). Both generic names predate Ascocoryne. Seifert et al. (2011) added Pleurocolla, typified by P. tiliae, to the list of asexual state names that precede Ascocoryne. Coryne includes 69 names, few of them considered in the last fifty years. Unpublished type and field studies by Seifert (pers. comm.) suggest that the number of species attributable to this genus may be large. Seven names are included in Ascocoryne of which two or three have known asexual morphs. At first glance, protection of Ascocoryne could require numerous name changes but the comparative obscurity of most of the names in Coryne suggests that this is unlikely. The generic concept of Ascocoryne has always been well-circumscribed and is presumably monophyletic whereas the classical concept of Coryne is heterogeneous. Also, Coryne is used for a genus of hydrozoans, and the ICN now recommends avoidance of such names (Rec. 54A). Two of the other generic synonyms based on asexual morphs, Pirobasidium and Endostilbum, are monotypic and obscure; the third generic synonym, Pleurocolla, is also obscure but has been used mostly for a non-type species, P. compressa, which is a basidiomycete now classified in Leucogloea (2004). Ascocoryne sarcoides is used in the conversion of cellulosic biomass to liquid biofuels (Gianoulos 2012). For these reasons, we suggest protection of Ascocoryne over Coryne and the other names based on asexual morphs.

#### Ascocoryne albida (Berk.) Seifert, comb. nov.

MycoBank MB808792

Basionym: Tubercularia albida Berk., Smith's English Flora **5**: 354 (1836).

Synonyms: Coryne albida (Berk.) Korf & Candoussau, Bull. Soc. Mycol. France **90**: 214 (1974).

Coryne solitaria Rehm, Rabenh. Krypt.-Fl., 2<sup>nd</sup> edn **1** (3): 448 (1891) [1896].

Didymocoryne solitaria (Rehm) Sacc. & Trotter, Syll. Fung. **22**: 730 (1913).

Ascocoryne solitaria (Rehm) Dennis, Kew Bull. **25**: 343 (1971).

#### Ascocoryne trichophora (A.L. Sm.) Seifert, comb. nov.

MycoBank MB808793

Basionym: Heydenia trichophora A.L. Sm., J. Linn. Soc., Bot. **35**: 13 (1901).

Synonym: Coryne trichophora (A.L. Sm.) Seifert, Stud. Mycol. **31**: 159 (1989).

## Protect Ascodichaena 1977 (S) over Polymorphum 1822 (A), Psilospora 1856 (A) and Dichaenopsis 1905 (A)

Butin (1977) established Ascodichaena based on the type species A. rugosa as a name for the sexual morph of the Polymorphum rugosum. The nomenclature of the type species of *Polymorphum* is complex; Hawksworth & Punithalingham (1973) selected *P. quercinum*, which they synonymized with P. rugosum. Following the abolition of later starting points and the introduction of sanctioning, the correct name remained P. rugosum but with a different author citation (Hawksworth 1983). The genus Dichaenopsis, based on D. notarisii, has been the subject of considerable discussion without resolution about its affinities (DiCosmo 1984), however, there is a suggestion that this type is a synonym of A. rugosa, thus we propose to reject this generic name in favor of Ascodichaena. Finally, Psilospora, based on Opegrapha faginea Pers., is known to be a synonym of these genera (Hawksworth 1983). A second species of Ascodichaena, A. mexicana, was described by Butin (1990). Ascodichaena is used more frequently than Polymorphum, and Dichaena faginea was the most commonly used name for the asexual morph prior to the resurrection of Polymorphum in 1973. The fungus may contribute to the declines of Fagus and Quercus in Europe (Minter & Cannon 2002) and A. rugosa is the name generally used by forest pathologists. Therefore, Ascodichaena is proposed for protection but the author citation of the type species is changed to "(L.) Butin" following the suggestions of Hawksworth et al. (2013) as "rugosum" is a sanctioned epithet.

#### Protect Blumeriella 1961 (S) over Microgloeum 1922 (A) and Phloeosporella 1924 (A)

Blumeriella jaapii, the type species of Blumeriella, causes shot-hole of Prunus, a common disease in temperate regions. The disease is also commonly called Coccomyces leaf spot and sometimes attributed to the name Coccomyces hiemalis, now widely accepted as a taxonomic synonym of B. jaapii. The asexual morphs of B. jaapii have been referred to as Phloeosporella padi for the macroconidial morph and *Microgloeum pruni* for the microconidial morph. Because M. pruni is the type species of Microgloeum, the generic names Blumeriella and Microgloeum have types that represent the same species and are thus synonyms. The name P. padi, based on Ascochyta padi Lib. 1832, also commonly used for the cause of shot-hole of Prunus, is not the type species of Phloeosporella. At present it is unclear whether Phloeosporella is congeneric with Blumeriella and Microgloeum because no DNA sequence data exist for the

type species of Phloeosporella, P. ceanothi, causing leaf spot and dieback of Ceanothus. The only available data for B. jaapii is for α-deamylase CYP51, a gene that is not used in fungal phylogenetics. Because of the common use of the name Blumeriella jaapii for the widespread shot-hole disease of Prunus and its frequent appearance on lists of regulated pests in countries with a stone fruit agricultural sector, it is essential to protect the generic name Blumeriella over Microgloeum and Phloeosporella. In addition to protecting the generic name Blumeriella, the specific name Pseudopeziza jaapii needs to be formally conserved over the older names Ascochyta padi 1832 and Hainesii feurichii 1906. Given the prevalent use of Blumeriella jaapii for this disease in regulatory documents internationally and the lack of certainty about its relationship to the type species of Phloeosporella, it seems prudent to protect the generic name Blumeriella for which the name B. jaapii will be formally proposed for conservation in a separate publication. If the type species of Phloeosporella is found not to be congeneric with Blumeriella, it remains available for use.

A number of species in *Blumeriella* have asexual morphs in the large genus *Cylindrosporium*. The type species of *Cylindrosporium*, *C. concentricum*, is considered the asexual morph of *Pyrenopeziza brassicae*, thus the generic name *Cylindrosporium* is not a synonym of *Blumeriella* (see under *Pyrenopeziza*). However, two new combinations are required for species of *Blumeriella* for which names in *Cylindrosporium* provide the oldest epithet. Many additional new names may be required for species of *Cylindrosporium* that are determined to be congeneric with *Blumeriella*.

#### Blumeriella filipendulae (Thüm.) Rossman, comb. nov.

MycoBank MB808794

Basionym: Cylindrosporium filipendulae Thüm., Symb. mycol. austr. **2**: 146 (1878).

Synonyms: Phloeosporella filipendulae (Thüm.) M.A. Will. & E.C. Bernard, Can. J. Bot. 66: 2052 (1988).

Blumeriella haddenii M.A. Will. & E.C. Bernard, Can. J. Bot. 66: 2051 (1988).

#### Blumeriella ceanothi (Ellis & Everh.) Rossman, comb. nov.

MycoBank MB808795

Basionym: Cylindrosporium ceanothi Ellis & Everh., Proc. Acad. nat. Sci. Philad. 43: 84 (1891).

Synonym: Phloeosporella ceanothi (Ellis & Everh.) Höhn., Annls mycol. **22**: 201 (1924).

### Protect *Botrytis* 1794 (A) over *Botryotinia* 1945 (S)

Botrytis cinerea, the type species of Botrytis, is an important and ubiquitous plant pathogen and also the agent of 'noble rot' exploited for the production of Tokaj, Sauternes, Beerenauslese, and Trockenbeerenauslese wines. When the sexual morph of Botrytis cinerea was discovered, it was placed in the genus Botryotinia as B. fuckeliana (Whetzel 1945). The type species of Botryotinia, B. convoluta, basionym Sclerotinia convoluta, and Botrytis cinerea are congeneric as indicated using ITS sequences (Holst-Jensen et al. 2004).

VOLUME 5 · NO. 1 95

Although their types are not the same species, Botrytis and Botryotinia are taxonomically congruent. More than 400 species were described in the classical concept of Botrytis, many of them excluded by Hughes (1958) and Hennebert (1963), and the status of many names remains poorly known. Only 20 names are included in Botryotinia, most also named in Botrytis. The name Botryotinia fuckeliana is mentioned only in connection with Botrytis cinerea. Other important plant diseases usually referred to by their *Botrytis* names include *B*. aclada and B. allii, major pathogens of onions worldwide, B. convoluta on Iris rhizomes, B. fabae causing chocolate spot on beans, B. narcissicola on bulbs and leaves of daffodils, B. paeoniae causing wilt on peonies, and B. tulipae causing 'fire' disease of tulips. Changing these names would severely disrupt the plant pathological literature. Despite its originally heterogeneous classical concept, Botrytis has been used in a taxonomically and phylogenetically consistent way for at least 50 years and no confusion or imprecision would follow from the use of this name for the genus. A round table discussion on Botrytis and Botryotinia and the consequences of 'one name' was held by users of these names during the XVIth International Botrytis Symposium, Locorotondo, Italy, June 23-28, 2013. There was unanimous support for retaining use of the older name Botrytis. Given the frequency with which Botrytis cinerea is observed, recognition of this name, and the number of described species in Botrytis, it seems expedient to propose the generic name Botrytis for protection over Botryotinia. Two new combinations are needed for species of Botryotinia.

#### Botrytis arachidis (Hanzawa) Seifert & Kohn, comb. nov.

MycoBank MB808796

Basionym: Sclerotinia arachidis Hanzawa, Collect. Bot. Pap. [Miyabe Festschrift]: 215 (1911).

Synonym: Botryotinia arachidis (Hanzawa) W. Yamam., Trans. Mycol. Soc. Japan **2**(2): 4 (1959).

#### **Botrytis fritillarii-pallidoflori** (Q.T. Chen & J.L. Li) Seifert & Kohn, **comb. nov.**

MycoBank MB808797

Basionym: Botryotinia fritillarii-pallidiflori Q.T. Chen & J.L. Li, Acta Mycol. Sin. 6: 15 (1987).

## Use Calloria 1836 (S) rather than Cylindrocolla 1851 (A), Creothyrium 1925 (A) or Callorina 1971 (S)

The type species of *Calloria*, *C. fusarioides*, recently regarded as *C. neglecta*, is considered the sexual morph of the type species of *Cylindrocolla*, *C. urticae*, thus these types represent the same species and the two genera are synonyms (Hein 1976, Seifert 2011). *Callorina* was also described for the same species, thus this is another synonymous generic name. The monotypic genus *Creothyrium*, based on *C. pulchellum*, is obscure but Sutton (1977) considered it a synonym of *Cylindrocolla*. *Calloria* includes 122 names, only a few of which have been included in recent monographs such as Hein (1976), while *Cylindrocolla* has never been monographed and includes 33 names, most of which are not considered in recent literature. No DNA sequence data

exist for any species of this genus. *Calloria* has priority and because neither generic name is widely used, we choose to follow priority. However, the oldest epithet for the type species of both *Calloria* and *Cylindrocolla* must be transferred to *Calloria*.

#### **Calloria urticae** (Pers. : Fr.) Seifert, **comb. nov.** MycoBank MB808798

Basionym: Tremella urticae Pers., Syn. meth. fung. 2: 628 (1801): Fr., Syst, Mycol. 2: 231 (1823) [as Dacrymyces urticae].

Synonyms: Dacrymyces urticae (Pers. : Fr.) Mart., Fl. crypt. Erlang.: 368 (1817).

Peziza neglecta Lib., Plantes Crypt. Ard. 2:no. 29 (1832) [1830].

Calloria neglecta (Lib.) B. Hein, Beih. Willdenowia 9: 54 (1976).

Peziza fusarioides Berk., Mag. Zool. Bot. 1: 46 (1837).

Calloria fusarioides (Berk.) Fr., Summa veg. Scand. 2: 359 (1849).

Mollisia fusarioides (Berk.) Gillet, Champ. Fr. Discom.: 120 (1879).

Callorina fusarioides (Berk.) Korf, Phytologia 21: 203 (1971).

#### Use Calycellina 1918 (S) rather than Chaetochalara 1965 (A)

The genus Calycellina based on C. punctiformis, and now regarded as C. punctata (Lowen & Dumont 1984), includes 61 species. Although no asexual morph is known for this species, another species, C. carolinensis, included in this genus by Lowen & Dumont (1984), was considered to have an asexual morph named Chaetochalara aspera. The genus Chaetochalara, based on C. bulbosa and including C. aspera plus six other species, was monographed by Nag Raj & Kendrick (1975). Based on this literature Calycellina and Chaetochalara are considered taxonomically congruent. Given that Calycellina is the oldest name and has the most species, that generic name should be used. Most of the other names in Chaetochalara are now recognized in Chalara (Kirk 1984).

One new combination is made here:

#### Calycellina aspera (Piroz. & Hodges) Rossman, comb. nov.

MycoBank MB808799

Basionym: Chaetochalara aspera Piroz. & Hodges, Can. J. Bot. **51**: 157 (1973).

Synonym: Calycellina carolinensis Nag Raj & W.B. Kendr., Monogr. Chalara Allied Genera: 183 (1975).

## Protect Chaetomella 1870 (A) over Zoellneria 1934 (S), Volutellospora 1965 (A) and Harikrishnaella 1972 (A)

Recent research has demonstrated that *Chaetomella*, based on the type species *C. oblonga*, is congeneric with *Zoellneria* based on *Z. rosarum* (Johnston & Baral, pers. comm.). In addition, *Index Fungorum* lists *Amerisporium patellarioides* as a synonym of *Zoellneria rosarum*; the former is also considered a synonym of *C. oblonga* (Rossman *et al.* 2004). Thus these

three genera appear to be taxonomically congruent. The genus *Chaetomella* with about 40 names has been well-defined with species widely reported from plant hosts (Rossman *et al.* 2004) and some species are a source of the potential anticancer drugs based on inhibitors of Ras farnesyl-protein transferase (Bills *et al.* 1995). *Zoellneria*, with only six species, is relatively obscure. *Volutellospora* and *Harikrishnaella* were shown to be taxonomic synonyms of *Chaetomella* (Rossman *et al.* 2004). Given the frequent citation of *Chaetomella* and the number of species included in that genus, we recommend following priority and protecting *Chaetomella* as the name for this genus. Species in *Chaetomella* remain unchanged while not enough is known about the other two species in *Zoellneria* to make any name changes.

#### Protect *Chlorociboria* 1958 (S) over *Dothiorina* 1911 (A)

The type species of Chlorociboria is the commonly encountered C. aeruginosa; the genus consists of 34 names including a number of species known primarily from New Zealand (Johnston & Park 2005). Dixon (1975) suggested that the asexual morph of C. aeruginascens might be the coelomycete Dothiorina, based on D. tulasnei, but a convincing connection between the two has not been made. Dothiorina tulasnei was little known until Sanchez & Bianchinotti (2007) provided a detailed description including an analysis of conidiogenesis. They concluded that D. tulasnei was not the asexual morph of C. aeruginascens based on significant deviations in phialide morphology and conidial shape compared to what is known about C. aeruginosa in vitro. They questioned the classification of the two other species in Dothiorina, excluding D. discoidea and D. subcarnea. Although Chlorociboria is well-represented in GenBank, no DNA sequences of Dothiorina are available for comparison. The prevalence of the well-known name Chlorociboria, the number of species in that genus, and the lack of clarity about whether Dothiorina is actually a synonym argue that Chlorociboria should be proposed for protection. No name changes are required.

### Protect Claussenomyces 1923 (S) over Dendrostilbella 1905 (A)

The type species of Claussenomyces, C. jahnianus, was included in the monograph of Korf & Abawi (1971), with a key to four species including C. prasinulus (syn. Peziza prasinula). Seifert (1985) presented a morphological revision of the type species of Dendrostilbella, D. prasinula, considering it the asexual morph of C. prasinulus based on the observations of Dennis (1956), but he noted that the morphological species, D. prasinula, was associated with both C. atrovirens and C. prasinulus. Based on these publications, Claussenomyces and Dendrostilbella are considered taxonomic synonyms, although it remains to be shown with DNA sequence analysis that C. jahnianus and C. prasinulus are actually congeneric. Although 23 species were named in Dendrostilbella, many are now placed in other genera (Seifert 1985). Nineteen species are currently accepted in Claussenomyces based on Korf & Abawi (1971), Ouellette & Korf (1979), Gamundí & Gialotti (1995), and Medardi (2007), although some of these species may not be congeneric with C. jahnianus. Considering the

amount of recent taxonomic work on *Claussenomyces* and the number of accepted species, it seems advisable to protect *Claussenomyces* for this genus defined by its type species. At present not enough is known about the relationships of species of *Dendrostilbella* to make new combinations.

#### Protect Coma 1972 (A) over Ascocoma 1987 (S)

The type species of *Coma, C. circularis*, is the presumed asexual morph of the type species of *Ascocoma, A. eucalypti* (Swart 1987, Beilharz & Pascoe 2005). Although based on coincidental occurrence, it appears that these genera represent the same species and are synonyms. Clearly, *Ascocoma* was named in full awareness that it was the same fungus as *Coma*. If *Coma* is used, no name changes are required because the one variety, *A. eucalypti* var. *didymospora* is considered a synonym of *C. circularis* (Beilharz & Pascoe 2005), thus we recommend following priority for the choice of the generic name.

#### Protect Cristulariella 1916 (A) over Nervostroma 2006 (S)

The genus Nervostroma, based on N. depraedans, was established for the sexual morph of Cristulariella depraedans, type of Cristulariella, thus these generic names are taxonomic synonyms (Narumi-Saito et al. 2006). In the same article, three species previously described in Cristulariella were removed to Hinomyces (Narumi-Saito et al. 2006), having a sexual morph in Grovesinia. Thus Cristulariella now includes three species, whereas Nervostroma includes only N. depraedans and N. cercidiphylli, both of which already have an older name in Cristulariella. Neither generic name is widely used, although leaf spots attributed to Cristulariella are often reported in published plant disease surveys. The asexual generic name Cristulariella has been used in the plant pathology literature, however, in these cases the name may refer to 'C.' moricola and 'C.' pyramidalis, now classified in Grovesinia. Given that Cristulariella has priority and its use would not result in any name changes, we suggest that this asexual name be protected.

#### Protect Crumenulopsis 1969 (S) over Digitosporium 1953 (A)

The generic name Crumenulopsis with the type species C. pinicola based on Peziza pinicola, was established to replace the name Crumenula Rehm 1888 (non De Not. 1864). Van Vloten & Gremmen (1953) described Digitosporium piniphilum for the asexual morph of Crumenula sororia, now referred to as Crumenulopsis sororia. Although no molecular data exist to determine whether C. pinicola and C. sororia are synonyms, this appears likely. Thus the generic names Crumenulopsis and Digitosporium are most likely synonyms or at least taxonomically congruent. At present six taxa are named in Crumenulopsis, including C. pinicola and C. sororia, both causing dieback diseases of pine in Europe, and C. atropurpurea, causing a disease of Japanese red pine in Georgia (Hanlin et al. 1992). Because the older, monotypic genus Digitosporium has not been widely used and many names changes would be required, it seems advisable to protect the name Crumenulopsis.

VOLUME 5 · NO. 1 97

## Protect Dematioscypha 1977 (S) over Schizocephalum 1852 (A) and Haplographium 1859 (A)

The genus Dematioscypha based on D. dematiicola is circumscribed to include five related taxa (Svrček 1977, Huhtinen 1987, Hosoya & Otani 1997). The older generic name Schizocephalum, based on S. atrofuscum, includes four species none of which have been considered since before 1900. The relationship of S. atrofuscum to D. dematiicola is difficult to determine. Schizocephalum atrofuscum was placed in Haplographium by Saccardo (1886) but Seifert et al. (2011), based on the protologue, considered the identity to be unknown in modern terms. The type species of Haplographium, H. delicatum, is recognized as the asexual morph of Dematioscypha dematiicola (Huhtinen 1987), thus Dematioscypha and Haplographium are synonyms. Although 39 names are listed in Haplographium, some are now recognized in Lauriomyces including H. catenatum (Castañeda Ruiz & Kendrick 1990), a species previously regarded as a synonym of *H. delicatum* (Hughes 1953, 1958). Many species of Haplographium have been placed in other genera such that Seifert et al. (2012) suggests that only three species belong in Haplographium. Based on the obscurity of Schizocephalum and the widespread use of the well-defined genus Dematioscypha, we suggest that Dematioscypha be protected over Schizocephalum and Haplographium.

One new combination is needed:

#### Dematioscypha delicata (Berk. & Broome) Hosoya, comb. nov.

MycoBank MB808800

Basionym: Haplographium delicatum Berk. & Broome, Ann. Mag. nat. Hist., ser. 3 3: 360 (1859).

Synonyms: Peziza dematiicola Berk. & Broome, Ann. Mag. nat. Hist., ser. 3 **15**: 446 (1865).

Dematioscypha dematiicola (Berk. & Broome) Svrček, Česká Mykol. **31**: 193 (1977).

#### Protect Dermea 1825 (S) over Sphaeronaema 1815 (A) and Foveostroma 1978 (A)

Dermea, based on D. cerasi, is a well defined genus that includes a number of plant pathogenic species (Abeln et al. 2000). Although over 200 names have been placed in Sphaeronaema, almost nothing is known about the type species, S. cylindricum. Most of the names in Sphaeronaema that have been considered in the modern literature are now placed in other genera. Whether Dermea and Sphaeronaema are taxonomically congruent is not known. The genus Foveostroma was based on F. drupacearum, a name for the asexual morph of D. cerasi (DiCosmo 1978), thus Foveostroma and Dermea are synonyms. Dermea includes 31 names, while eight names have been described in Foveostroma. Among these three genera, Dermea is the best known and some species of Dermea have been sequenced (Abeln et al. 2000). Because of the unknown placement of the type species of Sphaeronaema, the less frequent use of Foveostroma, and the well-circumscribed concept of Dermea, it seems advisable to protect the name Dermea over Sphaeronaema and not use the name Foveostroma.

Three new combinations are required:

#### Dermea abietinum (Peck) Rossman, comb. nov.

MycoBank MB808801

Basionym: Gelatinosporium abietinum Peck, Ann. Rep. Reg. Univ. St. N.Y. **25**: 84 (1873) [1872].

Synonyms: Foveostroma abietinum (Peck) Di Cosmo, Can. J. Bot. **56**: 1682 (1978).

Cenangium balsamea Peck, Ann. Rep. N.Y. St. Mus. nat. Hist. 38: 101 (1885).

Derma balsamea (Peck) Seaver, Mycologia 24: 427 (1932).

#### Dermea boycei (Dearn.) Rossman, comb. nov.

MycoBank MB808802

Basionym: Cryptosporium boycei Dearn., Mycologia **20**: 245 (1928).

Synonyms: Foveostroma boycei (Dearn.) A. Funk, Can. J. Bot. **57**: 767 (1979).

Dermea pseudotsugae A. Funk, Can. J. Bot. 45: 1803 (1967).

#### Dermea stellata (Ellis) Rossman, comb. nov.

MycoBank MB808803

Basionym: Sphaeronaema stellatum Ellis, Bull. Torrey bot. Club **6**: 107 (1876).

Synonyms: Micropera stellata (Ellis) Jacz., Nouv. Mem. Soc. Imp. nat. Moscou **15**: 366 (1898).

Cenangium peckiana Rehm, Annls mycol. 13: 3 (1915).

Dermea peckiana (Rehm) Seaver, N. Am. Cup-fungi (Inoperculates): 356 (1951).

# Protect Diplocarpon 1906 (S) over Entomosporium 1856 (A), Bostrichonema 1867 (A), Marssonina 1906 (A) and Entomopeziza 1914 (S)

The type species of *Diplocarpon*, *D. rosae*, has been linked to an asexual morph in Marssonina, M. rosae, for the serious disease of roses called black spot (Sivanesan & Gibson 1975a). The type species of Entomosporium, E. mespili, is used for the asexual morph of a cosmopolitan leaf and fruit spot disease of rose and other rosaceous plants to which the sexual morph name, Diplocarpon mespili (syn. Diplocarpon maculatum), has been applied (Sivanesan & Gibson 1975b). A third genus Bostrichonema, based on B. alpestre, and now regarded as B. polygoni, includes seven names. Bostrichonema polygoni is considered the asexual morph of Diplocarpon polygoni (Müller 1977). Assuming that D. rosae is congeneric with D. mespili and D. polygoni, then Entomosporium and Bostrichonema are taxonomically congruent with Diplocarpon. A fourth genus, Marssonina based on M. potentillae as M. fragariae, has a sexual morph referred to as D. earlianum (Sivanesan & Gibson 1975c) and thus Marssonina also competes for synonymy with Diplocarpon. Although the conidia of these species appear superficially different because of the long appendages on those of E. mespili, developmental similarities to the conidia of M. rosae and M. fragariae have been noted (Farr 1993, Sutton 1980) as well as the morphologically similar sexual morphs. In addition, ITS sequences indicate that the type species of Diplocarpon, Entomosporium, and Marssonina may be congeneric.

98 IMA FUNGUS

Thus Bostrichonema, Diplocarpon, Entomosporium, and Marssonina are considered taxonomically congruent. An obscure fifth genus, Entomopeziza, based on E. soraueri (syn. Entomosporium mespili), is considered a synonym of Diplocarpon. The number of names in Diplocarpon and Entomosporium are about equal while Diplocarpon is more frequently used. Over 100 names have been placed in Marssonina, but this genus has not been well defined and many of these names represent unrelated species. Although Entomosporium is highly descriptive of the conidia and has been frequently used, Diplocarpon is more widely known for the serious, widespread diseases of rosaceous plants and is widely known in plant pathology literature. We recommend the protection of Diplocarpon.

Two new combinations are needed:

#### **Diplocarpon alpestre** (Ces.) Rossman, **comb. nov**. MycoBank MB808804

Basionym: Bostrichonema alpestre Ces., Erb. critt. Ital., ser. 1, 2: no. 149 (1867).

Synonyms: Cylindrosporium polygoni Unger, Exanth. *Pflanzen*: 169 (1833).

Bostrichonema polygoni (Unger) J. Schröt., Krypt.-Fl. Schlesien 3 2(4): 484 (1897) [1908].

Diplocarpon polygoni E. Müll., Beitr. Kryptfl. Schweiz **15**(1): 40 (1977).

#### **Diplocarpon fragariae** (Sacc.) Rossman, **comb. nov**. MycoBank MB808805

Basionym: Leptothyrium fragariae Lib., Pl. crypt. Ard. 2: no. 162 (1832).

Synonyms: Peziza earliana Ellis & Everh., Bull. Torrey bot. Club 11: 74 (1884).

Diplocarpon earlianum (Ellis & Everh.) F.A. Wolf, J. Elisha Mitchell scient. Soc. **39**: 158 (1924) [as 'earliana'].

### Use Gelatinipulvinella 1995 (S) rather than Aureohyphozyma 1995 (A)

The monotypic genera *Gelatinipulvinella* based on *G. astraeicola*, and *Aureohyphozyma* based on *A. astraeicola*, were described as the sexual and asexual morphs of the same species (Hosoya 1995). The type species of these genera represent the same species, thus they are synonyms and compete equally for use. Given the more widespread use of *Gelatinipulvinella* based on the past preference for sexual morph names, it is recommended that *Gelatinipulvinella* be used.

## Protect *Gloeotinia* 1954 (S) over *Endoconidium* 1891 (A)

The genus *Gloeotinia*, with the type species *G. temulenta* based on *Phialea temulentum*, was established for the sexual morph of *Endoconidium temulentum*, the type species of *Endoconidium*. Thus *Gloeotinia* and *Endoconidium* are synonyms. Although four species remain in *Endoconidium*, they are obscure without any recent reports. Two of the four species in *Gloeotinia* have been removed to *Ciboria*, leaving the two species that cause blind seed diseases, commonly referred to as *Gloeotinia granigena* and *G. temulenta*. Their

distinction as two different species has only recently been reported (Alderman 1998). If *Endoconidium* were used, the relatively well known name *G. granigena* would have to be changed, thus it seems expedient to protect the name *Gloeotinia*.

# Protect Godronia 1846 (S) over Sphaeronaema 1815 (A), Topospora 1836 (A), Mastomyces 1848 (A), Clinterium 1849 (A), Fuckelia 1864 (S) and Chondropodiella 1917 (A)

The genus Godronia, based on the type species G. muehlenbeckii on Phragmites australis in Europe, was monographed by Groves (1965) and includes a number of plant pathogenic species, primarily on woody, dicotyledonous hosts. Only one species, G. urceolata, has been sequenced (de Gruyter et al. 2009), thus the phylogenetic placement of this non-type species in Leotiomycetes is confirmed. The relationship of the type species to other species in Godronia or their asexual morphs is unknown. Although over 200 names have been placed in Sphaeronaema, almost nothing is known about the type species, S. cylindricum based on Sphaeria cylindrica. This type species is relatively obscure and undefined, described on Quercus and Salix in Sweden and Germany. Most of the names in Sphaeronaema that have been considered in the modern literature have been placed in other genera. The taxonomic congruence of Godronia with Sphaeronaema is not known. Topospora, based on *T. uberiformis*, is considered the asexual morph of Godronia uberiformis on Ribes (Groves 1965, Sutton 1980), thus these genera are taxonomically congruent. Godronia includes 88 names while eight species have been placed in Topospora. The type species of Mastomyces, Clinterium, and Chondropodiella are linked to species placed in Godronia or Topospora (Sutton 1977). The type of Fuckelia, F. ribis, is a synonym of G. ribis. Based on the unknown phylogeny of Sphaeronaema, the relative obscurity of Topospora, and the accepted use of Godronia, it seems advisable to protect the name Godronia. Not enough is know about the relationships among these species to make taxonomic changes. These generic names remain available for segregate genera.

## Protect Godroniopsis 1929 (S) over Sphaeronaema 1815 (A) and Dichaenopsella 1952 (A)

Godroniopsis is a small but well defined genus with two plant-pathogenic species, including the type species *G. quernea*, the asexual morph of *Dichaenopsella quernea*, the monotype species of *Dichaenopsella*. The asexual morph of *Godroniopsis nemopanthi* is described as *Sphaeronaema peckii*. Over 200 names have been placed in *Sphaeronaema*, yet almost nothing is known about the type species, *S. cylindricum*, as mentioned above. Most of the names in *Sphaeronaema* that have been considered in the modern literature have been placed in other genera. It is not known if *Godroniopsis* and *Sphaeronaema* are taxonomically congruent. Based on the unknown phylogeny of *Sphaeronaema* and the accepted use of *Godroniopsis*, it seems advisable to protect the name *Godroniopsis*.

One new combination is needed:

#### Godroniopsis peckii (Sacc. & P. Syd.) J. K. Stone, comb. nov.

MycoBank MB808806

Basionym: Sphaeronaema peckii Sacc. & P. Syd., Syll. fung. **14**: 900 (1899).

Synonym: Godroniopsis nemopanthi J.W. Groves, Mycologia **29**: 71 (1937) [as 'nemopanthis'].

#### Protect Gremmeniella 1969 (S) over Brunchorstia 1891 (A)

The type species of Gremmeniella, G. abietina based on Crumenula abietina, has been used for the sexual morph of the asexual name Brunchorstia pinea based on Septoria pinea, a synonym of B. destruens, and the type species of the genus Brunchorstia. All of these epithets are synonyms according to Punithalingam & Gibson (1973), Sutton (1980), and Müller & Dorworth (1983), thus there is no doubt that these generic names are synonyms. The serious disease of conifers caused by G. abietina is known as Scleroderris canker or Brunchorstia dieback of pines and has plant quarantine significance under that name (CABI 2013). Although seven names have been placed in Gremmeniella, only four species are still included in this genus. Among the seven names in Brunchorstia, only one remains in that genus. The name Gremmeniella especially for G. abietina is more widely used than Brunchorstia, thus it seems expedient to protect the name Gremmeniella. In addition the name G. abietina based on C. abietina will be formally proposed for conservation in a separate publication.

#### Use *Grovesinia* 1983 (S) rather than *Hinomyces* 2006 (A)

The type species of *Grovesinia*, *G. pyramidalis*, is considered the sexual morph of the type species of *Hinomyces*, *H. moricola*, thus these two genera are synonyms (Narumi-Saito *et al.* 2006). This fungus causes bull's eye or zonate leaf spot on a number of hosts in colder regions of North America and Asia. Both genera have a second species, *Grovesinia pruni* (syn. *Hinomyces pruni*). These species have been placed in *Cristulariella* (Redhead 1975) but their separation into distinct genera was recognized by Narumi-Saito *et al.* (2006) as mentioned under *Cristulariella*. Given that usage of *Grovesinia* and *Hinomyces* is about equal, the older name, *Grovesinia*, is recommended for use. However, the oldest epithet for this species must be transferred to *Grovesinia*.

#### **Grovesinia moricola (**I. Hino) Redhead, **comb. nov.** MycoBank MB808807

Basionym: Botrytis moricola I. Hino, Bull. Miyazaki Coll. Agric. Forest. 1: 80 (1929).

Synonyms: Cristulariella moricola (I. Hino) Redhead, Mycologia **71**: 1249 (1974).

Hinomyces moricola (I. Hino) Narumi & Y. Harada, Mycoscience 47: 357 (2006).

Sclerotinia moricola I. Hino, Bull. Miyazaki Coll. Agric. Forest. 1: 77 (1929).

Botryotinia moricola (I. Hino) W. Yaman., *Trans. Mycol. Soc. Japan* **2**: 5. (1950).

Cristulariella pyramidalis Waterman & R.P. Marshall, *Mycologia* **39**: 692 (1947).

Grovesinia pyramidalis M.N. Cline et al., Mycologia **75**: 991 (1983).

#### Use *Heterosphaeria* 1824 (S) rather than *Heteropatella* 1874 (A)

The type species of *Heterosphaeria*, *H. patella*, is the sexual morph of the type species of *Heteropatella*, *H. lacera* (Leuchtmann 1987, Nag Raj 1993), thus these two genera are synonyms. None of these species have been analyzed phylogenetically but Leuchtmann (1987) provides a monographic account of the eight species accepted in *Heterosphaeria*. The number of names in each genus is about equal and *Heterosphaeria* is slightly more commonly used than *Heteropatella*. Because there is no compelling reason to do otherwise, use of the oldest generic name, *Heterosphaeria*, is recommended.

Based on Leuchtmann (1987), one new combination is required:

#### Heterosphaeria sublineolata (Thüm.) Leuchtm., comb. nov.

MycoBank MB808808

Basionym: Septoria sublineolata Thüm., Bull. Soc. Imp. nat. Moscou **52**: 116 (1877).

Synonym: Heterosphaeria veratri Nespiak & Müller, Beitr. Kryptfl. Schweiz **15** (1): 44 (1977).

For further synonyms, see Leuchtmann (1987) and Müller (1977).

#### Protect Holwaya 1889 (S) over Crinula 1821 (A)

The type species of Holwaya, H. ophiobolus, now regarded as H. mucida, is the sexual morph of the type species of Crinula, C. caliciiformis (Korf & Abawi 1971), thus these type species are conspecific and the generic names are taxonomic synonyms. The connection has been confirmed by culturing. Neither name has been used more commonly than the other, although Holwaya is a well-known name among field mycologists interested in discomycetes. Ten names and two varieties have been included in Crinula, although most of the names have not been used in modern literature. Several of the names in Crinula are synonyms of the asexual state of *H. mucida*, previously referred to as C. caliciiformis. Among nine names described in Holwaya, six of them are synonyms of H. mucida. The two remaining names in Holwaya have been placed outside the genus. The generic name Holwaya is recommended for use. One species has been redescribed by Seifert (1985) and should be transferred to Holwaya.

#### Holwaya byssogena (Berk. & Broome) Seifert, comb. nov.

MycoBank MB808809

Basionym: Stilbum byssogenum Berk. & Broome, J. Linn. Soc. Bot. 14: 97 (1875).

Synonym: Crinula byssogena (Berk. & Broome) Seifert, Stud. Mycol. 27: 192 (1985).

#### Use *Hyphodiscus* 1907 (S) rather than *Catenulifera* 2002 (A)

The genus *Hyphodiscus*, based on *H. gregarius*, now regarded as *H. theioideus*, was reviewed by Hosoya (2002) who described the genus *Catenulifera* typified by *C. rhodogena* as the asexual morph of *H. hymeniophilus*. More recently Bogale *et al.* (2010) confirmed the relationship based on sequence analyses of *H. hymeniophilus* and *C. rhodogena*. Assuming that *H. hymeniophilus* and *H. theiodeus* are congeneric as suggested by Hosoya (2002), then *Hyphodiscus* and *Catenulifera* are taxonomically congruent. Bogale *et al.* (2010) transferred two species of *Phialophora* to *Catenulifera* with four names in the latter genus. The genus *Hyphodiscus* currently includes 11 species many of which do not have known asexual morphs. Given the greater number of species, the frequency of use, and its priority, we recommend the use of *Hyphodiscus*.

Three species of *Catenulifera* should be transferred to *Hyphodiscus*:

#### **Hyphodiscus brachyconius** (W. Gams) Hosoya, comb. nov.

MycoBank MB808810

Basionym: Phialophora brachyconia W. Gams, Stud. Mycol. 13: 68 (1976).

Synonym: Catenulifera brachyconia (W. Gams) Bogale & Unter., Fungal Biology **114**: 404 (2010).

#### **Hyphodiscus brevicollaris** (W. Gams) Hosoya, comb. nov.

MycoBank MB808811

Basionym: Phialophora brevicollaris W. Gams, Stud. Mycol. **13**: 71 (1976).

Synonym: Catenulifera brevicollaris (W. Gams) Bogale & Unter., Fungal Biology **114**: 404 (2010).

#### **Hyphodiscus luxurians** (Bogale & Unter) Hosoya, comb. nov.

MycoBank MB808812

Basionym: Catenulifera luxurians Bogale & Unter., Fungal Biology 114: 404 (2010).

#### Protect Hypohelion 1990 (S) over Leptostroma 1815 (A)

The type species of Hypohelion, H. scirpinum, is based on Hypoderma scirpinum, which is considered the sexual morph of Leptostroma scirpinum, the type species of Leptostroma. This relationship was first established by Grove (1937) as Leptothyrium scirpinum (syn. Leptostroma scirpinum) and accepted by Minter (1997) as Hypohelion scirpinum. Thus Hypohelion and Leptostroma are synonyms. The genus Leptostroma includes 208 names but many of these have been removed to other genera. Although Sutton (1980) recognized Leptostroma, he only included the type species. The remaining names in Leptostroma are of unknown phylogenetic affinities. Many species described in Leptostroma occur on Pinus (Minter 1980) and are more closely related to Lophodermium, not congeneric with L. scirpinum (Lantz et al. 2011). One additional species has been placed in Hypohelion, H. durum (Lin et al. 2004). Given

the polyphyletic nature of the genus *Leptostroma* now applied to species deviating from the type, we recommend protecting the well-characterized genus *Hypohelion*. No name changes are needed.

#### Protect Leptotrochila 1871 (S) over Sporonema 1847 (A)

Yellow leaf blotch of alfalfa, a widespread disease in temperate regions, is caused by a fungus known as Leptotrochila medicaginis, which has an asexual morph referred to as Sporpnema phacidioides, the type species of Sporonema (Schuepp 1959, Sutton 1980). The type of Leptotrochila is L. radians occurring on Campanula in Europe. Assuming that L. medicaginis is congeneric with L. radians (Schuepp 1959), then Leptotrochila and Sporonema are taxonomically congruent. No species in either of these genera have been sequenced. Leptotrochila was separated from Pseudopeziza by Schuepp (1959) who included 14 species in Leptotrochila. These genera are about equally well known although plant pathologists appear to use the name Leptotrochila most frequently. A number of species of Sporonema are placed in unrelated genera such as Sirococcus or Coleophoma. Given the use of the Leptotrochila for L. medicaginis, an important plant pathogen, and the lack of knowledge about Sporonema, it seems useful to protect the generic name Leptotrochila. The name Leptotrochila medicaginis, cause of yellow leaf blotch of alfalfa, will be formally proposed for conservation in a separate publication.

Note: Leptotrochila medicaginis is distinct from Pseudopeziza medicaginis, the cause of a common leaf spot of lucerne (Booth & Waller 1979).

#### Leptotrochila campanulae (DC.) Rossman, comb. nov.

MycoBank MB808812

Basionym: Xyloma campanulae DC., Fl. franç., 3<sup>rd</sup> edn **5/6**: 159 (1815).

Synonyms: Phacidium radians Roberge ex Desm., Annls Sci. Nat., Bot., sér. 2 17: 116 (1842).

Leptotrochila radians (Roberge ex Desm.) P. Karst., Bidr. Känn. Finl. Nat. Folk 19: 22 (1871).

### Use *Micraspis* 1963 (S) rather than *Periperidium* 1963 (A)

The type species of *Micraspis, M. acicola*, was described as the sexual morph of the type species of *Periperidium, P. acicola*, by Darker (1963), therefore, these generic names are synonyms. Two additional names have been placed in *Micraspis* and this name has been more frequently used than the monotypic *Periperidium*, thus the use of *Micraspis* is recommended. No name changes are needed.

## Protect *Monilinia* 1928 (S) instead of *Monilia* 1794 (A), with the rejection of *Epochnium* 1809 (Δ)

Monilia is one of the most heterogeneous of the classical hyphomycete genera. Named for species with constricted chains of spores, i.e. monilioid, it included about 350 species that were subsequently classified in a vast array of yeast and hyphomycete genera such as Aspergillus, Candida, Chrysonilia (i.e. Neurospora asexual morphs), Cladosporium, and Scopulariopsis, to name just a few. The extremely confused nomenclature of this generic name was reviewed by Donk (1963). It was originally proposed in the pre-pre-starting point literature as Monilia Hill 1751, in this sense a synonym of the zygomycete genus Syzigites. Later Persoon (1794) provided conflicting lectotypifications as did Link (1809), in this sense a synonym of Bispora. Donk (1963) proposed conservation of the genus with attribution to Bonorden (1851), choosing M. cinerea as type, now a synonym of the asexual morph of Monilinia laxa. Since that time, the generic name Monilia has been used consistently for the asexual morphs of Monilinia. Despite its older age, the extremely confused nomenclatural history and contradictory typifications prior to its stabilized taxonomic application argues against the use of Monilia. Although Monilia has been used in a consistent sense in the modern literature, the name is not used independently of the sexual morph name, Monilinia.

Although *Monilinia* is a much younger generic name, it has been used in a taxonomically and phylogenetically consistent fashion, in particular since the monograph of Batra (1991). This monograph includes an account of 30 species with a discussion of ten additional names. The generic name *Monilinia* has been used almost exclusively in the plant pathogenic literature for economically important diseases of tree fruit such as *M. fructicola* and *M. laxa* on stone fruit, *M. fructigena* on pome fruit, and *M. oxycocci* and *M. vaccinii-corymbosi* on ericaceous berry crops (Batra 1991). Several of the species are involved in international quarantine legislation, most notably *M. fructicola*, of concern in the European Union (EPPO 2012).

Another asexually typified generic name, *Epochnium* Link 1809, was regarded as a synonym of *Monilia* by Hughes (1958), but Donk (1963) questioned the logic of this; neither examined the type specimen. Because no author has examined the type of *Epochnium*, if it exists, and the name has never been used in any literature other than taxonomic compilations, it would be impractical to adopt this name. We propose that *Epochnium* and its type species *E. monilioides* be rejected.

One new combination is needed:

#### Monilinia polystroma (G.C.M.Leeuwen) Kohn, comb. nov.

MycoBank MB808820

Basionym: Monilia polystroma G.C.M. Leeuwen, Mycol. Res. **106**: 450 (2002).

### Protect Monochaetiellopsis 1977 (A) over Hypnotheca 1970 (S)

The monotypic genus *Hypnotheca*, based on *H. graminis*, was described as the sexual morph of the type species of *Monochaetiellopsis*, *M. themedae* with the basionym *Monochaetiella themedae* (Tommerup 1970), thus these genera are synonyms. The two species of *Monochaetiellopsis* (Nag Raj 1993) are more widely known than *H. graminis*. Although *Hypnotheca* has priority, its use would require that both names in *Monochaetiellopsis* be changed. Given

the greater use of *Monochaetiellopsis* and lack of required name changes, it is recommended that *Monochaetiellopsis* be protected for use.

#### Protect Mycopappus 1985 (A) over Redheadia 2005 (S)

The type species of Mycopappus, M. alni, does not have a known sexual morph; however, a second species, M. quercus, is the asexual morph of the type species of Redheadia, R. guercus (Suto & Suyama 2005). When Redhead & White (1985) described M. alni, they suggested that it was a sclerotiniaceous fungus, as is M. quercus, due to "the presence of phialides and microconidia in culture and the melanisation of the phialidic clusters converting them into microsclerotia." It seems likely that M. alni and M. quercus are congeneric and the names Mycopappus and Redheadia are taxonomically congruent. Of the four names in Mycopappus, the two other species are now placed in Dothideomycetes: M. aceris in Xenostigmina (Crous et al. 2009) and M. aesculi as the asexual morph of Mycodidymella aesculi (Wei et al. 1998). Although Mycopappus appears to be a widely used generic name, some references are to species that no longer belong in that genus. Nevertheless, it seems advisable to use the earliest name, Mycopappus, for this genus. No name changes are required.

#### Protect Neofabraea 1913 (S) over Phlyctema 1847 (A) and Allantozythia 1924 (A)

The genus Neofabraea is characterized by the type species N. malicorticis (Verkley 1999), the cause of bull's eye rot of apple and pear, while the type species of Phlyctema, P. vagabunda, is the asexual morph of N. alba. Given that Verkley (1999) accepts both species in Neofabraea, Neofabraea and Phlyctema are taxonomically congruent. This monographic account provides a thorough account of the well circumscribed genus Neofabraea. In contrast, more than 60 names have been placed in Phlyctema, some of which have been transferred to other genera such as Phomopsis and Rhabdospora and placed among other genera of morphologically simple coelomycetes (Verkley 1999). The virtually unknown genus *Allantozythia*, based on A. alutacea, a synonym of Phlyctema vagabunda, is also a synonym of Neofabraea. Given that Neofabraea has been monographed, is well characterized phylogenetically (Abeln et al. 2000, de Jong et al. 2001), and includes a number of plant pathogens, it seems expedient to protect the name Neofabraea. The name of the type species, N. malicorticis, cause of bull's-eye rot on apple and pear, will be formally proposed for conservation.

Many species described in *Cryptosporiopsis* belong in *Neofabraea* even though the type species, *C. pruinosa*, is placed in *Pezicula*.

Based on Verkley (1999), Johnston *et al.* (2004) and Zhu *et al.* (2012), three name changes are made here:

**Neofabraea actinidiae** (P.R. Johnst. *et al.*) P.R. Johnst., **comb. nov.** 

MycoBank MB808962

Basionym: Cryptosporiopsis actinidiae P.R. Johnst. et al., Mycotaxon 89: 132 (2004).

#### Neofabraea citricarpa (L. Zhu et al.) P.R. Johnst., comb. nov.

MycoBank MB809002

Basionym: Cryptosporiopsis citricarpa L. Zhu et al., Pl. Dis. **96**: 809 (2012).

#### Neofabraea vagabunda (Desm.) P.R. Johnst., comb. nov.

MycoBank MB808821

Basionym: Phlyctema vagabunda Desm., Annls Sci. Nat., Bot., sér. 3 8: 16 (1847).

Synonyms: Peziza alba E.J. Guthrie, Trans. Br. mycol. Soc. **42**: 504 (1959).

Neofabraea alba (E.J. Guthrie) Verkley, Stud. Mycol. 44: 125 (1999).

### Use Ocotomyces 1985 (S) rather than Uyucamyces 1985 (A)

Ocotomyces and Uyucamyces are both monotypic genera described for the same species. Ocotomyces is more widely cited than Uyucamyces, thus we recommed the use of Ocotomyces.

#### Use *Oculimacula* 2003 (S) rather than *Helgardia* 2003 (A)

These genera were described in the same paper based on type species that represent the same species and thus are synonyms having equal priority. Four species have been placed in Helgardia while Oculimacula includes two species. Crous et al. (2003) determined that the name commonly used for eyespot of wheat, Tapesia yallundae, must be moved to another genus because the generic name Tapesia, based on T. fusca, is a rejected name (Hawksworth & David 1989). The name Oculimacula is most commonly used by plant pathologists for the eyespot diseases of wheat and barley. The name of the causal organism of eyespot disease of wheat, O. yallundae, has been widely accepted by plant pathologists and thus will be proposed for formal conservation while the name for the fungus causing eyespot disease of barley would remain O. acuformis. Even though two name changes are required, the generic name Oculimacula is recommended because of its use by plant pathologists.

#### Oculimacula aestiva (Nirenberg) Crous, comb. nov. MycoBank MB808963

Basionym: Pseudocercosporella aestiva Nirenberg, Z. PflKrankh. PflSchutz 88: 246 (1981).

Synonyms: Ramulispora aestiva (Nirenberg) E.L. Stewart & Crous, Mycol. Res. **103**: 1497 (1999).

Helgardia aestiva (Nirenberg) Crous & W. Gams, Eur. J. Pl. Path. 109: 848 (2003).

#### Oculimacula anguioides (Nirenberg) Crous, comb. nov.

MycoBank MB808964

Basionym: Pseudocercosporella anguioides Nirenberg, Z. PflKrankh. PflSchutz 88: 246 (1981).

Synonyms: Ramulispora herpotrichoides var. anguioides (Nirenberg) U. Braun, Nova Hedwigia **56**: 433 (1993).

Ramulispora anguioides (Nirenberg) Crous, S. Afr. J. Bot. 61: 47 (1995).

Helgardia anguioides (Nirenberg) Crous & W. Gams, Eur. J. Pl. Path. **109**: 846 (2003).

#### Use *Ovulinia* 1940 (S) rather than *Ovulitis* 1970 (A)

The type species of *Ovulinia*, *O. azaleae*, is the sexual morph of *Ovulitis azaleae*, the type species of *Ovulitis*, thus these generic names are synonyms. Both genera include a second species that are also synonyms. Because *Ovulinia* has priority, this name should be used. No name changes are required.

#### Use Pezicula 1865 (S) over Cryptosporiopsis 1912 (A) and Lagynodella 1922 (A)

The type species of Pezicula, P. carpinea, has an asexual morph regarded as Cryptosporiopsis fasciculata while the type species of Cryptosporiopsis, C. nigra, is the asexual morph of Pezicula ocellata (Verkley 1999). The genus Lagynodella based on L. pruinosa (as Cryptosporiopsis pruinosa) is the asexual morph of P. pruinosa and thus also a synonym of Pezicula. Both the monographic account by Verkley (1999) and a phylogeny of these species (Abeln et al. 2000) suggest that these three genera are taxonomically congruent. Pezicula and Cryptosporiopsis are used about equally. Some species of Cryptosporiopsis have also been linked to Neofabraea and may need to be placed in that genus while others have no known sexual morph. Verkley (1999) notes that those species of Cryptosporiopsis linked to Neofabraea rather than Pezicula tend to have conidia less regular in shape. Because a monograph of Pezicula exists and it has priority, this generic name should be used.

Out of the 26 species included in Verkley (1999), one name, *Pezicula cinnamomea*, cause of pezicula canker of red oak, will be formally proposed for conservation in a separate publication. The species listed as *P. carpinea* in Verkley (1999) should be recognized as *P. fasciculata*. Most species of *Cryptosporiopsis* that are in common use already have names in *Pezicula*; however, a number of recently described species of *Cryptosporiopsis* should be placed in *Pezicula* based on the molecular phylogeny of Lynch *et al.* (2013) or Verkley (1999). These new combinations are proposed here.

#### **Pezicula brunnea** (Sigler) P.R. Johnst., **comb. nov.** MycoBank MB808965

Basionym: Cryptosporiopsis brunnea Sigler, Stud. Mycol. **53**: 60 (2005).

**Pezicula californiae** (Cheewangkoon *et al.*) P.R. Johnst., **comb. nov.** 

MycoBank MB808966

Basionym: Cryptosporiopsis californiae Cheewangkoon et al., Fungal Diversity **44**: 91 (2010).

#### Pezicula cornina (Peck) P.R. Johnst., comb. nov. MycoBank MB808822

Basionym: Sphaeropsis cornina Peck, Ann. Rep. N.Y. St. Mus. nat. Hist. **32**: 38 (1880) [1879].

Synonym: Pezicula corni Petr., Annls mycol. 20: 197 (1922).

#### Pezicula diversispora (Robak) P.R. Johnst., comb. nov.

MycoBank MB808967

Basionym: Cryptosporiopsis diversispora Robak, Svensk Bot. Tidskr. **44**: 471 (1950).

#### Pezicula ericae (Sigler) P.R. Johnst., comb. nov.

MycoBank: MB808968

Basionym: Cryptosporiopsis ericae Sigler, Stud. Mycol. 53: 57 (2005).

#### **Pezicula melanigena** (T. Kowalski & Halmschl.) P.R. Johnst., **comb. nov.**

MycoBank MB808971

Basionym: Cryptosporiopsis melanigena T. Kowalski & Halmschl., Mycol. Res. **102**: 348 (1998).

#### **Pezicula querciphila** (S.C. Lynch, *et al.*) P.R. Johnst., **comb. nov.**

MycoBank MB809003

Basionym: Cryptosporiopsis querciphila S.C. Lynch et al., Plant Dis. 97: 1033 (2013).

#### **Pezicula radicicola** (T. Kowalski & C. Bartnik) P.R. Johnst., **comb. nov**.

MycoBank MB808969

Basionym: Cryptosporiopsis radicicola T. Kowalski & C. Bartnik, Mycol. Res. **99**: 663 (1995).

#### **Pezicula rhizophila** (Verkley & Zijlstra) P.R. Johnst., comb. nov.

MycoBank MB808970

Basionym: Cryptosporiopsis rhizophila Verkley & Zijlstra, Mycol. Res. **107**: 694 (2003).

## Protect the name *Phacidiopycnis* 1912 (A) over *Potebniamyces* 1962 (S) and *Discosporiopsis* 1921 (A)

The type species of Phacidiopycnis is P. malorum, now regarded as P. pyri (Windlmayr 1965). The genus Phacidiella Potebnia 1912 (non P. Karst. 1884) was replaced by the name Potebniamyces by Smerlis (1962) typified by P. discolor, now regarded as P. pyri. Phacidiopycnis pyri is considered the asexual morph of Potebniamyces pyri (Brooks 1928, Sutton 1980, as P. discolor), thus these two generic names are synonyms. A third generic name, Discosporiopsis, was based on Phacidiopycnis pyri and is likewise a synonym of Phacidiopycnis. Both Phacidiopycnis and Potebniamyces are used in the plant pathology literature most recently in reference to a canker and twig dieback of pear also associated with pome fruits (Xiao & Boal 2005, Xiao et al. 2005). A number of species also occur on conifers (Gross & Weidensaul 1967, Punithalingam & Gibson 1976) but their phylogenetic affinities are not known. The frequency of use and number of names is highest for Phacidiopycnis, therefore we recommend protecting this asexual name that has priority. No name changes are required except possibly for Potebniamyces gallicola if determined to belong in this genus.

#### Use *Phacidium* 1815 (S) rather than *Ceuthospora* 1826 (A)

The type species of Phacidium, P. lacerum, has an asexual morph named Ceuthospora pinastri (DiCosmo et al. 1984) while the type species of Ceuthospora, C. lauri, has been linked to P. multivalve (DiCosmo et al. 1984, Nag Raj 1993, Sutton 1972). The latter connection has not been reviewed in the recently literature but, given the number of species of Ceuthospora having sexual morphs in Phacidium, it seems likely that these genera are taxonomically congruent. Issues concerning the type species of Ceuthospora and conservation of Greville's name were addressed by Sutton (1972). Ceuthospora lauri is known to cause a bleeding brown zonate leaf blight of tea (Ando et al. 1989). Species of Phacidium have been connected with a number of other genera, namely Allantophomopsis 1925 based on A. cytisporea and Apostrasseria 1983 based on A. lunata, neither of which are taxonomically congruent with Phacidium; however, the type species of these genera are synonyms (Carris 1990). The name *Phacidium* has been widely used and includes a greater number of names than Ceuthospora, therefore we recommend the use of the older name Phacidium. Given the number of species and lack of recent monographic accounts of either genus based on phylogenetic information, it is difficult to determine if name changes are required.

#### Protect Phialocephala 1961 (A) over Phaeomollisia 2009 (S)

Based on the phylogenetic studies by Grünig et al. (2009) and Day et al. (2012), it appears that, although it lacks a known asexual morph, the monotypic genus Phaeomollisia based on P. piceae is congeneric with Phialocephala. Based on an ITS phylogeny, Phaeomollisia piceae groups with several species of Phialocephala including the type species, P. dimorphospora. Given that 35 names exist in the genus Phialocephala and the genus was recently recircumscribed (Day et al. 2012), it seems expedient to use this older generic name.

#### Phialocephala piceae (T.N. Sieber & Grünig) Rossman, comb. nov.

MycoBank MB808823

Basionym: Phaeomollisia piceae T.N. Sieber & Grünig, Mycol. Res. **113**: 213 (2009).

## Protect *Pilidium* 1823 (A) over *Discohainesia* 1932 (S), *Hainesia* 1884 (A) and *Sclerotiopsis* 1882 (A)

The genus *Pilidium*, based on *P. acerinum*, was shown to include *P. concavum*, the asexual morph of *Discohainesia* oenotherae, monotype species of *Discohainesia* (Rossman et al. 2004). The relationship between *D. oenotherae*, *P. concavum*, *Hainesia lythri*, and *Sclerotiopsis testudinacea* as morphs of the same species was shown by Palm (1991) who grew the various morphs in culture. The type species of *Hainesia*, *H. rhoina*, and the type species of *Sclerotiopsis*, *S. australasica*, have long been considered synonyms of this species as *Pezizella lythri* (Shear & Dodge,1913, Sutton & Gibson 1977). *Pilidium* is taxonomically congruent with *Discohainesia* as well as *Hainesia* and *Sclerotiopsis* while the

type species of *Discohainesia*, *Hainesia* and *Sclerotiopsis* all represent the same species and thus are synonyms. About twenty species of *Pilidium* and *Sclerotiopsis* each have been described, but *Pilidium* is the most widely used generic name and includes a number of plant pathogenic species. Given that *Pilidium* is the oldest generic name and has been recently monographed (Rossman *et al.* 2004), we recommend the use of that genus. Using the older epithet *Dacryomyces lythri*, the common pathogen known as *Pilidium concavum* is transferred to *Pilidium* below.

#### **Pilidium lythri** (Desm.) Rossman, **comb. nov.** MycoBank MB808824

Basionym: Dacrymyces lythri Desm., Pl. Crypt. Fr. no. 1545 (1846).

Synonyms: Peziza oenotherae Cooke & Ellis, Grevillea 6: 90 (1878).

Discohainesia oenotherae (Cooke & Ellis) Nannf., Nova Acta R. Soc. Scient. upsal., ser. 4 8 (2): 88 (1932).

Ceuthospora concava Desm., Ann. Sci. Nat., Bot., sér. 3, 8: 17 (1847).

Pilidium concavum (Desm.) Höhn., Sitzungsber. Kaiserl. Akad. Wiss., Math.-Naturwiss. Kl., Abt. 1, **124**: 148 (1915). Many additional synonyms exist for this species (Palm 1991).

### Use *Ploioderma* 1967 (S) rather than *Cryocaligula* 1986 (A)

The monotypic genus *Cryocaligula*, based on the type species *C. hedgcockii*, was described for the asexual morph of *Ploioderma hedgcockii*, the type species of *Ploioderma*, thus these generic names are synonyms. The name *Cryocaligula* has not been used since it was described while the older *Ploioderma* includes 11 names and is well known, thus the use of *Ploioderma* is recommended. No name changes are needed.

#### Use *Pragmopora* 1855 (S) rather than *Pragmopycnis* 1975 (A)

Although the type species of *Pragmopora*, *P. amphibola*, was initially considered to possibly be lichenized, later authors, most recently Groves (1967), concluded that a thallus was lacking in this species. He accepted six more species in his monograph of this genus, including *P. pithya*. The type species of the monotypic genus *Pragmopycnis*, *P. pithya*, was described as the asexual morph of *Pragmopora pithya*, thus these genera are regarded as taxonomically congruent. None of these species have been sequenced. *Pragmopora* is most frequently cited and has priority, thus its use is recommended. No name changes are needed.

## Protect Pycnopeziza 1938 (S) over Acarosporium 1911 (A), Chaetalysis 1922 (A) and Ciliosira 1942 (A)

The genus *Pycnopeziza* based on *P. sympodialis* is regarded as the sexual morph of the type species of *Acarosporium*, *A. sympodiale* (White & Whetzel 1938, 1940, Sutton 1980) thus these genera are synonyms. Nag Raj (1993) included three species in the genus *Acarosporium* with one species, *A. lichenicola*, added since then (Ihlen 1998), although it seems unlikely that this species belongs

here. An equal number of species were recognized in *Pycnopeziza* by White & Whetzel (1938) and Whetzel & White (1940). Both *Chaetalysis* and *Ciliosira* are monotypic genera whose type species are regarded as synonyms of *Acarosporium sympodiale* (Sutton 1980). Holst-Jensen (1997, 2004) confirmed the placement the type species of *Pycnopeziza*, *P. sympodialis*, in the *Sclerotiniaceae*. Given the recent phylogenetic placement of *Pycnopeziza* and the more extensive use of this name, it seems preferable to use *Pycnopeziza* for this genus. Although one or two name changes may be required, this is not done until the placement of these species is confirmed.

### Protect Pyrenopeziza 1870 (S) over Cylindrosporium 1823 (A)

The genus Pyrenopeziza includes a number of important plant pathogenic species. Although reported several times from Europe on Apiaceae, the type species, P. chailletii, has not been well-characterized. One important plant pathogen, P. brassicae, has been linked to the asexually typified generic name Cylindrosporium concentricum, type of the genus Cylindrosporium (Rawlinson et al. 1978, Cheah et al. 1980). Assuming that P. chailletii is congeneric with P. brassicae as C. concentricum, then Pyrenopeziza and Cylindrosporium are taxonomically congruent. Kirk et al. (2008) suggested that Pyrenopeziza includes ca 59 names with three names in Cylindrosporium, although many more names in that genus remain obscure. Sutton (1980) states that "Few genera have been the subject of more confusion than Cylindrosporium ..". Considerable research has been published on Pyrenopeziza although no monographic account exists, and Pyrenopeziza is more commonly used than Cylindrosporium. Given the plant pathogenic species recognized as Pyrenopeziza, the greater use of the name Pyrenopeziza, and the lack of clarity about Cylindrosporium, we recommend protectiing the name Pyrenopeziza over Cylindrosporium. The name for the important pathogen, Pyrenopeziza brassicae, cause of light leaf spot on winter oilseed rape, will be formally proposed for conservation in a separate publication.

## Protect Rhabdocline 1922 (S) over Meria 1896 (A), Hartigiella 1900 (A) and Rhabdogloeum 1922 (A)

Rhabdocline and the asexually typified genus Rhabdogloeum were described in the same article based on different type species (Sydow & Petrak 1922). The type species of Rhabdogloeum, R. pseudotsugae, is connected to Rhabdocline weirii according to Parker & Reid (1969). The genus Rhabdocline is clearly defined to include both the type species of Rhabdocline, R. pseudotsugae, and R. weirii by Stone & Gernandt (2005), thus the genera Rhabdocline and Rhabdogloeum appear to be taxonomically congruent. Two older asexual genera are also considered synonymys of Rhabdocline, namely Hartigiella and Meria. The monotype species of Hartigiella, H. laricis, is a synonym of Meria laricis (Vuillemin 1905), thus Hartigiella is also taxonomically congruent with Rhabdocline. Gernandt et al. (1997) showed that the type species of Meria, M. laricis, and Rhabdocline pseudotsugae to be congeneric, thus Meria is also taxonomically congruent with Rhabdocline. Rhabdocline includes nine names and is more commonly used than Meria, with two names, and Rhabdogloeum, with only the type species left in the genus. Of the two species of Meria, M. parkeri has a name in Rhabdocline while M. laricis Vuill. needs to be placed in Rhabdocline. Note that two additional Meria species belonging in the Clavicipitaceae were recombined in Drechmeria by Gams & Jannson (1985). Given its more common use, protecting the name Rhabdocline for this genus is recommended. One name change is required.

#### Rhabdocline laricis (Vuill.) J. K. Stone, comb. nov. MycoBank MB808826

Basionym: Meria laricis Vuill., Compt. Rend. hebd. Séanc. Acad. Sci., Paris **122**: 21 (1896).

Synonyms: Allescheria laricis R. Hartig, Centralbl. Gesammte Forstwesen **25**: 425 (1899).

Hartigiella laricis (R. Hartig) Dietel & P. Syd. Hedwigia (Beibl.) **39**: (91) (1900).

### Protect Rhizothyrium 1915 (A) over Rhizocalyx 1928 (S) and Bactrexcipula 1918 (A)

The type species of Rhizothyrium, R. abietis, was shown to be the asexual morph of Rhizocalyx abietis, type species of Rhizocalyx, by Smerlis (1967), thus Rhizothyrium and Rhizocalyx are synonyms. The type species, Bactrexcipula strasseri, of the monotypic genus Bactrexcipula was considered to be the same as Rhizothyrium abietis by Petrak (1962). Based on Petrak's (1928) hypothesis about the relationships of these taxa, Smerlis (1967) grew both morphs in culture and provided convincing descriptions and illustrations. While Rhizocalyx remains monotypic, a second species of Rhizothyrium, R. parasiticum, was described by Butin (1986). No molecular data exist for either genus. Although both genera are relatively obscure, Rhizothyrium has been used more often than Rhizocalyx, thus it seems most useful to protect the earlier name Rhizothyrium for this genus. No name changes are required.

### Use *Rhytisma* 1818 (S) rather than *Melasmia* 1846 (A)

The type species of *Rhytisma*, *R. acerinum*, is the sexual morph of the type species of *Melasmia*, *M. acerina* (Cannon & Minter 1984), therefore, the genera are synonyms. *Melasmia* is a morphologically simple, putatively spermatial asexual state. The genus *Rhytisma* has been widely used for species causing various tar spot diseases on living leaves. We recommended that the older, relatively well characterised name *Rhytisma* be used. Most names in *Melasmia* are obscure, thus it is difficult to determine if any name changes are required.

### Use Scleropezicula 1999 (S) rather than Cryptosympodula 1999 (A)

These monotypic genera were described for the sexual and asexual morphs of the same species, therefore, the genera are synonyms. Neither name has been widely used but the sexual morph has been more frequently reported and is already in *Scleropezicula*, therefore, we recommend the use of the sexual morph generic name *Scleropezicula*.

### Protect Scytalidium 1957 (A) rather than Xylogone 1969 (S)

The type species of Scytalidium, S. lignicola, appears to be congeneric or at least closely related with the type species of *Xylogone, X. sphaerosperma*, in the phylogenetic analyses by Kang et al. (2010), thus Xylogone and Scytalidium may be taxonomically congruent. A second species of Xylogone, X. ganodermophthora, causes yellow rot of cultivated Ganoderma lucidum in Korea (Kang et al. 2010). The genus Scytalidium has included two well-known species that are now placed in the Botryosphaeriaceae, specifically the medically important and plant pathogenic species known as Neoscytalidium dimidiatum (syn. Scytalidium dimidiatum) and N. hyalinum (syn. Scytalidium hyalinum) (Crous et al. 2006, Phillips et al. 2013). The four species of Scytalidium having affinities with *Xylogone* are used in the forest products industry (Robinson et al. 2014). The remaining 18 species of Scytalidium are of unknown affinity, many of which were isolated from soil and wood but also animals including humans. Two thermophilic species are considered to belong outside of Scytalidium, although no genus was available (Straastma & Samson 1993). Given the number of species remaining in Scytalidium compared to the small genus Xylogone, we recommend the use of Scytalidium.

#### Use Seaverinia 1945 (S) rather than Verrucobotrys 1973 (A)

The type species of *Verrucobotrys, V. geranii*, was established for the asexual morph of the type species of *Seaverinia, S. geranii*, thus these genera are synonyms. Both genera are monotypic. Given the equal citation of these names, the use of the older generic name *Seaverinia* is recommended.

#### Use Septotinia 1961 (S) rather than Septotis 1970 (A)

The type species of *Septotis, S. podophyllina*, was established for the asexual morph of the type species of *Septotinia, S. podophyllina*, thus these genera are synonyms. Both genera include two names that represent the same two species. Given the equal citation of these names, use of the older generic name *Septotinia* is recommended.

#### Use *Stamnaria* 1870 (S) rather than *Titaeospora* 1916 (A)

Stamnaria persoonii, type species of Stamnaria, is a relatively common fungus on stems and leaves of Equisetum spp. in temperate regions (Farr & Rossman 2014). The asexual morph of Stamnaria persoonii was described as Titaeospora equiseti of which T. detospora, the type species of Titaeospora, is a synonym (von Arx 1970), thus Stamnaria and Titaeospora are synonyms. Given the equal number of species and the equal use of names in these genera, the older generic name Stamnaria is recommended for use.

### Use *Streptotinia* 1945 (S) rather than *Streptobotrys* 1973 (A)

The genus *Streptobotrys*, based on the type species *S. streptothrix*, was described for the asexual morph of *Streptotinia* (Hennebert 1973) although *Streptobotrys streptothrix* does not have a known sexual morph. The

other two species of *Streptobotrys* are listed with their corresponding sexual morphs including *Streptotinia* arisaematis, the type species of *Streptotinia*. Thus these two genera are taxonomically congruent. Given that the number of species in each genus is small and both generic names are cited about equally, we recommend use of the older generic name *Streptotinia*.

The following new combination is required:

#### **Streptotinia streptothrix** (Cooke & Ellis) Seifert & Kohn, **comb. nov.**

MycoBank MB808827

Basionym: Polyactis streptothrix Cooke & Ellis, Grevillea 7: 39 (1878).

#### Use Strossmayeria 1881 (S) rather than Pseudospiropes 1971 (A)

The sexual morph of Pseudospiropes nodosus, the type species of Pseudospiropes, has been shown to be Strossmayeria atriseda by Iturriaga & Korf (1990) who regarded S. atriseda as congeneric with the type species of Strossmayeria, S. basitricha, thus Strossmayeria and Pseudospiropes are taxonomically congruent. They suggest that the asexual morphs of species of Strossmayeria are referable to Pseudospiropes, but note that other phylogenetically distant, morphologically similar asexual species have been described in Pseudospiropes. Many of the 36 names described in Pseudospiropes have been placed in other genera leaving only 16 species in that genus while 20 species are accepted in Strossmayeria (Index Fungorum, Iturriaga & Korf 1990). We recommend use of the older, well characterised generic name Strossmayeria. Although new combinations in Strossmayeria may be required for species in Pseudospiropes (Casteñada Ruiz et al. 2001), this be done as phylogenetic data become available because of the heterogeneity of Pseudospiropes.

### Use *Symphyosirinia* 1956 (S) rather than *Symphyosirella* 2009 (A)

Although the type species of the discomycete genus *Symphyosirinia*, based on *S. galii*, and the type species of the hyphomycete genus *Symphyosirella*, *S. parasitica*, are not synonyms, they are considered congeneric (Gams *et al.* 2009), thus these genera are taxonomically congruent. *Symphyosirella* was described for two species parasitic on seeds (Gams 2009). Because *Symphyosirinia* includes five species (Baral 1994, Ellis 1956, Svrček 1989), is widely used, and has priority, we recommend the use of this generic name. Priority at the species level requires recombining *Symphyosirella parasitica* and *S. rosea* into *Symphyosirinia*. According to Gams *et al.* (2009) the earlier hyphomycete generic name *Symphiosira* Preuss 1853, in which these two species were originally described, is a *nomen dubium*.

#### Symphyosirinia parasitica (Massee & Crossl.) Seifert, comb. nov.

MycoBank MB808828

Basionym: Symphyosira parasitica Massee & Crossl., Naturalist, Hull **1904**: 6 (1904).

Synonyms: Symphyosirella parasitica (Massee & Crossl.) Seifert, Mycotaxon **110**: 105 (2009).

Symphyosirinia heraclei E.A. Ellis, Trans. Norfolk Norw. Nat. Soc. **25**(2): 43 (1980).

#### **Symphosirinia rosea** (Keissl.) Seifert, **comb. nov**. MycoBank MB808829

Basionym: Symphyosira rosea Keissl., Mycol. Zentbl. 2: 322 (1913).

Synonym: Symphyosirella rosea (Keissl.) Seifert, Mycotaxon **110:** 105 (2009).

#### Use *Tympanis* 1790 (S) rather than *Sirodothis* 1909 (A) or *Pleurophomella* 1914 (A).

The type species of *Tympanis, T. saligna*, is considered the sexual morph of *Sirodothis saligna* while the type species of *Sirodothis, S. populi*, is a synonym of *S. populnea*, the asexual morph of *Tympanis spermatiospora* (Sutton & Funk 1975, Sutton 1980), therefore these genera are taxonomically congruent. The type species of *Pleurophomella*, *P. eumorpha*, has been linked to "one of the three species" of *Tympanis* on *Pinus*, possibly *T. confusa* (Groves 1949), thus is also taxonomically congruent with *Tympanis*. The genus *Tympanis* has many more species than *Sirodothis* and *Pleurophomella* and is widely used. We recommend use of the well known genus *Tympanis*. Although some name changes may be required, most species of *Sirodothis* and *Pleurophomella* have names in *Tympanis*.

### Use *Unguiculariopsis* 1909 (S) rather than *Deltosperma* 1988 (A)

When Zhuang (1988) monographed the genus *Unguiculariopsis*, including the type specie *U. ilicincola*, she established the genus *Deltosperma* based on *D. infundibuliformis* for the asexual morph of *U. infundibuliformis*. *Unguiculariopsis* and *Deltosperma* are taxonomically congruent. Given that there are many more species of *Unguiculariopsis* than *Deltosperma* and that *Unguiculariopsis* is more frequently cited, the older name *Unguiculariopsis* is recommened for use. Although two new combinations may be required, only the older name with a known sexual morph is recombined here.

#### **Unguiculariopsis caespitosa** (Fuckel) W.Y. Zhuang, **comb. nov**.

MycoBank MB808830

Basionym: Sphaeronaema caespitosum Fuckel, Fungi Rhenani Exs. no. 2147 (1868).

Synonyms: Deltosperma caespitosum (Fuckel) W.Y. Zhuang, Mycotaxon 32: 48 (1988).

Cenangium parasiticum Fuckel, Jb. nassau. Ver. Naturk. 25-26: 43 (1871).

*Unguiculariopsis parasitica* (Fuckel) W.Y. Zhuang, *Mycotaxon* **32**: 46 (1988).

#### Protect Valdensia 1923 (A) over Valdensinia 1953 (S) and Asterobolus 1972 (A).

The monotype genus *Valdensinia*, based on *V. heterodoxa*, was established for the sexual morph *of Valdensia heterodoxa*, type of *Valdensia* (Peyronel 1923, 1953), thus

Valdensia and Valdensinia have the same type species and are generic synonyms. This species has an asexual morph that produces large staurosporous propagules quite unlike the discoid sexual morph and belongs in the Sclerotiniaceae (Holst-Jensen et al. 1997). It causes a leaf-spot disease of ericaceous plants and others hosts. Norvell & Redhead (1994) speculated that this fungus may cause a 20 % loss of green foliage used for floral arrangements in western North America; it is also being considered as a bioherbicide for the treatment of ericaceous shrubs beneath power lines (Wilkin et al. 2005). Although both generic names have been used, more reports have been made using the asexually typified genus, thus the earlier name Valdensia is proposed for protection. According to Redhead & Perrin (1972), their genus Asterobolous, based on A. gaultheriae, is a synonym of Valdensia heterodoxa. No name changes are required.

#### Use Vibrissea 1822 (S) over Anavirga 1975 (A)

The type species of Vibrissea, V. truncorum, occurring on submerged wood in temperate regions, lacks a known asexual morph. The type of Anavirga, A. laxa, is found on cupules of Castanea sativa and rotting tree leaves and lacks a known sexual morph. A second species of Anavirga, A. dendromorpha, on submerged leaves and twigs (Descals & Sutton 1976) has a sexual morph referred to as Vibrissea flavovirens, initially as the name Apostemidium torrenticola (Hamad & Webster 1987). Phylogenetic studies are lacking to confirm the congeneric status of the type species of Vibrissea and Anavirga, however, A. laxa is morphologically similar to A. dendromorpha; the differences in branching pattern and size of conidial elements are small, possibly due to differences in specimens from pure culture (A. dendromorpha) and nature (A. laxa). The phialocephalalike state observed in cultures of A. dendromorpha was not seen in the collections of A. laxa from nature. We suggest that Vibrissea and Anavirga circumscribe the same group of species and are taxonomically congruent. Anavirga has only three species including A. vermiformis known from a terrestrial habitat in a mountain forest in India associated with monsoon rains (Bhat & Kendrick 1993). It differs somewhat in conidial morphology from the two older species, A. laxa and A. dendromorpha, namely through the inconspicuous or absent conidiophores and branching of conidia exclusively near the base; therefore, we refrain from recombining it, until information on relationships on molecular level becomes available. The genus Vibrissea with over 50 species is widely known and thus that name is recommended for use.

One new combination is proposed:

**Vibrissea laxa** (B. Sutton) Marvanová, **comb. nov**. MycoBank MB808831

Basionym: Anavirga laxa B. Sutton, Trans. Br. mycol Soc. 64: 406 (1975).

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#### **REFERENCES**

- Abeln ECA, de Pagter MA, Verkley GJM (2000) Phylogeny of *Pezicula*, *Dermea* and *Neofabraea* inferred from partial sequences of the nuclear ribosomal RNA gene cluster. *Mycologia* **92**: 685–693.
- Alderman SC (1998) Gloeotinia temulenta and G. granigena, two distinct species. Mycologia **90**: 422–426.
- Ando Y, Oniki M, Nonaka T, Narisawa N (1989) Brown zonate leaf blight, a new disease of tea plant caused by *Ceuthospora lauri* in Japan. *Annals of the Phytopathological Society of Japan* **55**: 391–396.
- Baral H-O (1994) Über *Drepanopeziza verrucispora* und *Symphyosirinia clematidis* (*Leotiales, Ascomycetes*), mit einem Bestimmungsschlüssel der *Symphyospirinia*-Arten. *Zeitschrift für Mykologie* **60**: 211–224.
- Baschien C, Tsui C K-M, Gulis V, Szewzyk U, Marvanova L (2013) The molecular phylogeny of aquatic hyphomycetes with affinity to the *Leotiomycetes*. *Fungal Biology* **117**: 660–672.
- Beilharz V, Pascoe I (2005) *Ascocoma eucalypti* (anamorph: *Coma circularis*), confirmation of the elusive microconidial state. *Mycotaxon* **91**: 273–278.
- Bhat DJ, Kendrick B (1993) Twenty-five new conidial fungi from the Western Ghats and the Andaman Islands (India). *Mycotaxon* **49**: 19–90.
- Bills GF, Lingham RB, Martin I, Silverman KC, Singh SB, Smith JL (1995) Inhibitors of farnesyl-protein transferase. US Patent # 08/222,773.
- Bogale M, Orr M-J, O'Hara MJ, Untereiner WA (2010) Systematics of *Catenulifera* (anamorphic *Hyaloscyphaceae*) with an assessment of the phylogenetic position of *Phialophora hyalina*. *Fungal Biology* **114**: 396–409.
- Bonorden HF (1851) *Handbuch der Allgemeinen Mykologie.* Stuttgart: Schweizerbart.
- Booth C, Waller JM (1979) Pseudopeziza medicaginis. CMI Descriptions of Pathogenic Fungi and Bacteria 637: 1–2.
- Braun U (2012) The impacts of the discontinuation of dual nomenclature of pleomorphic fungi: the trivial facts, problems and strategies. *IMA Fungus* **3**: 81–86.
- Braun U, Cook RTA (2012) *Taxonomic Manual of the Erysiphales* (*Powdery Mildews*). [CBS Biodiversity Series no. 11.] Utrecht: CBS-KNAW Fungal Diversity Centre.
- Brooks FT (1928) On the occurrence of *Phacidiella discolor* (Mout. & Sacc.) Potebnia in England. *Transactions of the British Mycological Society* **13**: 75–81.

- Butin H (1977) Taxonomy and morphology of *Ascodichaena rugosa* gen. et sp. nov. *Transactions of the British Mycological Society* **69**: 249–254.
- Butin H (1986) *Rhizothyrium parasiticum* sp. nov. (Coelomycetes), ein Blattparasit auf *Araucaria araucana* (Mol.) C. Koch *Journal of Phytopathology* **115**: 313–317.
- Butin H, Marmolejo JG (1990) Ascodichaena mexicana sp. nov. (*Rhytismatales*), Erreger der 'Warzenkrankheit' mexikanischer Eichen. Sydowia **42**: 8–16.
- CABI (2013) Data Sheets on Quarantine Pests. *Gremmeniella abietina*. Wallingford: CAB International.
- Cannon PF, Minter DW (1984) Rhytisma acerinum. CMI Descriptions of Pathogenic Fungi and Bacteria **791**: 1–2.
- Carris LM (1990) Cranberry black rot fungi: *Allantophomopsis* cytisporea and *Allantophomopsis lycopodina*. *Canadian Journal of Botany* **68**: 2283–2291.
- Casteñada Ruiz RF, Heredia G, Reyes M, Arias RM, DeCock C (2001) A revision of the genus *Pseudospiropes* and some new taxa. *Cryptogamie, Mycologique* **22**: 3–18.
- Cheah LH, Hartill WFT, Corbin JB (1980) First report of the natural occurrence of *Pyrenopeziza brassicae* Sutton et Rawlinson, the apothecial state of *Cylindrosporium concentricum* Greville, in *Brassica* crops in New Zealand. *New Zealand Journal of Botany* 18: 197–202.
- Crous PW, Braun U, Wingfield MJ, Wood AR, Shin HD, Summerell BA, Alfenas AC, Cumagun CJR, Groenewald JZ (2009) Phylogeny and taxonomy of obscure genera of microfungi. *Persoonia* **22**: 139–161.
- Crous PW, Groenewald JZ, Gams W (2003) Eyespot of cereals revisited: ITS phylogeny reveals new species relationships. *European Journal of Plant Pathology* **109**: 841–850.
- Crous PW, Slippers B, Wingfield MJ, Rheeder J, Marasas WFO, Phillips AJL, Alves A, Burgess T, Barber P, Groenewald JZ (2006) Phylogenetic lineages in the *Botryosphaeriaceae*. *Studies in Mycology* **55**: 235–253.
- Day MJ, Hall JC, Currah RS (2012) Phialide arrangement and character evolution in the helotialean anamorph genera *Cadophora* and *Phialocephala*. *Mycologia* **104**: 371–381.
- Dennis RWG (1956) A revision of the British *Helotiaceae* in the herbarium of the Royal Botanic Gardens, Kew, with notes on related European species. *Mycological Papers* **62**: 1–216.
- Descals E, Sutton BC (1976) Anavirga dendromorpha and its Phialocephala phialidic state. Transactions of the British Mycological Society **67**: 269–274.
- DiCosmo F (1978) A revision of *Corniculariella*. Canadian Journal of Botany **56**: 1665–1690.
- DiCosmo F, Nag Raj TR, Kendrick WB (1984) A revision of the *Phacidiaceae* and related anamorphs. *Mycotaxon* **21**: 1–234.
- Dixon JR (1975) *Chlorosplenium* and its segregates. II The genera *Chlorociboria* and *Chlorencoelia*. *Mycotaxon* 1: 193–237.
- Donk MA (1963) Proposals for conservation of some names of fungi. *Monilia* 'Bon." (Deuteromycetes) – I. *Taxon* **12**: 266–271.
- EPPO (2012) Datasheets of Quarantine Pests: Monilinia fructicola. http://www.eppo.int/QUARANTINE/fungi/Monilinia\_fructicola/MONIFC ds.pdf
- Farr DF (1993) Marssonina obclavata sp. nov. with observations on Marssonina and Septogloeum. Mycologia 85: 814–824.
- Funk A (1975) Sageria, a new genus of Helotiales. Canadian Journal of Botany **53**: 1196–1199.
- Gams W (2000) Phialophora and some similar morphologically little-

- differentiated anamorphs of divergent ascomycetes. *Studies in Mycology* **45**: 187–199.
- Gams W, Jannson H-B (1985) The nematode parasite *Meria* coniospora Drechsler in pure culture and its classification. *Mycotaxon* **22**: 33–38.
- Gamundí IJ, AL Gialotti (1995) A new species of *Claussenomyces* (*Helotiales*) from southern South America. *New Zealand Journal of Botany* **33**: 513–517.
- Gernandt DS, Camacho FJ, Stone JK (1997) Meria laricis, an anamorph of Rhabdocline. Mycologia 89: 735–744.
- Gross HL, Weidensaul TC (1967) *Phacidiopycnis pseudotsugae* associated with bleeding cankers on hemlock. *Plant Disease Reporter* **51**: 807–808.
- Grove WB (1937) *British Stem- and Leaf-Fungi (Coelomycetes)*. Vol. 2. Cambridge: Cambridge University Press.
- Groves JW (1936) Ascocalyx abietis and Bothrodiscus pinicola. Mycologia 28: 451–462.
- Groves JW (1965) The genus *Godronia. Canadian Journal of Botany* **43**: 1195–1276.
- Groves JW (1967) The genus *Pragmopora. Canadian Journal of Botany* **45**: 169–181.
- Groves JW (1968) Two new species of Ascocalyx. Canadian Journal of Botany 46: 1273–1278.
- Groves JW, Wilson DE (1967) The nomenclatural status of *Coryne*. *Taxon* **16**: 35–41.
- Grunig CR, Queloz V, Duo A, Sieber TN (2009) Phylogeny of *Phaeomollisia piceae* gen. sp. nov.: a dark, septate, coniferneedle endophyte and its relationships to *Phialocephala* and *Acephala. Mycological Research* **113**: 207–221.
- Gruyter J de, Aveskamp MM, Woudenberg JHC, Verkley GJM, Groenewald JZ, Crous PW (2009) Molecular phylogeny of *Phoma* and allied anamorph genera: Towards a reclassification of the *Phoma* complex. *Mycological Research* 113: 508–519.
- Hamad SR, Webster J (1987) *Anavirga dendromorpha*, anamorph of *Apostemidium torrenticola*. *Sydowia* **40**: 60–64.
- Hanlin RT, Jimenez B, Chang L-H, Brown EA (1992) Crumenulopsis atropurpurea comb. nov., from Japanese red pine in Georgia. Mycologia 84: 650–658.
- Harrington TC, McNew DL (2003) Phylogenetic analysis places the Phialophora-like anamorph genus *Cadophora* in the *Helotiales*. *Mycotaxon* **87**: 141–152.
- Hawksworth DL (1983) The nomenclature of the beech bark fungus: a solution to the complex case of *Ascodichaena*, *Dichaena* and *Polymorphum*. *Taxon* **32**: 212–217.
- Hawksworth DL (2014) Possible house-keeping and other draft proposals to clarify or enhance the naming of fungi within the International Code of Nomenclature for algae, fungi, and plants. IMA Fungus **4**: 31–37.
- Hawksworth DL, David JC (1989) Proposal to conserve *Mollisia* (E.M. Fries) P. Karsten over *Tapesia* (Pers. : E.M. Fries) Fuckel (*Fungi*). *Taxon* **38**: 496.
- Hawksworth DL, McNeill J, de Beer ZW, Wingfield MJ (2013) Names of fungal species with the same epithet applied to different morphs: how to treat them. *IMA Fungus* **4**: 53–56.
- Hawksworth DL, Punithalingham E (1973) Typification and nomenclature of *Dichaena* Fr., *Hetergrapha* Fee, *Polymorphum* Chev., *Psilospora* Rabenh. and *Psilosporina* Died. *Transactions of the British Mycological Society* **60**: 501–509.

- Hein B (1976) Revision der Gattung *Laetinaevia* Nannf. (Ascomycetes) und neuordnung der *Naevioideae*. *Willdenowia* 9: 7–136.
- Hennebert GL (1973) *Botrytis* and *Botrytis*-like genera. *Persoonia* **7**: 183–204.
- Höhnel F von (1902) Fragmente zur Mykologie (I. Mitteilung). Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften. Mathematisch-Naturwissenschaftliche Klasse Abt. I 111: 987–1056
- Holst-Jensen A, Vralstad T, Schumacher T (2004) *Kohninia linnaeicola*, a new genus and species of the *Sclerotiniaceae* pathogenic to *Linnaea borealis*. *Mycologia* **96**: 135–142.
- Holst-Jensen A, Kohn LM, Schumacher T (1997) Nuclear rDNA phylogeny of the *Sclerotiniaceae*. *Mycologia* **89**: 885–899.
- Hoog GS de, Weenink XO, Gerrits van den Ende AHG (1999)
  Taxonomy of the *Phialophora verrucosa* complex with the description of two new species. *Studies in Mycology* **43**: 107–122.
- Hosoya T, Otani Y (1995) *Gelatinipulvinella astraeicola* gen. et sp. nov., a fungicolous discomycete and its anamorph. *Mycologia* **87**: 689–696.
- Hosoya T, Otani Y (1997) *Hyaloscyphaceae* in Japan (1): Non-glassyhaired members of the tribe *Hyaloscypheae*. *Mycoscience* **38**: 171–186
- Hosoya T (2002) *Hyaloscyphaceae* in Japan (6): the genus *Hyphodiscus* in Japan and its anamorph *Catenulifera* gen. nov. *Mycoscience* **43**: 47–57.
- Hughes SJ (1953) Conidiophores, conidia, and classification. *Canadian Journal of Botany* **31**: 577–659.
- Hughes SJ (1958) Revisiones hyphomycetum aliquot cum appendice de nominibus rejiciendis. *Canadian Journal of Botany* **36**: 727–836
- Huhtinen S (1987) Taxonomic studies in the genera *Protounguicularia*, *Arachnopeziza* and *Dematioscypha*. *Mycotaxon* **30**: 9–28.
- Husted V, Miller AN (2011) Phylogenetic placement of four genera within the *Leotiomycetes* (*Ascomycota*). *North American Fungi* **6** (9): 1–13.
- Iturriaga T, Korf R (1990) A monograph of the discomycete genus Strossmayeria (Leotiaceae), with comments on its anamorph, Pseudospiropes (Dematiaceae). Mycotaxon 36: 383–454.
- Jacquin NJ (1781) Miscellanea austriaca ad botanicum, chemiam et historiam naturalem spectantia. Vol. 2. Vienna: Krausiana.
- Johnston PR (2001) Monograph of the monocotyledon-inhabiting species of *Lophodermium*. *Mycological Papers* **176**: 1–239.
- Johnston PR, Manning MA, Meier X, Park D, Fullerton RA (2004) Cryptosporiopsis actinidiae sp. nov. Mycotaxon 89: 131–136.
- Johnston PR, Park D (2005) *Chlorociboria (Fungi, Helotiales*) in New Zealand. *New Zealand Journal of Botany* **43**: 679–719.
- Jong SN de, Levesque CA, Verkley GJM, Abeln ECA, Rahe JE, Braun PG (2001) Phylogenetic relationships among *Neofabraea* species causing tree cankers and bull's-eye rot of apple based on DNA sequencing of ITS nuclear rDNA, mitochondrial rDNA, and the beta-tubulin gene. *Mycological Research* **105**: 658–669.
- Kang H-J, Sigler L, Lee J, Gibas CFC, Yun S-H, Lee Y-W (2010) *Xylogone ganodermophthora* sp. nov., an ascomycetous pathogen causing yellow rot on cultivated mushroom *Ganoderma lucidum* in Korea. *Mycologia* **102**: 1167–1184.
- Kirk PM, Cannon PF, Minter DW, Stalpers JA (2008) *Ainsworth* & *Bisby's Dictionary of Fungi*. 10<sup>th</sup> edn. Wallingford: CAB International.

- Kirk PM, Spooner BM (1984) An account of the fungi of Arran, Gigha and Kintyre. *Kew Bulletin* **38**: 503-597.
- Kirschner R (2004) Sporodochial anamorphs of species of Helicogloea. In: Frontiers in Basidiomycete Mycology (Agerer R, Piepenbring M, Blanz P, eds): 165–178. Eching: IHW-Verlag und Verlagsbuchhandlung.
- Kondo H, Kobayashi T (1984) A new canker disease of loblolly pine, Pinus taeda L., caused by Ascocalyx pinicola sp. nov. Journal of the Japanese Forestry Society **66**: 60–66
- Korf RP, Abawi GS (1971) On Holwaya, Crinula, Claussenomyces and Corynella. Canadian Journal of Botany 49: 1879–1883.
- Korf RP, Candoussau F (1974) *Pirobasidium, Endostilbum*, et *Coryne albida* comb. n., la forme conidienne de *Ascocoryne solitaria*. *Bulletin de la Société Mycologique de France* **90**: 209–215.
- Lantz H, Johnston PR, Park D, Minter DW (2011) Molecular phylogeny reveals a core clade of *Rhytismatales*. *Mycologia* **103**: 57–74.
- Leuchtmann A (1987) Species of *Heterosphaeria* (Discomycetes) and their anamorphs. *Mycotaxon* **28**: 261–284.
- Lin Y-R, Wang S-J, Hou C-L (2004) *Hypohelion durum* sp. nov. and *Lirula filiformis* (Darker) comb. nov. of *Rhytismataceae*. *Mycosystema* **23**: 169–172.
- Link JHF (1809) Observationes in Ordines plantarum naturales.

  Dissertation I, complectens Anandrarum ordines Epiphytas,

  Mucedines, Gastromycos et Fungos. Gesellschaft Naturforschender Freunde zu Berlin 3: 3–42.
- Livsey S, Minter DW (1994) The taxonomy and biology of *Tryblidiopsis* pinastri. Canadian Journal of Botany **72**: 549–557.
- Lowen R, Dumont KP (1984) Taxonomy and nomenclature in the genus Calycellina (Hyaloscyphaceae). Mycologia **76**: 1003–1023.
- Lynch SC, Zambino PJ, Mayorquin JS, Wang DH, Eskalen A (2013) Identification of new fungal pathogens of coast live oak in California. *Plant Disease* **97**: 1025–1036.
- McNeill J, Barrie FF, Buck WR, Demoulin V, Greuter W, Hawksworth DL, Herendeen PS, Knapp S, Marhold K, Prado J, Prud'homme van Reine WF, Smith GF, Wiersema J, Turland NJ (eds) (2012) *International Code of Nomenclature for algae, fungi, and plants (Melbourne Code)*. [Regnum vegetabile no. 154.] Königstein: Koeltz Scientific Books.
- Medardi G (2007) Overview of the genus *Claussenomyces* and a description of Italian collections. *Czech Mycology* **59**: 101–109.
- Minter DW (1980) *Leptostroma* on pine needles. *Canadian Journal of Botany* **58**: 906–917.
- Minter DW (1997) Hypohelion scirpinum. IMI Descriptions of Fungi and Bacteria 1336: 1–3.
- Minter DW, Cannon PF (2002) Ascodichaena rugosa. IMI Descriptions of Fungi and Bacteria **1471**: 1–4.
- Müller E (1977) Zur Pilzflora des Aletschwaldreservats (Kt. Wallis, Schweiz). *Beiträge zur Kryptogamenflora der Schweiz* **15**: 1–126.
- Müller E, Dorworth CE (1983) On the discomycetous genera Ascocalyx Naumov and Gremmeniella Morelet. Sydowia 36: 193–203.
- Nag Raj TR, Kendrick B (1975) A Monograph of Chalara and Allied Genera. Waterloo, ON: Wilfrid Laurier University Press.
- Nag Raj TR (1993) Coelomycetous Anamorphs with Appendagebearing Conidia. Waterloo, ON: Mycologue Publications.
- Narumi-Saito T, Hosoya T, Sano T, Harada Y (2006) *Nervostroma*, gen. nov. in the *Sclerotiniaceae*, the teleomorph of *Cristulariella*, and *Hinomyces* anam. gen. nov. to accommodate the anamorph of *Grovesinia*: reassessment of the genus *Cristulariella*. *Mycoscience* **47**: 351–359.

395-402

- Norvell L, Redhead S (1994) Valdensinia heterodoxa (Sclerotiniaceae) in the United States. Canadian Journal of Forest Research 24: 1981–1983
- Ouellette GB, Korf RP (1979) Three new species of *Claussenomyces* from Macaronesia. *Mycotaxon* **10**: 255–264.
- Palm ME (1991) Taxonomy and morphology of the synanamorphs *Pilidium concavum* and *Hainesia lythri* (Coelomycetes). *Mycologia* **83**: 787–796.
- Parker AK, Reid J (1969) The genus *Rhabdocline* Syd. *Canadian Journal of Botany* **47**: 1533–1545.
- Paulin AE, Harrington TC (2000) Phylogenetic placement of anamorphic species of *Chalara* among *Ceratocystis* species and other ascomycetes. *Studies in Mycology* **45**: 209–222.
- Persoon CH (1794) Neuer Versuch einer systematischen Einteilung der Schwämme. *Neues Magazine für der Botanik* 1: 63–138.
- Petrak F (1928) Mykologische Beiträge zur Flora von Sibirien. Hedwigia 68: 203–241.
- Petrak F (1962) Ergebnisse einer Revision der Grundtypen verschiedener Gattungen der Askomyzeten und Fungi imperfecti. *Sydowia* **15**: 185–193.
- Petrini O, Petrini L, Laflamme GE, Ouellette G (1989) Taxonomic position of *Gremmeniella abietina* and related species: a reappraisal. *Canadian Journal of Botany* **67**: 2805–2814.
- Peyronel B (1923) Sopra un singolare parasita polifago: *Valdensia heterodoxa* n. gen. et n. sp. *Stazioni Sperimentali Agrari Italiane* **56**: 521–538.
- Peyronel B (1953) La forma ascofora di *Valdensia heterdoxa* Peyronel, tipo de un nuova genere de *Sclerotiniacee: Valdensinia. Nuovo Giornale Botanico Italiano* **59**: 181–185.
- Phillips AJL, Alves A, Abdollahzadeh J, Slippers B, Wingfield MJ, Groenewald JZ, Crous PW (2013) The *Botryosphaeriaceae*: genera and species known from culture. *Studies in Mycology* **76**: 51–167.
- Punithalingam E, Gibson IAS (1973) Gremmeniella abietina. CMI Descriptions of Pathogenic Fungi and Bacteria 369: 1–2.
- Punithalingam E, Gibson IAS (1976) *Potebniamyces coniferarum. CMI Descriptions of Pathogenic Fungi and Bacteria* **517**: 1–2.
- Rawlinson CJ, Sutton BC, Muthyalu G (1978) Taxonomy and biology of Pyrenopeziza brassicae sp. nov. (Cylindrosporium concentricum), a pathogen of winter oilseed rape (Brassica napus ssp. oleifera). Transactions of the British Mycological Society 71: 425–439.
- Redhead SA (1975) The genus *Cristulariella*. *Canadian Journal of Botany* **53**: 700–707.
- Redhead SA, Perrin PW (1972) *Asterobolus*: a synonym of *Valdensia*. *Canadian Journal of Botany* **50**: 2083–2084.
- Redhead SA, White GP (1985) *Mycopappus*, a new genus of leaf pathogens, and two parasitic *Anguillospora* species. *Canadian Journal of Botany* **63**: 1429–1435.
- Robinson SC, D Tudor WR Zhang, S Ng, PA Cooper (2014) Ability of three yellow pigment producing fungi to colour wood under controlled conditions. *International Wood Products Journal* 5: 103–107.
- Rossman AY (2014) Lessons learned from moving to one scientific name for fungi. *IMA Fungus* **5**: 81–89.
- Rossman AY, Aime MC, Farr DF, Castlebury LA, Peterson K, Leahy R (2004) The coelomycetous genera *Chaetomella* and *Pilidium* represent a newly discovered lineage of inoperculate discomycetes. *Mycological Progress* **3**: 275–290.
- Rossman AY, Seifert KA, Samuels GJ, Minnis AW, Schroers HJ, Lombard L, Crous PW, Poldmaa K, Cannon PF, Summerbell RC,

- Geiser DM, Zhuang W, Hirooka Y, Herrera C, Salgado-Salazar C, Chaverri P (2013) Genera in *Bionectriaceae*, *Hypocreaceae*, and *Nectriaceae* (*Hypocreales*) proposed for acceptance or rejection. *IMA Fungus* **4**: 41–51.
- Saccardo PA (1886) *Sylloge Fungorum*. Vol. 4. Padua: P.A. Saccardo. Sanchez RM, Bianchinotti MV (2007) *Dothiorina*: taxonomic concepts and comments on its condiogenesis. *Mycotaxon* 102:
- Seaver FJ (1942) Photographs and descriptions of cup-fungi. XXXVII. *Peziza purpurescens. Mycologia* **34**: 412–415.
- Seena S, Pascoal C, Marvanová L, Cássio F (2010) DNA barcoding of fungi: a case study using ITS sequences for identifying aquatic hyphomycete species. *Fungal Diversity* **44**: 77–87.
- Seifert KA (1985) A monograph of *Stilbella* and some allied Hyphomycetes. *Studies in Mycology* **27**: 1–234.
- Seifert KA, Morgan-Jones G, Gams W, Kendrick B (2011) The genera of Hyphomycetes. *CBS Biodiversity Series* **9**: 1–997.
- Shear C, Dodge BO (1921) The life history and identify of "Patellina fragariae," "Leptothyrium macrothecium," and "Peziza oenotherae". Mycologia 13: 135–170.
- Singh P (1989) Role of biotechnology in forest disease research and management in Canada: synthesis. *European Journal of Forest Pathology* **19**: 129–143.
- Sivanesan A, Gibson IAS (1976a) Diplocarpon rosae. CMI Descriptions of Pathogenic Fungi and Bacteria 485: 1–2.
- Sivanesan A, Gibson IAS (1976b) Diplocarpon maculatum. CMI Descriptions of Pathogenic Fungi and Bacteria 481: 1–2.
- Sivanesan A, Gibson IAS (1976c) Diplocarpon earliana. CMI Descriptions of Pathogenic Fungi and Bacteria **486**: 1–2.
- Sivichai S, Jones EBG, Hywel-Jones NL (2003) Lignicolous freshwater Ascomycota from Thailand. *Hymenoscyphus varicosporoides* and its *Tricladium* anamorph. *Mycologia* **95**: 340–346.
- Smerlis E (1962) Taxonomy and morphology of *Potebniamyces* balsamicola sp. nov. associated with a twig and branch blight of balsam fir in Quebec. Canadian Journal of Botany **40**: 351–359.
- Smerlis E (1967) *Rhizocalyx abietis* Petrak, the perfect state of *Rhizothyrium abietis* Naumoff. *Canadian Journal of Botany* **45**: 1715–1717.
- Smerlis E (1973) Pathogenicity tests of some discomycetes occurring on conifers. *Canadian Journal of Forest Research* **3**: 7–16.
- Stone JK, Gernandt DS (2005) A reassessment of *Hemiphacidium*, *Rhabdocline*, and *Sarcotrachila* (*Hemiphacidiaceae*). *Mycotaxon* **91**: 115–126.
- Straatsma G, Samson RA (1993) Taxonomy of *Scytalidium* thermophilum, an important thermophilic fungus in mushroom compost. *Mycological Research* **97**: 321–328.
- Swart HJ (1986) Australian leaf-inhabiting fungi XXIV. Coma circularis and its teleomorph. Transactions of the British Mycological Society 87: 603–612.
- Suto Y, Suyama H (2005) *Redheadia quercus* gen. et sp. nov., the teleomorph of *Mycopappus quercus*, the frosty mildew fungus in *Quercus acutissima*. *Mycoscience* **46**: 227–234.
- Sutton BC (1972) Nomenclature of *Ceuthospora, Pyrenophora* and *Blennoria* (*Fungi*). *Taxon* **21**: 319–316.
- Sutton BC (1977) Coelomycetes VI. Nomenclature of generic names proposed for Coelomycetes. *Mycological Papers* **141**: 1–253.
- Sutton BC (1980) The Coelomycetes: Fungi Imperfecti with pycnidia, acervuli and stromata. Kew: Commonwealth Mycological Institute.
- Sutton BC, Funk A (1975) Conidial states of some *Pragmopora* and *Tympanis* species. *Canadian Journal of Botany* **53**: 521–526.

- Sutton BC, Gibson IAS (1977) Pezizella oenotherae. CMI Descriptions of Pathogenic Fungi and Bacteria **535**: 1–2.
- Svrček M (1977) New or less known Discomycetes. VI. Česká Mykologie **31**: 193–200.
- Svrček M (1989) New or less known Discomycetes. XX. Česká Mykologie 43: 215–226.
- Sydow von H, Petrak F (1922) Ein Beitrag zur Kenntnis der Pilzflora Nordamerikas, insbesondere der nordwestlichen Staaten. *Annales Mycologici* **20**: 178–218.
- Tommerup IC (1970) *Hypnotheca graminis* gen. et sp. nov., perfect state of *Monochaetiella themedae*. *Transactions of the British Mycological Society* **55**: 463–475.
- Verkley GJM (1999) A monograph of the genus *Pezicula* and its anamorphs. *Studies in Mycology* **44**: 1–180.
- Vloten H van, Gremmen J (1953) Studies in the discomycete genera *Crumenula* de Not. and *Cenangium* Fr. *Acta Botanica Neerlandica* **2**: 226–241.
- von Arx JA (1970) A revision of the fungi classified as *Gloeosporium*. *Bibliotheca Mycologica* **24**: 1–203.
- Vuillemen JP (1905) Identité des genres *Meria* et *Hartigiella*. *Annales Mycologici* **3**: 340–343.
- Wang CJK (2010) Wood-inhabiting Microfungi (Molds) of New York. Amherst, MA: C. J. K. Wang.
- Wang Z, Binder M, Schoch CL, Johnston PR, Spatafora JW, Hibbett DS (2006a) Evolution of helotialean fungi (*Leotiomycetes, Pezizomycotina*): A nuclear rDNA phylogeny. *Molecular Phylogeny and Evolution* 41: 295–312.
- Wang Z, Johnston PR, Takamatsu S, Spatafora JW, Hibbett DS (2006b) Toward phylogenetic classification of the *Leotiomycetes* based on rDNA data. *Mycologia* **98**: 1065–1075.
- Webster J, Eicker A, Spooner BM (1995) *Cudoniella indica* sp. nov. (Ascomycetes, Leotiales), the teleomorph of *Tricladium indicum*,

- an aquatic fungus isolated from a South African river. *Nova Hedwigia* **60**: 493–498.
- Wei CZ, Harada Y, Katumoto K (1998) *Mycodidymella aesculi* gen. et sp. nov. and its synanamorphs *Blastostroma aesculi* gen. et sp. nov. and *Mycopappus aesculi* sp. nov. on *Aesculus turbinata* in Japan. *Mycologia* **90**: 334–345.
- Weindlmayr J (1964) Beitrage zu einer revision der Gattung *Myxosporium* Link. 2. Mitteilung. *Sydowia* **18**: 26–36.
- Whetzel HH (1945) A synopsis of the genera and species of the *Sclerotiniaceae*, a family of stromatic inoperculate discomycetes. *Mycologia* **37**: 648–714.
- Whetzel HH, White WL (1940) *Mollisia tetrica, Peziza sojournei*, and the genera *Phaeociboria* and *Pycnopeziza. Mycologia* **32**: 609–620.
- White WL, Whetzel HH (1938) Pleomorphic life cycles in a new genus of the *Helotiaceae*. *Mycologia* **30**: 187–203.
- Wilkin JE, Shamoun SF, Ritland R, Ritland K, El-Kassaby YA (2005) Genetic diversity and population structure of *Valdensinia heterodoxa*, a potential biocontrol agent for salal in coastal British Columbia. *Canadian Journal of Plant Pathology* **27**: 559–571.
- Xiao CL, Boal RJ (2005) Distribution of *Potebniamyces pyri* in the U.S. Pacific Northwest and its association with a canker and twig dieback disease of pear trees. *Plant Disease* **89**: 920–925.
- Xiao CL, Rogers JD, Kim YK, Liu Q (2005) *Phacidiopycnis washingtonensis* a new species associated with pome fruits from Washington State. *Mycologia* **97**: 464–473.
- Zhu L, Wang X, Huang F, Zhang J, Li H, Hyde KD, Ding D (2012). A destructive new disease of *Citrus* in China caused by *Cryptosporiopsis citricarpa* sp. nov. *Plant Disease* **96**: 804–812.
- Zhuang W-Y (1988) A monograph of the genus *Unguiculariopsis* (*Leotiaceae*, *Encoelioideae*). *Mycotaxon* **32**: 1–8.

112

**Table 1.** Recommended generic names of *Leotiomycetes* among those that compete for use. The recommended accepted generic name is in bold; see text for the rationale for these decisions. For each generic name this list provides the author, its date and place of publication, the type species of the genus, its basionym, their dates of publication, and the currently accepted name, if different. The action required is indicated in the last column such as protection of sexual state names that do not have priority or asexual state names that need protection.

Recommended generic name	Synonymous alternate morph generic name	Additional synonymous generic names	Action required
Ascocalyx Naumov, Bolêz. Rast. 14: 138 (1926); type species A. abietis Naumov (1926), now A. berenice (Berk. & M.A. Curtis) Rossman (2014)	Bothrodiscus Shear, Bull. Torrey bot. Club <b>34</b> : 312 (1907); type species B. pinicola Shear 1907, now Ascocalyx berenice (Berk. & M.A. Curtis) Rossman (2014)	Pycnocalyx Naumov, Zap. Ural'sk. Obšč. Ljubit. Estestv. 20: 35 (1916); type species P. abietis Naumov (1916), now Ascocalyx berenice (Berk. & M.A. Curtis) Rossman (2014)	Later name proposed for protection.
Ascoconidium Seaver, Mycologia 34: 414 (1942); type species A. castaneae Seaver (1942), now A. purpurascens (Ellis & Everh.) Rossman (2014)	Sageria A. Funk, Can. J. Bot. 53: 1196 (1975); type species S. tsugae A. Funk (1975), now Ascoconidium tsugae A. Funk (1966)		Asexual type. Approval needed by Nomenclature Committee for Fungi.
Ascocoryne J.W. Groves & D.E. Wilson, Taxon 16: 40 (1967); type species A. sarcoides (Jacq.) J.W. Groves & D.E. Wilson (1967), basionym Lichen sarcoides Jacq. (1781): Fr.	Coryne Nees, Syst. Pilze: 157 (1816); type species C. dubia (Pers.) Gray (1821), basionym Acrospermum dubium Pers. (1797), now Ascocoryne sarcoides (Jacq.) J.W. Groves & D.E. Wilson (1967)	Pirobasidium Höhn., Sber. Akad. Wiss. Wien, Mathnaturw. Kl., Abt. 1 111: 1001 (1902); type species P. sarcoides (Jacq.) Höhn. (1902), basionym Lichen sarcoides Jacq. (1781): Fr., now Ascocoryne sarcoides (Jacq.) J.W. Groves & D.E. Wilson (1967)	Later name proposed for protection.
		Pleurocolla Petr., Annls mycol. 22: 15 (1924); type species P. tiliae Petr. (1924)	
		Endostilbum Malençon, Bull. trimest. Soc. mycol. Fr. 80: 111 (1964); type species E. cerasi (Bourdot & Galzin) Malençon, (1964), basionym Sirobasidium cerasi Bourdot & Galzin, (1909), now Ascocoryne solitaria (Rehm) Dennis (1971)	
Ascodichaena Butin, Trans. Br. mycol. Soc. 69: 249 (1977); type species A. rugosa (L.) Butin (1977)	Polymorphum Chevall., J. Phys. Chim. Hist. nat. Arts <b>94</b> : 32 (1822); type species <i>P. fagineum</i> (Pers.) Chevall. (1822), basionym <i>Opegrapha faginea</i> Pers. (1794), now <i>Ascodichaena rugosa</i> (L.) Butin (1977)	Phloeoscoria Wallr., Naturgesch. Flecht. 1: 22, 721 (1825); type species P. faginea (Pers.) Wallr. (1825), basionym Opegrapha faginea Pers. 1794, now Ascodichaena rugosa (L.) Butin (1977)	Later name proposed for protection.
		Psilospora Rabenh., Hedwigia 1: 107 (1856); type species P. faginea (Pers.) Rabenh. (1856), basionym Opegrapha faginea Pers. 1794, now Ascodichaena rugosa (L.) Butin (1977)	
		Dichaenopsis Paoli, Nuovo G. bot. ital. 12: 97 (1905); type species D. notarisii Paoli (1905), now probably A. rugosa (L.) Butin (1977)	

Table 1. (Continued).

Recommended generic name	Synonymous alternate morph generic name	Additional synonymous generic names	Action required
Blumeriella Arx, Phytopath. Z. 42: 164 (1961); type species B. jaapii (Rehm) Arx (1961) nom. cons. prop., basionym Pseudopeziza jaapii Rehm (1907)	Microgloeum Petr., Annls mycol. 20: 215 (1922); type species M. pruni Petr. (1922), now Blumeriella jaapii (Rehm) Arx (1961) nom. cons. prop.	Phloeosporella Höhn., Ann. Mycol. 22: 201 (1924); type species P. ceanothi (Ellis & Everh.) Höhn. (1924), basionym Cylindrosporium ceanothi Ellis & Everh. (1891), now Blumeriella ceanothi (Ellis & Everh.) Rossman (2014)	Later name proposed for protection with the type species, <i>B. jaapii</i> nom. cons. prop.
<b>Botrytis</b> P. Micheli ex Pers. [ <i>Nov. Pl. Gen.</i> : 212, tab. 91 (1729) ex] <i>Neues Mag. Bot.</i> 1: 120 (1794): Fr., <i>Syst. mycol.</i> 3(2): 393 (1832); type species <i>B. cinerea</i> Pers. (1794): Fr.	Botryotinia Whetzel, Mycologia 37: 679 (1945); type species Botryotinia convoluta (Drayton) Whetzel (1945), basionym Sclerotinia convoluta Drayton (1937), now Botrytis convoluta Whetzel & Drayton (1932)		Asexual type. Approval needed by Nomenclature Committee for Fungi.
Calloria Fr., Fl. Scan.: 343 (1836); type species C. fusarioides (Berk.) Fr. (1849), basionym Peziza fusarioides Berk., (1837), now C. urticae (Pers.: Fr.) Seifert (2014)	species C. urticae (Pers.) Bonord. (1851), basionym Tremella	Creothyrium Petr., Ann. Mycol. 23: 79.(1925); type species C. pulchellum Petr. (1925)  Callorina Korf, Phytologia 21:201. 1971; type species C. fusarioides (Berk.) Korf (1971), basionym Peziza fusarioides Berk. (1837), now Calloria urticae (Pers. : Fr.) Seifert (2014)	None
Calycellina Höhn., Sber. Akad. Wiss. Wien, Mathnaturw. Kl., Abt. 1 127: 601 (1918); type species C. punctiformis (Grev.) Höhn. (1926), basionym Peziza punctiformis Grev. (1824)	Chaetochalara B. Sutton & Piroz., Trans. Br. mycol. Soc. 48: 350 (1965); type species C. bulbosa B. Sutton & Piroz. 1965, now Calycellina aspera (Piroz. & Hodges) Rossman (2014)		None
Chaetomella Fuckel, Jb. nassau. Ver. Naturk. 23-24: 401 (1870); type species C. oblonga Fuckel (1870)	Zoellneria Velen., Monogr. Discom. Bohem.: 298 (1934); type species Z. rosarum Velen. (1934), now Chaetomella oblonga Fuckel (1870)	Volutellospora Thirum. & P.N. Mathur, Sydowia 18: 38 (1965); type species V. raphigera (Swift) Thirum. & P.N. Mathur, now Chaetomella raphigera Swift (1930)  Harikrishnaella D.V. Singh & A.K. Sarbhoy, Sydowia 25: 66 (1972); type species H. arachidis D.V. Singh & A.K. Sarbhoy (1972), now Chaetomella raphigera Swift (1930)	Asexual type. Approval needed by Nomenclature Committee for Fungi.
Chlorociboria Seaver ex C.S. Ramamurthi et al., Mycologia 49: 857 (1958) [1957] type species C. aeruginosa (Oeder) Seaver ex C.S. Ramamurthi et al. (1958) [1957], basionym Helvella aeruginosa Oeder, Fl. Danic. 3 (9): tab. 534:2 (1770): Fr., Syst. mycol. 2(1): 130 (1822), now Chlorociboria aeruginascens (Nyl.) C.S. Ramamurthi et al. (1958)	Dothiorina Höhn., Sber. Akad. Wiss. Wien, Mathnaturw. Kl., Abt. 1 <b>120</b> : 464 [86 repr.] (1911); type species <i>D. tulasnei</i> (Sacc.) Höhn. (1911), basionym <i>Dothiorella tulasnei</i> Sacc. (1884)		Later name proposed for protection.
Claussenomyces Kirschst., Verh. bot. Ver. Prov. Brandenb. 65: 122 (1923); type species C. jahnianus Kirschst. (1923)	Dendrostilbella Höhn., Öst. bot. Z. 55: 22 (1905); type species D. prasinula Höhn. (1905), now Claussenomyces prasinulus (P. Karst.) Korf & Abawi (1971)		Later name proposed for protection.

Table 1. (Continued).

Recommended generic name	Synonymous alternate morph generic name	Additional synonymous generic names	Action required
Coma Nag Raj & W.B. Kendr., Can. J. Bot. 50: 614 (1972); type species C. circularis (Cooke & Massee ex Cooke) Nag Raj & W.B. Kendr. (1972), basionym Pestalozziella circularis Cooke & Massee ex Cooke (1890)	Ascocoma H.J. Swart, Trans. Br. mycol. Soc. 87: 606 (1987); type species A. eucalypti (Hansf.) H.J. Swart (1987), basionym Pseudopeziza eucalypti Hansf. (1956), now Coma circularis (Cooke & Massee ex Cooke) Nag Raj & W.B. Kendr. (1972)		Asexual type. Approval needed by Nomenclature Committee for Fungi
Cristulariella Höhn., Sber. Akad. Wiss. Mathnaturw. Kl., Abt. 1 125: 124 (1916); type species C. depraedans (Cooke) Höhn. (1916), basionym Polyactis depraedens Cooke (1885)	Nervostroma Narumi & Y. Harada, Mycoscience 47: 357 (2006); type species N. depraedans Narumi & Y. Harada (2006), now Cristulariella depraedans (Cooke) Höhn. (1916)		Asexual type. Approval needed by Nomenclature Committee for Fungi
Crumenulopsis J.W. Groves, Can. J. Bot. 47: 48 (1969); type species C. pinicola (Rebent.) J.W. Groves (1969), basionym Peziza pinicola (1804)	Digitosporium Gremmen, Acta bot. neerl. 2(2): 233 (1953); type species D. piniphilum Gremmen (1953), now Crumenulopsis sororia (P. Karst.) J.W. Groves (1969)		Later name proposed for protection
Dematioscypha Svrček, Česká Mykol. 31: 193 (1977); type species D. dematiicola (Berk. & Broome) Svrček (1977), basionym Peziza dematiicola Brek. & Broome (1865), now D. delicata (Berk. & Broome) Hosoya (2014)	Schizocephalum Preuss, Linnaea 25: 77 (1852); type species S. atrofuscum Preuss (1852)	Haplographium Berk. & Broome, Ann. Mag. nat. Hist., ser. 3 3: 360 (1859); type species H. delicatum Berk. & Broome (1859), now Dematioscypha delicata (Berk. & Broome) Hosoya (2014)	Later name proposed for protection
Dermea Fr., Syst. orb. veg. 1: 114 (1825); type species D. cerasi (Pers.) Fr. (1825), basionym Peziza cerasi Pers. (1794)	Sphaeronaema Fr., Obs. mycol. 1: 187 (1815); type species S. cylindricum (Tode) Fr. (1815), basionym Sphaeria cylindrica Tode (1790)	Foveostroma DiCosmo, Can. J. Bot. <b>56</b> : 1682 (1978); type species F. drupacearum (Lév.) DiCosmo, basionym Micropera drupacearum Lév. (1846), now Dermea cerasi (Pers.) Fr. (1825)	Later name proposed for protection
Diplocarpon F.A. Wolf, Bot. Gaz. 54: 231 (1912); type species: D. rosae F.A. Wolf (1912)	Entomosporium Lév., Bull. Soc. bot. Fr. 3: 31 (1856); type species: E. mespili (DC.) Sacc. (1880), basionym Xyloma mespili DC. (1815), now Diplocarpon mespili (Sorauer) B. Sutton (1980)	Bostrichonema Ces., Erb. critt. Ital., ser. 1, fasc. 2: no. 149 (1867); type species B. alpestre Ces. (1867), syn. B. polygoni (Unger) J. Schröt., basionym Cylindrosporium polygoni Unger 1833, now Diplocarpon alpestre (Ces.) Rossman (2014)	Later name proposed for protection
		Morthiera Fuckel, Jb. nassau. Ver. Naturk. 23-24: 382 (1870); type species M. mespili Sacc. (1884), now Diplocarpon mespili (Sorauer) B. Sutton (1980)	
		Marssonina Magnus, Hedwigia 45: 89 (1906); type species M. potentillae (Desm.) Magnus (1906), now Diplocarpon earlianum (Ellis & Everh.) F.A. Wolf (1924)	
		Entomopeziza Kleb., Vortrag. Gesamtgeb. Bot., ser. 1, 1: 33 (1914); type species E. soraueri Kleb. (1914), now Diplocarpon mespili (Sorauer) B. Sutton (1980)	

Table 1. (Continued).

Recommended generic name	Synonymous alternate morph generic name	Additional synonymous generic names	Action required
Gelatinipulvinella Hosoya & Y. Otani, Mycologia 87: 690 (1995); type species G. astraeicola Hosoya & Y. Otani (1995)	Aureohyphozyma Hosoya & Y. Otani, Mycologia 87: 690 (1995); type species: A. astraeicola Hosoya & Y. Otani (1995), now Gelatinipulvinella astraeicola Hosoya & Y. Otani (1995)		None
Gloeotinia M. Wilson et al., Trans. Brit. mycol. Soc. 37: 31 (1954); type species G. temulenta (Prill. & Delacr.) M. Wilson et al. (1954), basionym Phialea temulenta Prill. & Delacr. (1892)	Endoconidium Prill. & Delacr., Bull. Soc. bot. Fr. 38: 208 (1891); type species E. temulentum Prill. & Delacr. (1891), now Gloeotinia temulenta (Prill. & Delacr.) M. Wilson et al. (1954)		Later name proposed for protection.
Godronia Moug. & Lév., Consid. Vég. Vosges: 355 (1846); type species G. muehlenbeckii Moug. & Lév. (1846)	Sphaeronaema Fr., Obs. mycol. 1: 187 (1815); type species S. cylindricum (Tode) Fr. (1815), basionym Sphaeria cylindrica Tode (1790)	Mastomyces Mont., Ann. Sci. Nat., Bot., sér. 3 <b>10</b> : 134 (1848); type species M. friesii Mont. (1848), now Godronia uberiformis J.W. Groves (1965)	Later name proposed for protection.
	Topospora Fr., Fl. Scan.: 347 (1836); type species T. uberiformis (Kunze) Fr. (1848), basionym Sphaeria uberiformis Kunze (1823), now Godronia uberiformis J.W. Groves (1965)	Clinterium Fr., Summa veg. Scand. 2: 418 (1849); type species C. obturatum (Fr.) Fr. (1849), basionym Sphaeria obturata Fr. (1823), now Godronia cassandrae Peck (1887)	
		Fuckelia Bonord, Abh. naturforsch. Ges. Halle 8: 135 (1864); type species F. ribis (Fr.) Bonord. (1864), basionym Cenangrium ribis Fr. (1822), now Godronia ribis (Fr.) Seaver (1925)	
		Chondropodiella Höhn., Hedwigia <b>59</b> : 281 (1917); type species <i>C. clethrincola</i> (Ellis) Höhn. (1917), basionym <i>Sphaeronaema clethrincola</i> Ellis (1876), now <i>Godronia urceolata</i> J.W. Groves (1965)	
Godroniopsis Diehl & E.K. Cash, Mycologia 21: 243 (1929); type species G. quernea (Schwein.) Diehl & E.K. Cash (1929), basionym Peziza quernea Schwein. (1822)	Sphaeronaema Fr., Obs. mycol. 1: 187 (1815); type species S. cylindricum (Tode) Fr. (1815), basionym Sphaeria cylindrica Tode (1790)	Dichaenopsella Petr., Sydowia <b>6</b> : 375 (1952); type species <i>D. quernea</i> Petr. 1952, now <i>Godroniopsis quernea</i> (Schwein.) Diehl & E.K. Cash (1929)	Later name proposed for protection.
Gremmeniella M. Morelet, Bull. Soc. Sci. nat. Arch. Toulon et du Var 183: 9 (1969); type species G. abietina (Lagerb.) M. Morelet (1969) nom. cons. prop., basionym Crumenula abietina Lagerb. (1913)	Brunchorstia Erikss., Bot. Zbl. 46: 298 (1891); type species B. destruens Erikss. (1891), now Gremmeniella abietina (Lagerb.) M. Morelet (1969) nom. cons. prop.	Lagerbergia J. Reid, Kew Bull. 25: 350 (1971); type species L. abietina (Lagerb.) J. Reid ex Dennis (1971), basionym Crumenula abietina Lagerb. (1913), now Gremmeniella abietina (Lagerb.) M. Morelet (1969) nom. cons. prop.	Later name proposed for protection with the type species <i>G. abietina</i> nom. cons. prop.

Table 1. (Continued).

Recommended generic name	Synonymous alternate morph generic name	Additional synonymous generic names	Action required
Grovesinia M.N. Cline et al., Mycologia 75: 989 (1983); type species G. pyramidalis M.N. Cline et al. (1983), now Grovesinia moricola (I. Hino) Redhead (2014)	Hinomyces Narumi & Y. Harada, Mycoscience 47: 357 (2006); type species H. moricola (I. Hino) Narumi & Y. Harada (2006), basionym Botrytis moricola I. Hino (1929), now Grovesinia moricola (I. Hino) Redhead (2014)		None
Heterosphaeria Grev., Scott. crypt. fl. 1: pl. 103 (1824); type species H. patella (Tode) Grev. (1824), basionym Sphaeria penetrans a patella Tode (1790)	Heteropatella Fuckel, Jb. nassau. Ver. Naturk. 27-28: 54 (1874); type species H. lacera Fuckel (1874), now Heterosphaeria patella (Tode) Grev. (1824)		None
Holwaya Sacc., Syll. fung. 8: 646 (1889); type species H. ophiobolus (Ellis) Sacc. (1889), basionym Bulgaria ophiobolus Ellis (1883), now H. mucida (Schulzer) Korf & Abawi (1971)	Crinula Fr., Syst. mycol. 1: 493 (1821); type species C. caliciiformis Fr. (1821), now H. mucida (Schulzer) Korf & Abawi (1971)		Later name proposed for protection
Hyphodiscus Kirschst., Verh. bot. Ver. Prov. Brandenb. 48: 44 (1907) [1906]; type species H. gregarius Kirschst. 1907, now H. theioideus (Cooke & Ellis) W.Y. Zhuang (1988).	Catenulifera Hosoya, Mycoscience <b>43</b> : 48 (2002); type species C. rhodogena (F. Mangenot) Hosoya (2002), basionym Scopulariopsis rhodogena F. Mangenot (1952), now Hyphodiscus hymeniophilus (P. Karst.) Baral (1993)		None
Hypohelion P.R. Johnst., Mycotaxon 39: 221 (1990); type species H. scirpinum (DC.) P.R. Johnst. (1990), basionym Hypoderma scirpinum DC. (1823)	Leptostroma Fr., Obs. mycol. 1: 196 (1815); type species L. scirpinum Fr. (1823), now Hyphohelion scirpinum (DC.) P.R. Johnst. (1990)		Later name proposed for protection.
Leptotrochila P. Karst., Bidr. Känn. Finl. Nat. Folk 19: 22 (1871); type species L. radians (Desm.) P. Karst. 1871, basionym Phacidium radians Roberge ex Desm. (1842), now L. campanulae (DC.) Korf (2014)	Sporonema Desm., Annls Sci. Nat., Bot., sér. 3 8: 172 (1847); type species S. phacidioides Desm. (1847), now Leptotrochila medicaginis (Fuckel) Schüepp (1959), nom. cons. prop.		Later name proposed for protection.
Micraspis Darker, Can. J. Bot. 41: 1390 (1963); type species M. acicola Darker (1963)	Periperidium Darker, Can. J. Bot. 41: 1392 (1963); type species Periperidium acicola Darker (1963), now Micraspis acicola Darker (1963)		None
Monilinia Honey, Mycologia 20: 153 (1928); type species M. fructicola (G. Winter) Honey 1928, basionym Ciboria fructicola G. Winter (1883)	Monilia Bonord., Handb. Allgem. mykol.: 7 (1851), nom. cons. Art. 14; type species M. cinerea Bonord. (1851), now Monilinia laxa (Aderh. & Ruhland) Honey (1945)		Later name proposed for protection.
Monochaetiellopsis B. Sutton & DiCosmo, Can. J. Bot. 55: 2536 (1977); type species M. themedae (M. Kandasw. & Sundaram) B. Sutton & DiCosmo (1977), basionym Monochaetiella themedae M. Kandasw. & Sundaram. (1957)	Hypnotheca Tommerup, Trans. Brit. mycol. Soc. <b>55</b> : 467 (1970); type species Hypnotheca graminis Tommerup, (1970), now Monochaetiellopsis themedae (M. Kandasw. & Sundaram) B. Sutton & DiCosmo (1977)		Asexual type. Approval needed by Nomenclature Committee for Fungi.
Mycopappus Redhead & G.P. White, Can. J. Bot. 63: 1430 (1985); type species M. alni (Dearn. & Barthol.) Redhead & G.P. White 1985, basionym Cercosporella alni Dearn. & Barth. (1917)	Redheadia Y. Suto & Suyama, Mycoscience 46: 228 (2005); type species R. quercus Y. Suto & Suyama (2005), now Mycopappus quercus Y. Suto & M. Kawai (2000)		Asexual type. Approval needed by Nomenclature Committee for Fungi.

Table 1. (Continued).

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Recommended generic name	Synonymous alternate morph generic name	Additional synonymous generic names	Action required
Neofabraea H.S. Jacks., Rep. Oregon Exp. Stn 1911-12: 187 (1913); type species N. malicorticis H.S. Jacks. (1913), nom. cons. prop.	Phlyctema Desm., Annls Sci. Nat., Bot., sér. 3 8: 16 (1847); type species P. vagabunda Desm. (1847), now Neofabraea vagabunda (Desm.) P.R. Johnst. (2014)	Allantozythia Höhn., Annls mycol. 22: 203 (1924); type species A. alutacea (Sacc.) Höhn., basionym Gloeosporium alutaceum Sacc. (1897), now Neofabraea vagabunda (Desm.) P.R. Johnst. (2014)	Later name proposed for protection and type species of <i>Neofabraea</i> , <i>N. malicorticis</i> , nom. cons. prop.
Ocotomyces H.C. Evans & Minter, Trans. Br. mycol. Soc. 84: 68 (1985); type species O. parasiticus H.C. Evans & Minter (1985)	Uyucamyces H.C. Evans & Minter, Trans. Br. mycol. Soc. 84: 68 (1985); type species U. parasiticus H.C. Evans & Minter (1985), now Ocotomyces parasticus H.C. Evans & Minter (1985)		None
Oculimacula Crous & W. Gams, Eur. J. Pl. Path. 109: 845 (2003); type species O. yallundae (Wallwork & Spooner) Crous & W. Gams (2003), basionym Tapesia yallundae Wallwork & Spooner (1988), nom. cons. prop.	Helgardia Crous & W. Gams, Eur. J. Pl. Path. 109: 845 (2003); type species H. herpotrichoides (Fron) Crous & W. Gams (2003), basionym Cercosporella herpotrichoides Fron (1912), now Oculimacula yallundae (Wallwork & Spooner) Crous & W. Gams (2003)		Later name proposed for protection and type species of <i>Oculimacula</i> , <i>O. yallundae</i> , nom. cons. prop.
<b>Ovulinia</b> F.A. Weiss, <i>Phytopathology</i> <b>30</b> : 242 (1940); type species <i>O. azaleae</i> F.A. Weiss (1940)	Ovulitis N.F. Buchw., Friesia 9: 328 (1970); type species O. azaleae N.F. Buchw. (1970), now Ovulinia azaleae F.A. Weiss (1940)		None
Pezicula Tul. & C. Tul., Select. fung. carpol. 1: 182 (1865); type species P. carpinea (Pers.) Tul. ex Fuckel, basionym Peziza carpinea Pers. (1801), now Pezicula fasciculata (Tode) House (1923)	Cryptosporiopsis Bubák & Kabát, Hedwigia 52: 360 (1912); type species C. nigra Bubák & Kabát (1912), now C. scutellata (Otth) Petr., basionym Sphaeropsis scutellata Otth (1868), now Pezicula ocellata (Pers. : Fr.) Seaver (1951)	Lagynodella Petr., Annls mycol. 20: 207 (1922); type species L. pruinosa (Peck) Petr. 1922, basionym Sphaeronaema pruinosum Peck, (1872) [1871], now Pezicula pruinosa Farl. (1922)	None
Phacidiopycnis Potebnia, Z. PflKrankh. PflPath. PflSchutz 22: 143 (1912); type species P. malorum Potebnia (1912), now P. pyri (Fuckel) Weindlm. (1965)	Potebniamyces Smerlis, Can. J. Bot. 40: 352 (1962); type species P. discolor (Mouton & Sacc.) Smerlis (1962), basionym Phacidium discolor Mouton & Sacc. (1899), now Phacidiopycnis pyri (Fuckel) Weindlm. (1965)	(1921); type <i>D. pyri</i> (Fuckel) Petr. (1921),	Asexual type. Approval needed by Nomenclature Committee for Fungi
<b>Phacidium</b> Fr., Obs. mycol. <b>1</b> : 167 (1815) nom. cons.: Fr., Syst. Mycol. <b>2</b> : 571 (1823); type species <i>P. lacerum</i> Fr. (1818)	Ceuthospora Grev., Scott. crypt. fl. 5: pl. 253-254 (1826) nom. cons.; lectotype species C. lauri (Grev.) Grev. (1827), now Phacidium multivalve (DC.) Kunze & J.C. Schmidt (1817)		None
Phialocephala W.B. Kendr., Can. J. Bot. 39: 1079 (1961); type species P. dimorphospora W.B. Kendr. (1961)	Phaeomollisia T.N. Sieber & Grünig, Mycol. Res. 113: 213 (2009); type species P. piceae T.N. Sieber & Grünig (2009), now Phialocephala piceae (T.N. Sieber & Grünig) Rossman (2014)		Asexual type. Approval needed by Nomenclature Committee for Fungi.
Pilidium Kunze, Mykol. Hefte 2: 92 (1823); type species P. acerinum (Alb. & Schwein.) Kunze (1823), basionym Sclerotium acerinum Alb. & Schwein. (1805)	Discohainesia Nannf., Nova Acta R. Soc. Scient. upsal., ser. 4 8(2): 88 (1932); type species D. oenotherae (Cooke & Ellis) Nannf. (1932), basionym Peziza oenotherae Cooke & Ellis (1878), now Pilidium lythri (Desm.) Rossman (2014)	rhoinum Sacc. (1881), now Pilidium lythri (Desm.) Rossman (2014)	Asexual type. Approval needed by Nomenclature Committee for Fungi.
		Sclerotiopsis Speg., Anal. Soc. cient. argent.  13: 14 (1882); type species S. australasica Speg. (1882), now Pilidium lythri (Desm.) Rossman (2014)	
Ploioderma Darker, Can. J. Bot. 45: 1424 (1967); type species P. hedgcockii (Dearn.) Darker (1967), basionym Hypoderma hedgcockii Dearn. (1926)	Cryocaligula Minter, Recent Res. Conifer Needle Diseases: 78 (1986); type species C. hedgcockii (Dearn.) Minter (1986), basionym Leptostroma hedgcockii Dearn. (1926), now Ploioderma hedgcockii (Dearn.) Darker (1967)		None

Table 1. (Continued).

Recommended generic name	Synonymous alternate morph generic name	Additional synonymous generic names	Action required
<b>Pragmopora</b> A. Massal., <i>Framm. Lichenogr.</i> : 12 (1855); type species <i>P. amphibola</i> A. Massal. (1855)	Pragmopycnis B. Sutton & A. Funk, Can. J. Bot. <b>53</b> : 522 (1975); type species <i>P. pithya</i> B. Sutton & A. Funk (1975), now Pragmopora pithya (Fr.) J.W. Groves (1967)		None
Pycnopeziza W.L. White & Whetzel, Mycologia 30: 187 (1938); type species P. sympodialis W.L. White & Whetzel (1938)	Acarosporium Bubák & Vleugel ex Bubák, Ber. dt. bot. Ges. 29: 384 (1911); type species A. sympodiale Bubák & Vleugel (1911), now Pycnopeziza sympodialis W.L. White & Whetzel (1938)	Chaetalysis Peyron., Bull. Soc. mycol. Fr. 38: 141 (1922); type species C. myrioblephara Peyron. (1922), now Pycnopeziza sympodialis W.L. White & Whetzel (1938)	Later name proposed for protection.
		Ciliosira Syd. & P. Syd., Annls mycol. <b>40</b> : 212 (1942); type species <i>C. hederae</i> Syd. (1942), now <i>Pycnopeziza sympodialis</i> W.L. White & Whetzel (1938)	
Pyrenopeziza Fuckel, Jb. nassau. Ver. Naturk. 23-24: 293 (1870); type species P. chailletii (Pers.) Fuckel (1870), basionym Peziza chailletii Pers. (1822)	Cylindrosporium Grev. Scott. crypt. fl. 1: pl. 27 (1822); type species C. concentricum Grev. (1822), now Pyrenopeziza brassicae B. Sutton & Rawl. (1979) nom. cons. prop.	Cylindrodochium Bonord. (1851), Handb. Allgem. mykol.: 132 (1851); type species C. concentricum (Grev.) Bonord., now Pyrenopeziza brassicae B. Sutton & Rawl. (1979) nom. cons. prop.	Later name proposed for protection.
Rhabdocline Syd., Annls mycol. 20: 194 (1922); type species Rhabdocline pseudotsugae Syd. (1922)	Meria Vuill., Compt. rend. hebd. Séanc. Acad. Sci., Paris 122: 546 (1896); type species M. laricis Vuill. (1896), now Rhabdocline laricis (Vuill.) J.K. Stone (2014)	Hartigiella Syd. & P. Syd. Hedwigia Beih. 39: 91 (1900); type species H. laricis (R. Hartig) Dietel & P. Syd.1900, now Rhabdocline laricis (Vuill.) J.K. Stone (2014)	Later name proposed for protection.
		Rhabdogloeum Syd., Annls mycol. <b>20</b> : 215 (1922); type species Rhabdogloeum pseudotsugae Syd. (1922), now Rhabdocline weirii A.K. Parker & J. Reid (1969)	
<b>Rhizothyrium</b> Naumov, <i>Bull. Soc. mycol. Fr.</i> <b>30</b> : 429 (1915); type species <i>R. abietis</i> Naumov (1915)	Rhizocalyx Petr., Hedwigia <b>68</b> : 233 (1928); type species <i>R. abietis</i> Petr. (1928), now <i>Rhizothyrium abietis</i> Naumov (1915)	Bactrexcipulum Höhn., Hedwigia <b>60</b> : 161 (1918); type species <i>B. strasseri</i> Hohn. (1918), now <i>Rhizothyrium abietis</i> Naumov (1915)	Asexual type. Approval needed by Nomenclature Committee for Fungi.
Rhytisma Fr., K. svenska Vetensk-Akad. Handl. 39: 104 (1818): Fr., Syst. mycol. 2: 565 (1823); type species R. acerinum (Pers.) Fr. (1818), basionym Xyloma acerinum Pers. (1794)	Melasmia Lév., Annls Sci. Nat., Bot., sér. 3 5: 276 (1846); type species M. acerina Lév. (1846), now Rhytisma acerinum (Pers.) Fr. (1818)		None
Scleropezicula Verkley, Stud. Mycol. 44: 132 (1999); type species S. alnicola (J.W. Groves) Verkley (1999), basionym Pezicula alnicola J.W. Groves (1940)	Cryptosympodula Verkley, Stud. Mycol. 44: 132 (1999); type species C. appendiculata Verkley (1999), now Scleropezicula alnicola (J.W. Groves) Verkley (1999)		None
Scytalidium Pesante, Annali Sper. agr., n.s. 11 (2, Suppl.): cclxiv (1957); type species S. lignicola Pesante (1957)	Xylogone Arx & T. Nilsson, Svensk bot. Tidskr. 63: 345 (1969); type species X. sphaerospora Arx & T. Nilsson (1969), now Scytalidium sphaerospora Sigler & Kang (2010)		None

Table 1. (Continued).

Recommended generic name	Synonymous alternate morph generic name	Additional synonymous generic names	Action required
<b>Seaverinia</b> Whetzel, <i>Mycologia</i> <b>37</b> : 703 (1945); type species <i>S. geranii</i> (Seaver & W.T. Horne) Whetzel (1945), basionym <i>Sclerotinia geranii</i> Seaver & W.T. Horne (1918)	Verrucobotrys Hennebert, Persoonia 7: 193 (1973); type species V. geranii (Seaver) Hennebert (1973); basionym Botrytis geranii Seaver (1947), now Seaverinia geranii (Seaver & W.T. Horne) Whetzel (1945)		None
<b>Septotinia</b> Whetzel ex J.W. Groves & M.E. Elliott, <i>Can. J. Bot.</i> <b>39</b> : 227 (1961); type species S. <i>podophyllina</i> Whetzel (1937)	Septotis N.F. Buchw. ex Arx, Bibltheca Mycol. 24: 158 (1970); type species S. podophyllina (Ellis & Everh.) Arx (1970), now Septotinia podophyllina Whetzel (1937)		None
Stamnaria Fuckel, Jb. nassau. Ver. Naturk. 23-24: 309 (1870); type species S. persoonii (Moug.) Fuckel, Jb. nassau. Ver. Naturk. 23-24: 309 (1870), basionym Peziza persoonii Moug.,: Fr. (1822)	Titaeospora Bubák, Annls Mycol. 14: 345 (1916); type species T. detospora (Sacc.) Bubák, (1916), basionym Septoria detospora Sacc. (1879), now Stamnaria persoonii (Moug.) Fuckel (1870)		None
<b>Streptotinia</b> Whetzel, <i>Mycologia</i> <b>37</b> : 684 (1945); type species <i>S. arisaematis</i> Whetzel (1945)	Streptobotrys Hennebert, Persoonia 7: 191 (1973); type species S. streptothrix (Cooke & Ellis) Hennebert, Persoonia 7: 192 (1973); basionym Polyactis streptothrix Cooke & Ellis (1878), now Streptotinia arisaematis Whetzel (1945)		None
Strossmayeria Schulzer, Öst. bot. Z. 31: 314 (1881); type species S. rackii Schultzer 1881, basionym Peziza heterosperma Schultzer (1878), now S. basitricha (Sacc.) Dennis (1960), basionym Belonidium basitrichum Sacc. (1875)	Pseudospiropes M.B. Ellis, Demat. Hyphom.: 258 (1971); type species P. nodosus (Wallr.) M.B. Ellis (1971), basionym Helminthosporium nodosum Wallr. (1833), now Strossmayeria atriseda (Saut.) Iturr. (1990)		None.
Symphyosirinia E.A. Ellis, <i>Trans. Norfolk Norw. Nat. Soc.</i> <b>18</b> : 5 (1956); type species <i>S. galii</i> E.A. Ellis (1956)	Symphyosirella Seifert, Mycotaxon 110: 105 (2009); type species S. parasitica (Massee & Crossl.) Seifert (2009), basionym Symphyosira parasitica Massee & Crossl. (1904), now Symphosirinia parasitica (Massee & Crossl.) Seifert (2014)		None
Tympanis Tode, Fung. mecklenb. sel. 1: 24 (1790); type species T. saligna Tode (1790)	Sirodothis Clem., Gen. fung.: 176 (1909); type species S. populi Clem. (1909), now Tympanis spermatiospora (Nyl.) Nyl. (1868)	Pleurophomella Höhn., Sber. Akad. Wiss. Wien, Mathnaturw. Kl., Abt. 1 123: 123 (1914); type species P. eumorpha (Penz. & Sacc.) Höhn. 1914, basionym Dendrophoma eumorpha Sacc. & Penz. (1882), now possibly Tympanis confusa Nyl. (1868)	None
Unguiculariopsis Rehm, Annls Mycol. 7: 400 (1909); type species <i>U. ilicincola</i> (Berk. & Broome) Rehm (1909), basionym <i>Peziza ilicincola</i> Berk. & Broome (1861)	Deltosperma W.Y. Zhuang Mycotaxon <b>32</b> : 31 (1988); type species D. infundibuliformis W.Y. Zhuang (1988), now Unguiculariopsis infundibuliformis (E.J. Durand) Korf (1971)		None
Valdensia Peyronel, Staz. Sper. Argar. Ital. 56: 521 (1923); type species V. heterodoxa Peyronel (1923)	Valdensinia Peyronel, Nuovo G. bot. ital. <b>59</b> : 184 (1953); type species V. heterodoxa Peyronel (1953), now Valdensia heterodoxa Peyronel (1923)	Asterobolus Redhead & P.W. Perrin, Can. J. Bot. 50: 409 (1972); type species A. gaultheriae Redhead & P.W. Perrin (1972), now Valdensia heterodoxa Peyronel (1923)	Asexual type. Approval needed by Nomenclature Committee for Fungi.
Vibrissea Fr., Syst. Mycol. 2: 31 (1822); type species V. truncorum (Alb. & Schwein.) Fr. (1822), basionym Leotia truncorum Alb. & Schwein. (1805)	Anavirga B. Sutton, Trans. Brit. mycol. Soc. 64: 406 (1975); type species A laxa B. Sutton (1975), now Vibrissea laxa (B. Sutton) Marvanová (2014)		None